Assessment of Dioxin Contamination in the Environment and Human Population in the Vicinity of Da Nang Airbase, Viet Nam

Report 3: Final Report

April 2007

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ASSESSMENT OF DIOXIN CONTAMINATION IN THE ENVIRONMENT AND HUMAN POPULATION IN THE VICINITY OF DA NANG AIRBASE, VIET NAM

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FINAL REPORT

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EXECUTIVE SUMMARY

The impact of exposure to Agent Orange and other herbicides on human health remains a contentious issue. However, dioxin (particularly 2,3,7,8-tetrachlorodibenzo-p-dioxin; also referred to as 2,3,7,8-TCDD or TCDD), a known component of the Agent Orange mixture, is known to cause an increased risk of cancers, immunodeficiencies, reproductive and developmental changes, nervous system and other health problems. Countries around the world have implemented strict guidelines and criteria for the control and release of dioxins into the environment, in order to protect human health. Dioxins in soil can pose a lingering threat to human health; Paustenbach *et al.* (1992) has indicated that the half-life of dioxins in subsurface soils can extend to 100 years.

TCDD is lipid soluble and accumulates in organs with a high lipid or fat content (e.g., body fat, liver, mother's milk). Human exposure can occur through ingestion, absorption through the skin, or inhalation of dioxin-contaminated materials. Once in the human body, the half-life is estimated at approximately 7 to 11 years.

Agent Orange has been described as the last remaining vestige of the war to be resolved between the US and Viet Nam. Since the US-Viet Nam war, Vietnamese living in the vicinity of key Ranch Hand sites (Bien Hoa, Da Nang, Phu Cat and others) have been exposed to contaminated soils, sediments and foods; these areas are referred to as dioxin 'hot spots' (Dwernychuk *et al.* 2002). Due to the chemical stability of dioxins, contaminated lands have the potential to expose the general population to dioxin for many decades, well beyond the initial aerial applications and spillages that occurred during the wartime Ranch Hand operation.

The presence of dioxin in the environment in and around former US military sites in Viet Nam is a direct result of storage and use of herbicides by the US and Army of the Republic of Viet Nam (ARVN) forces, and spillage which occurred from improper disposal of empty herbicide barrels. Despite the fact that dioxins are known to be a significant environmental hazard, to date there have not been adequate measures taken to properly assess the extent and impact of contamination around known hot spots in Viet Nam. Protection of human health in the vicinity of these dioxin hot spots is of key concern.

Fishing on Xuan Lake (Ho Xuan Ha), Da Nang

Photo: Thomas Boivin

The Da Nang Dioxin Assessment and Mitigation Project was conducted by Hatfield Consultants (West Vancouver, Canada) in association with the Ministry of Natural Resources and Environment (MONRE) Office of the National Steering Committee 33 (Ha Noi, Viet Nam) between October 2006 and April 2007. The project objective was to investigate the issue of residual dioxin contamination on the Da Nang Airbase and in the surrounding environment (Figure 1.1), and to develop mitigation measures to help prevent the local population from future exposure. Results of the study are as follows:

- Agent Orange and other herbicides were stored in large quantities at Da Nang Airbase during the US-Viet Nam war; more than 100,000 45-gallon (208-litre) barrels of herbicide were used on the Da Nang Airbase. These herbicides were loaded primarily onto C-123 aircraft for aerial spraying in central Viet Nam and Lao PDR; herbicides were also dispensed by truck, backpack spray devices and helicopter. Significant spillage occurred from improper handling and disposal of herbicides; this is well documented in US military records from the war period.

- Significant quantities of TCDD, a contaminant in Agent Orange, were detected in samples analyzed from the Da Nang Airbase in December 2006. To this day, dioxin continues to enter the aquatic ecosystem, the general environment, the food chain and the human population living in close proximity to the contaminated site on the Da Nang Airbase. Dioxin levels recorded in this study exceeded all international standards and guidelines for these toxic chemicals.

- There is no doubt that historical use of the Da Nang Airbase by the US military and their Operation Ranch Hand has resulted in significant dioxin contamination in the environment and human population of Da Nang. Contamination was widespread during the US-Viet Nam war period, particularly in waterbodies and agricultural areas north of the Airbase (Figure 1.2).

- Chemical analyses performed in this study confirm that the main source of dioxin contamination at Da Nang Airbase was Agent Orange and other dioxin-contaminated herbicides. The analytical chemistry undertaken at AXYS, a WHO-tested and approved dioxin laboratory, shows that TCDD contributed to over 90% of the TEQ (i.e., total sample toxicity) in samples collected from the former Agent Orange Mixing and Loading Area, former Storage Area and Sen Lake, all of which are located on Da Nang Airbase. Samples collected downstream of the Airbase in Da Nang City contained lower levels of Agent Orange dioxin. Other contaminants (including polychlorinated biphenyls [PCBs], organochlorine pesticides and hydrocarbons) were also shown to be present in the environment, both inside and outside the perimeter of Da Nang Airbase (Figure 1.3).

- The maximum soil TEQ concentration recorded in this study was 365,000 ppt, from samples collected from the former Mixing and Loading Area (Figure 3.1, Figure 3.2, Figure 3.3). This is 365 times the globally acceptable maximum standard of 1,000 ppt (ATSDR 1997). Over 99% of the TEQ in the sample was TCDD (361,000 ppt). This dioxin level represents extremely high contamination, and confirms Da Nang Airbase as a significant 'hot spot'.

- Soil dioxin levels recorded in this study are the second highest reported in Viet Nam to date (the highest being >1 million ppt TEQ in soils at Bien Hoa Airbase by Schecter *et al.* [2001], although the exact geographical position, origin, and method of extraction of this Bien Hoa Airbase soil sample is unknown, and has never been reported). Soil dioxin levels from this study confirm contamination data previously obtained by the Vietnamese Government and US EPA (unpublished data).

- The present study (and previous work by Hatfield/10-80 Division of the Ministry of Health [1998, 2000, 2003, 2005]) has verified that the highest concentrations of Agent Orange dioxin in soils/sediments in Viet Nam are found in the top 10 cm layer; some contamination is found at deeper strata (e.g., >30 cm), but only in limited areas on the former Mixing and Loading Area and former Storage Area at Da Nang Airbase (Figure 3.4, Figure 3.5, Figure 3.7).


Sediment Coring Device, Da Nang Survey

Photo: Thomas Boivin

- Dioxin from the former Mixing and Loading Area and the former Storage Area is adsorbed onto particulate matter and is transported via rainwater to downstream waterbodies, including Sen Lake. Fish and other aquatic animals (such as frogs, snails, ducks, etc.) continue to be contaminated to this day (Figure 3.8. The human population of Da Nang is therefore exposed to dioxin from contaminated food, and likely also absorbs dioxin through the skin as a result of direct exposure to contaminated soils and sediments (and possibly contaminated dust).

- The movement of dioxin from the contaminated Da Nang Airbase lands, into Sen Lake, and ultimately into humans (via ingestion of contaminated fish and direct contact with soils and sediments) is without doubt, and is directly linked to historical Agent Orange use at the Airbase. The resulting high dioxin levels in the environment and food chain pose an unacceptable health risk to exposed populations.

- Dioxin-contaminated sediments (and likely fish and other aquatic organisms) have migrated out of the Airbase through the city drainage system into neighboring wetland and agricultural areas for decades. Run-off from the dioxin hot spots on Da Nang Airbase drains from Sen Lake through a large underground culvert serving as a general storm sewer, and ultimately empties into the Phu Loc River and Da Nang Bay. Tests for dioxin at the culvert's outflow into the Phu Loc River in 2005 indicated low levels of dioxin (6.46 ppt TCDD; 11.9 ppt TEQ; Hatfield/ 10-80 2005). Therefore, except during massive floods, the major run-off from the Da Nang Airbase hot spots appears to settle in Sen Lake, and likely does not adversely impact the environment outside the northern end of the Airbase.

- Maximum TCDD levels recorded in fish fat samples in this study were 3,000 ppt, which is 100 times the acceptable level established by Health Canada. Fish contaminated with dioxins are consumed by fishermen (and likely some members of the general public) at considerable distances from the point of herbicide release to the environment; there is a direct connection between Sen Lake and areas outside the Airbase through the local drainage system.

- Blood dioxin levels recorded in this study (n=55 patients sampled) for some Da Nang residents were the highest reported for Viet Nam to date, and exceed all international standards for these chemicals. Those individuals who work on the Da Nang Airbase in Sen Lake (harvesting fish and lotus) and in the surrounding gardens (which are often flooded) were found to have dioxin concentrations in their blood more than 100 times globally acceptable levels. The highest TCDD level was recorded in a 42-year-old male who has lived and consumed fish from the Sen Lakes since 1990. His TCDD level was 1,150 ppt TCDD (1,220 ppt TEQ; 94% TCDD), indicating Agent Orange as the source of the TCDD contamination. Two other individuals who were fishing and farming inside the Da Nang Airbase perimeter had >500 ppt TEQ. A number of other contaminants, including PCBs, were also recorded in blood samples analyzed.

- One breast milk sample analyzed contained elevated levels of dioxins and PCBs, which exceeded World Health Organization and Canadian standards. Mothers who become contaminated with dioxin have the potential to transport the contaminant to their milk glands, and ultimately to their children. Breast-feeding essentially 'off loads' some of a mother's dioxin to her children, thus contaminating her child. Additional data are required to determine the extent of the problem at Da Nang, given the small sample size in this study.

- People most affected by direct exposure to dioxins from the Da Nang hot spot are members of an extended family fishing and harvesting lotus from Sen Lake and gardening along its banks. Those living near the West Airbase fishponds are also potentially highly exposed. In terms of current high dioxin exposure, approximately 50 people involved in harvesting fish and aquatic organisms from Airbase lakes (and their families) are likely most directly affected by dioxin contamination. Others in the general population are potentially also affected, through consumption of contaminated fish, other aquatic animals and vegetables

originating from the contaminated lakes on Da Nang Airbase. At present, it is believed that only a small proportion of the general population of Da Nang City is adversely affected. Others may also be affected by eating fish and other aquatic animals harvested from the Airbase lakes, although exact numbers are presently unknown. Exact numbers of highly exposed people needs to be verified and monitored.

- Results from this Da Nang study support those from previous Hatfield/10-80 Division studies (1998, 2000, 2003, 2005, Dwernychuk *et al*. 2002), namely that dioxins are transported from soils to aquatic sediments to fish and other aquatic organism tissues, and ultimately into humans, as shown by blood and breast milk analyses. The high levels of TCDD contributed almost all of the total toxicity of the samples analyzed, indicating that Agent Orange was the principal source of this dioxin congener. Immediate action is therefore necessary at Da Nang and other former Ranch Hand sites to prevent further human health risks from exposure to dioxins.

It is important to distinguish between historical and current dioxin contamination at Da Nang. Equally, it is important to realize that contamination has likely been ongoing for decades. For example, during the U.S.-Viet Nam War, empty herbicide barrels were sold to residents of Da Nang (for use as water containers and for other domestic purposes), and these barrels are known to have contained residual dioxin contamination. Use of these barrels by residents resulted in widespread death of vegetation outside the Da Nang Airbase during the war. Wind-blown dioxin molecules attached to soil particles may also have traveled out of the immediate areas of the Airbase following loading of herbicide onto C-123 aircraft, from the former Storage Area, and from local spray application. Erosion due to rains also transported the contaminant to other areas of the Airbase or other water bodies outside the Airbase. Fish in lakes and wetlands on Da Nang Airbase and in perimeter waterbodies accumulated high levels of contamination in their bodies, and ultimately entered the human food chain through bioaccumulation.

Therefore, dioxin residues from Da Nang Airbase are not restricted to a finite location on the Airbase itself. Some dioxin-contaminated residues have a high potential to be transported out of the immediate area of release, and into the human food chain in Da Nang City. Results from this study strongly indicate that exposure of Da Nang residents to dioxins originating from the Airbase is ongoing.

It is logical to assume that people on Da Nang Airbase and in Da Nang City who handled the herbicides during the US-Viet Nam war introduced dioxin into their bodies. The main exposure routes would have been: direct physical contact with the herbicides themselves or contaminated soils; breathing spray mist and/or contaminated dust; and/or ingestion of contaminated food items from the Sen Lakes and from other waterbodies downstream of the dioxin hot spots on the Airbase. There could also have been other sources of contamination, such as from the discarded herbicide barrels. People who have been living on or near the Sen Lake ecosystem are likely the ones most at risk, although some people living distant from the Airbase could also have been exposed through consumption of foods produced on the Airbase, and marketed off the base.

Interviewing Residents of Da Nang

Photo: Thomas Boivin

Determining health affects related to Agent Orange dioxin exposure is a contentious issue, as evidenced by court cases launched by US, Korean, Australian, New Zealand, Canadian and Vietnamese veterans, and by concerns expressed by Vietnamese in general. The health impacts of dioxin exposure can take decades to manifest and are highly variable between individuals. Proving exposure, and eliminating other possible causes of cancers or other health effects from a person's diagnosis, remains a challenge.

It is clear that certain health effects are linked to Agent Orange exposure, and that the precautionary principle should apply when dealing with dioxin contamination in the environment and human food chain. This is particularly true at Da Nang Airbase, where concentrations of dioxins in excess of 300,000 ppt have been recorded in soils, and where levels greater than 3,000 ppt are known to occur in fish tissues taken from Sen Lake. Blood dioxin levels in people known to consume fish and other aquatic organisms from the Airbase were the highest dioxin level recorded in Viet Nam to date. Protection of the local residents known to work on Airbase lakes harvesting fish and other aquatic organisms is therefore paramount, and mitigation measures need to be adopted immediately at Da Nang Airbase.

More than 40 years have elapsed since Agent Orange was introduced to the environment of Viet Nam, and the resultant chemical contamination continues to affect a number of residents of Da Nang City to this day. Similar situations can be expected at other major Ranch Hand sites in Viet Nam, in particular, Bien Hoa. Time is of the essence to move forward with this issue, to protect Vietnamese living in the vicinity of such hot spots from further contamination and associated health impacts. These circumstances pose a significant public health threat, particularly when considering elevated dioxin levels in relation to global guidelines for protection of the environment and human health.

Proposed Mitigation Measures

Given the high levels of dioxin on Da Nang Airbase and in the human population recorded in this study, the following mitigation measures should be implemented immediately. (Note that physical remediation measures are being dealt with separately, and therefore the activities listed below focus on human health protection, livelihoods, and socio-economic considerations).

1. Further research, health studies, community education programs and exposure studies are required at Da Nang to verify the extent of the exposure, and to protect populations from further dioxin contamination. Similar studies should be conducted at other dioxin hot spots in Viet Nam, in particular Bien Hoa. This is consistent with the recommendations of ATSDR (1997) for areas where soil levels are ≥1,000 ppt TEQ.

2. Fishing activities and lotus harvesting on all natural waterbodies on Da Nang Airbase (Sen Lake, Lake B, and Lake C) should be terminated immediately. Fishponds on the West Airbase should no longer be used, and no further excavation of fishponds should be permitted on the Da Nang Airbase. Cultivation of vegetables should be prohibited on the Airbase. Fish consumption in Xuan Lake and March 29 Lake (waterbodies adjacent to the Airbase, and connected by drainage canals) should also be prohibited as a precautionary measure.

3. A secure, more permanent fence around the perimeter of the Airbase, particularly at the northern border, is required to prevent access. Some sections of the current brick fence are in disrepair, and therefore the general public can easily enter the Da Nang Airbase.

4. Individuals sampled for blood and breast milk in this study should be provided with a report on the results of dioxin analyses performed (all donors requested that their results be reported to them). These consultations should be one-on-one, and be conducted by qualified medical professionals. Educational materials related to preventing further exposure to dioxins and furans should be provided (similar to those prepared by Hatfield/10-80 [2000]).

5. Alternate livelihoods need to be developed for those individuals who currently earn their living from harvesting fish, lotus and other aquatic organisms and vegetables from Da Nang Airbase. These need to be developed in consultation with Vietnamese authorities to ensure that individuals are able to maintain similar standards of living, and that their new livelihoods do not result in increased risk of exposure to dioxin or other hazardous chemicals on Da Nang Airbase. Consideration should be given to relocating individuals currently residing on or near the West Airbase fishponds, the Viet Nam Airlines residence northeast of the former Storage Area, and other areas near identified hot spots.

6. Detailed human health assessments should be considered in selected areas of Da Nang City, to assess the extent of past exposure to herbicides, and to ensure no long-term effects of exposure occurs. Individuals who presently work or worked in the past on the Airbase may be particularly vulnerable to dioxin contamination

from direct or indirect exposure to the former Mixing and Loading Area, former Storage Area, and the Sen Lakes (A, B and possibly C). Military personnel who resided in barracks adjacent to the former Mixing and Loading Area, and those who have harvested and/or consumed fish and lotus from Sen Lakes and West Airbase ponds should be considered for further investigations of possible health consequences of high exposure to dioxins at the Airbase. Further study of breast milk dioxin levels in the Da Nang population should be undertaken.

7. Engineered solutions for hot spots identified at the former Mixing and Loading Area and former Storage Area need to be refined and implemented as soon as possible to prevent further transport of contaminated soil and sediment into the general environment at Da Nang. Funding for undertaking these activities needs to be secured immediately.

8. Long-term monitoring of the environment and human population of Da Nang City is recommended, including Thanh Khe District and possibly other Districts adjacent to the Airbase. It will be important to annually monitor soil, sediment and food items for dioxin contamination; monitoring should also be conducted during and after physical remediation measures are implemented, for a period of at least five to seven years after completion (at a minimum, until dioxins are not detected for a three-year continuous period in environmental samples). Results of monitoring should be provided to local residents.

9. A systematic review should be undertaken at Bien Hoa, Phu Cat and other Ranch Hand sites in southern Viet Nam, where Agent Orange was used on site. In addition, a full investigation needs to be carried out of ARVN bases where Agent Orange spray planes and helicopters were loaded and serviced. TCDD measurements should be made in these areas if evidence suggests contamination. Soils, food chain elements and the human population should be assessed during such investigations. We suspect that, as seen at Da Nang Airbase and in A So (in the A Luoi District of Thua-Thien Hue Province), some former firebases, airbases and other former US and South Vietnamese military facilities may have significant levels of TCDD in their subsurface soils. Crash sites and load-jettison sites of Agent Orange spray planes should also be investigated.

10. Detailed impact mitigation plans for Da Nang Airbase must be implemented immediately, as well as in other areas where dioxin contamination exceeds international guidelines for protection of human health, including Bien Hoa, Phu Cat and other hot spots listed in Hatfield/10-80 (2005).

Proposed mitigation measures are summarized in the table on the following page.

Summary of Proposed Mitigation Strategies to Reduce Exposure of the Human Population to Dioxin Contamination from Historical Use of Agent Orange on the Da Nang Airbase.

Location	Recommended Mitigation Strategy
Sen Lake, Lake B, Lake C, West Airbase Fishponds, Xuan Lake and March 29 Lake	Institute an immediate ban on fishing, aquaculture, and consumption of aquatic organisms harvested. Ban the harvest and consumption of lotus and other vegetables raised in soils/sediments from Da Nang Airbase aquatic ecosystems. Ban fishing in waterbodies on the perimeter of the Airbase (Xuan Lake and March 29 Lake).
Da Nang Airbase perimeter	Install a new 'secure', permanent fence around the perimeter of the Airbase to prevent public access.
Da Nang City	One-on-one consultations should be held with all individuals who provided blood/milk samples under the current study. Educational materials related to preventing further exposure to dioxins and furans should be provided (similar to those prepared by Hatfield/10-80 [2000]).
Sen Lake Workers, West Airbase Fishpond Workers, Airbase Workers potentially exposed to contaminated soils and sediments	Development of alternate livelihoods for individuals currently earning their living from harvesting fish, lotus and other aquatic organisms and vegetables from Da Nang Airbase. These strategies require development by Vietnamese authorities in a manner that is appropriate to local culture and regulations.
Long-term monitoring	Monitoring of dioxin contamination in soils, sediments, food and residents should be implemented on an annual basis for a period of five to seven years, at a minimum, to verify effectiveness of mitigation measures. Further sampling and health studies may be required to verify the extent of contamination and exposure. Results of these studies should be used to develop and implement strategies to minimize or avoid exposure to dioxins. Detailed assessment and monitoring should be undertaken at Bien Hoa, Phu Cat, and other identified hot spots.
Former Mixing and Loading Area, former Storage Area, Drainage Canals: Clean up and/or ecologically isolate Airbase hot spots	Appropriate engineered solutions require refining and rapid implementation to prevent further spread of dioxin-contaminated soils and sediments into Sen Lake, and, ultimately, into the human population of Da Nang. Funding for undertaking these activities, and removing dioxin residues from the local ecosystem, needs to be secured as soon as possible.

Da Nang Dioxin Survey Sampling Team

Photo: Daniel Moats

1.0 INTRODUCTION

This report is the final document (Deliverable 3) for the *Assessment of Dioxin Contamination in the Environment and Human Population in the Vicinity of Da Nang Airbase, Viet Nam* Project (hereafter referred to as the *Da Nang Dioxin Assessment and Mitigation Project or DDAMP*) prepared by Hatfield Consultants (hereafter referred to as 'Hatfield') for Office of the National Steering Committee 33 (hereafter referred to as 'Office 33'). This report presents results of investigations on the Agent Orange (AO) dioxin issue at Da Nang, both from secondary sources as well as from field sampling conducted at Da Nang Airbase and in Da Nang City in December 2006.

Previous reports prepared by Hatfield and Office 33 summarized the key findings of the October 2006 field scoping mission to Viet Nam, and provided a preliminary assessment of the dioxin contamination at Da Nang (Deliverable 1); the draft final sampling design and methodology proposed for the December 2006 field sampling program were presented in Deliverable 2.

Results from this study were presented at a technical workshop in Ha Noi on April 13, 2007, at which time comments from Office 33, Ford Foundation and other key stakeholders were received.

1.1 PROJECT OBJECTIVES

The main objectives of DDAMP were to:

1. Assess the levels of dioxins and furans in the environment and human population in the vicinity of the Da Nang Airbase; and

2. Assist with protection of human health and development of mitigation measures for the area.

The primary focus of the Hatfield/Office 33 work was to identify dioxin exposure pathways in order to protect the human population of Da Nang from future dioxin contamination (i.e., 'positive human health outcomes'). Protection of local people from current and future dioxin exposure in Da Nang City was the ultimate objective of this study.

Key DDAMP activities included determining the linkage between dioxin contamination in the soils and sediments on Da Nang Airbase, its movement into aquatic ecosystems (especially Sen Lake, Lakes B and C, and other waterbodies and food sources outside the Airbase), and into the human food chain. The identification and assessment of potential dioxin pathways into the human population allows recommendations to be made for immediate and longer-term mitigation measures to protect people working on the Airbase, as well as local communities downstream of the Airbase from further dioxin contamination. The project study area is provided in Figure 1.1.

Figure 1.1 Overview map of Da Nang City and Airbase Study Area, December 2006.

Key issues considered in the assessment and mitigation of dioxin contamination at Da Nang Airbase included the following:

1. Historical information from a variety of sources (see Sections 1.3 and 1.4) confirms that Da Nang Airbase is a dioxin 'hot spot', and that potential for exposure of the human population is high (Hatfield/10-80 2005).

2. As of December 2006, people were continuing to earn livelihoods from harvesting fish and lotus from wetlands and fishponds on the Airbase (Sen Lake, Lake B and Lake C, West Airbase fishponds); these products have been sold in local markets in Da Nang for a number of years. At least 12 people (and possibly as many as 20), primarily from one large extended family, work on Sen Lake (as well as Lake B and Lake C); some of these people have been harvesting fish and lotus from the Airbase for more than 20 years. Fishing has recently been prohibited on Sen Lake; however, at the time of sampling in December 2006, there was active fishing observed in Lake B and the West Airbase fishponds, as well as cultivation and harvesting of lotus, water spinach, sweet potato and other vegetables. It is also likely that local Da Nang city residents enter the Airbase perimeter to harvest timber (and likely lotus, other edible plants, fish and aquatic organisms) for subsistence use.

3. Given the likelihood that dioxin continues to enter the food web and human population through consumption of fish and vegetation, and from direct exposure to highly-contaminated soil and sediments, the implementation of mitigation measures to protect the human population is of high priority. Based on field surveys conducted in October and December 2006, recommendations were made by the DDAMP team that public access to the Airbase should be prohibited, and all fishing for subsistence or commercial purposes should be banned immediately.

4. Social and economic considerations for residents of Da Nang City need to be handled carefully, given the importance of Da Nang as a tourist destination and its importance to the overall economy of Viet Nam. Alternate livelihoods need to be considered for people who currently earn income from harvesting fish, lotus and other products from Da Nang Airbase.

5. It is crucial that **all** dioxin hot spots in the Da Nang area are identified. It is possible that there were other herbicide storage, dumping and spillage areas on the Airbase and in the city of Da Nang; perimeter spraying also occurred. Levels of dioxin contamination outside the Airbase needed to be verified, in particular in the aquatic ecosystems adjacent to Sen Lake, Lake B and Lake C (i.e., Xuan Lake and March 29 Lake), in soils and food items consumed by local residents, and in the aquatic food web. Sampling of the human population (blood and breast milk) was therefore required to determine if dioxins are bioaccumulating in the human food chain.

6. Contamination from other sources needs to be considered. Da Nang is an industrialized city, which is developing rapidly. Other contaminants were therefore included in the environmental and human sample analyses, in order to determine the presence/absence of other possible contaminants of concern on the Airbase and in the human population living on/near the Airbase. A number of other contaminants (e.g., PCBs, PAHs, etc.) were therefore tested in addition to dioxins and furans.

7. Prior to this study being undertaken, dioxin concentrations from Da Nang Airbase had not been reported using high-resolution GC/MS by an independent, third-party laboratory. For the current study, all dioxin samples were analyzed at AXYS Analytical Laboratories (AXYS, Sidney BC, Canada), an internationally accredited independent laboratory.

1.2 BACKGROUND ON THE AGENT ORANGE ISSUE

In 1962, the US military initiated use of herbicides in Viet Nam for general defoliation and crop destruction through a program codenamed Operation Ranch Hand (IOM 2001). Herbicide applications ceased in 1971. Application of herbicides was primarily through cargo aircraft (C-123s) and ground mechanisms (i.e., trucks, backpack sprayers and riverboats); helicopters were also used in certain areas of the country. Earlier estimates indicated 72 million litres of herbicide were applied over southern Viet Nam (Westing 1984, IOM 1994). However, recent studies reviewing spray records from the war reveal that over 80 million litres of herbicide were used in Viet Nam, resulting in more than 600kg of pure TCDD being released to the environment (Stellman *et al.* 2003).

Sixty-one percent of the herbicide used in Viet Nam was Agent Orange, a 50/50 mixture of 2,4-dichlorophenoxyacetic acid (2,4-D), and 2,4,5-trichloro-phenoxyacetic acid (2,4,5-T). The 2,4,5-T fraction of the Agent Orange mixture contained the highly toxic chemical 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) (Dwyer and Flesch-Janys 1995, IOM 2001). The presence of the TCDD dioxin congener in Agent Orange was initially unknown to the US military; however, this position has been challenged by a leading US military figure involved in the war. Zumwalt (1990) stated that dioxin in the Agent Orange mixture was, in fact, known to the military when use of herbicides in Viet Nam was initiated in the 1960s.

Military installations throughout southern Viet Nam (e.g., Bien Hoa, Da Nang, Nha Trang, Phu Cat, Tan Son Nhat) served as bulk storage and supply facilities for Agent Orange (US Army documents 1969, Cecil 1986). These storage sites experienced spills of herbicide. In 1970, for example, a 7,500 US gallon spill of Agent Orange occurred on the Bien Hoa base; between January and March 1970, three other spills of lesser volume occurred at Bien Hoa (US Army documents 1970). Widespread spillage also occurred from improper handling of empty herbicide barrels during the war, which were sold to local people in Da Nang City (Appendix 1); contamination throughout Da Nang City therefore occurred.

As a consequence of the aerial applications and handling of Agent Orange on military installations, there exist several primary sources of major TCDD contamination in Viet Nam: from spray missions by C-123 aircraft, and contamination on former US military installations where herbicide was stored, dispensed, and spilled. Spraying along roads by heavy trucks, and backpack spraying inside the bases themselves also occurred, particularly along the base perimeters. Herbicide applications also occurred in Lao PDR (Laos) and Cambodia, although less is known of the impacts to the environment and human populations in these countries.

10-80 Division of the Ministry of Health and Hatfield Consultants Ltd. (Hatfield) examined the environmental consequences of aerial applications and use of Agent Orange at military bases from 1994-2001 in the A Luoi District (also referred to as 'A Luoi Valley') in central Viet Nam (Hatfield/10-80 1998, 2000, Dwernychuk *et al.* 2002). A Luoi District is situated approximately 65 km west of Hue, in Thua Thien Hue Province. A summary of the key findings of these studies is provided below.

The A Luoi Valley was an integral portion of the Ho Chi Minh Trail, given its proximity to the former demilitarized zone (DMZ) between North and South Viet Nam. The valley had three US Special Forces bases and was extensively sprayed with Agent Orange between 1965 and 1970. A Luoi and Ta Bat Special Forces bases were closed in 1965, after operating for less than one year. The A So base (formerly known as the A Shau Special Forces base) remained operational from 1963 to 1966 (Stanton 1985). Defoliants, including Agent Orange, were used and stored on the A So base during its operation (US Army documents 2001).

In 1994, A Luoi District was selected by Hatfield and the 10-80 Committee to evaluate the long-term environmental consequences of Agent Orange use to facilitate extrapolation to other regions of southern Viet Nam. The area was chosen because it was heavily sprayed, but also because there were no confounding variables associated with sources of industrial pollution. The investigations focused on determining where the highest levels of TCDD contamination may exist – on lands sprayed by C-123 aircraft, and/or on former US military installations where use/misuse of herbicides occurred (Hatfield/10-80 1998, 2000).

Sites where dioxin levels are found to be high may be categorized as Agent Orange/dioxin 'hot spots' (Dwernychuk *et al.* 2002). Earlier studies by Hatfield/10-80 focused on an environmental component of the A Luoi Valley, soils, as a key medium for defining primary hot spots. Given that soil contamination in the Valley is the precursor to present-day food chain and human contamination, it follows that dioxin levels in soil be used as the principal factor for defining a hot spot.

TCDD levels in the soils of the three former A Luoi Special Forces bases were elevated when compared to soils from areas of the A Luoi Valley that received aerial applications of Agent Orange. The highest TCDD levels were recorded at the A So base, 897.85 pg/g (Total I-TEQ, 901.22 pg/g; Dwernychuk *et al.* 2002).

A Luoi and Ta Bat Special Forces bases were used for less than one year, while A So was operational for approximately three years. Even though the two short-lived bases did not experience on-site military activity as long as A So, TCDD contamination was generally higher than that measured in soils along the valley bottom where aerial applications of Agent Orange had occurred. Soil TCDD levels on the A Luoi base ranged from 5.0 pg/g to 19 pg/g; on the Ta Bat base, dioxin levels were 4.3 pg/g to 35 pg/g (Dwernychuk *et al.* 2002).

The Total I-TEQs of soils, particularly those from the former A Luoi District bases, demonstrated a high contribution of TCDD to the Total I-TEQ calculation (approximately 83% to >99% TCDD contribution to Total I-TEQs). These high percentages strongly indicate that Agent Orange was the origin of TCDD contamination in the region.

The highest TCDD levels measured along the portion of A Luoi District sprayed by C-123 aircraft, was 15 pg/g (Total I-TEQ, 17 pg/g). Other values along the valley bottom ranged from non-detect (ND) to 7.9 pg/g.

10-80 Division and Hatfield theorize that the pattern of TCDD contamination recorded in A Luoi District serves as a model for contamination throughout southern Viet Nam (Dwernychuk *et al.* 2002). Human exposure, and subsequent TCDD bioaccumulation through the food web, is expected to be highest in areas of former military installations where significantly higher concentrations of TCDD may be residing in soils, particularly as a result of herbicide spills. Soils in regions aerially sprayed would not be expected to have the same loading of Agent Orange, and therefore TCDD, as military bases.

Schecter *et al.* (2001) sampled near the former Bien Hoa base, and measured extremely high levels of TCDD in soils (e.g., 1,164,699 pg/g dry weight) and in human blood (e.g., 271.1 pg/g lipid). These levels are probably related to the Agent Orange spill at Bien Hoa in 1970 (US Army documents 1970), particularly when considering that the soil TCDD contributed 99% of the toxicity to the Total I-TEQ; for blood, TCDD contributed 92% of the Total I-TEQ for the 271.1 pg/g sample. Additional studies near Bien Hoa have recorded a blood TCDD level of 413 pg/g lipid (Schecter *et al.* 2002). Schecter *et al.* (2001) reported 2 pg/g TCDD in pooled blood from a Ha Noi control group. These data further strengthen the Hatfield/10-80 Hot Spot theory that the key, and potentially most damaging to human health, hot spots are located near former US and Army of the Republic of Vietnam (ARVN) military installations (Dwernychuk *et al.* 2002, Dwernychuk 2005).

Studies in the vicinity of the former A So US military base demonstrated that TCDD contamination has spread from soils to humans via the food chain (Dwernychuk *et al.* 2002). Possible other modes of ingestion of TCDD include inhalation of dust, skin absorption, and unintentional direct ingestion of soil; in the case of very young children, ingestion may also occur from contaminated objects placed in their mouths. The soil medium is the ultimate reservoir/source of TCDD, and thereby warrants the term 'primary hot spot'. The fact that foods,

human blood and breast milk in the A So commune were also found to have the highest dioxin content generates additional concerns related to nutritional and public health issues. These additional "hot spot strata" (i.e., food and humans) are a direct consequence of the mobilization and migration of TCDD from soil through foods (and/or direct contact) into humans. Results from the A Luoi District study emphasized that former US military bases should be the primary sites on which to concentrate further studies and direct remediation measures, thereby helping reduce potential TCDD exposure for local Vietnamese populations (Dwernychuk *et al.* 2002).

During the US-Viet Nam war, the US and south Vietnamese military established numerous military installations throughout southern Viet Nam (e.g., artillery bases, communication bases, etc.), as well as in Lao PDR and Cambodia. Use and storage of Agent Orange was documented on a number of these facilities (US Army documents 1969, 1970). Ranch Hand spray missions were supplied herbicides from bulk storage facilities (Cecil 1986). The storage areas for herbicides experienced spills, which prompted recommendations to address these occurrences (US Army documents 1969; see also Appendix 1). Recommendations regarding the handling of Agent Orange on storage/dispensing facilities included the construction of drainage ditches, spill ponds, and systems comparable to septic field distribution, to manage spilled herbicides. These protocols were probably in place at many of the Agent Orange storage centres.

The issue of suspected dioxin reservoirs or "hot spots" has been raised over the years in Viet Nam, linked to the use of Agent Orange by the US military. Dwernychuk *et al*. (2002) demonstrated that these reservoirs, or "hot spots", exist in soils of former US military installations, are contaminating local food webs, and are contaminating humans that consume foods produced, or have direct contact with contaminated soil, in these affected regions.

From 2003 to 2005, Hatfield and 10-80 Division of the Ministry of Health conducted a review of all 'suspected' dioxin hot spots in Viet Nam (Hatfield/10-80 2005). Given the large number of former military bases and wide extent of aerially sprayed regions of southern Viet Nam, formal identification of key hot spots was considered essential to help move the dioxin assessment and remediation process forward.

Hatfield/10-80 (2005) identified 2,735 sites in the review of potential hot spots, including airbases, airfields, depots, heliports, army bases, airstrips, landing zones and other former US military installations. This review did not include ARVN sites; background research of historical archived information suggested that most areas used by the US military during the war were not expected to be highly contaminated, given the nature of the operations conducted at the sites.

Hatfield/10-80 (2005) identified seven sites of key concern, including: Bien Hoa, Da Nang, Nha Trang, Phu Cat, Pleiku, Tan Son Nhat, and Can Tho. Bien Hoa, Da Nang, and Phu Cat bases were rated as the most significant dioxin hot spots. Maximum dioxin concentrations measured downstream of the bases in 2005 was

generally low (maximum 797 pg/g at Bien Hoa), although the sampling program included only soils and sediments, and access to the Airbases was not permitted during the study. Based on these results, recommendations were made for further assessment on the Airbases themselves, for verification of dioxin hot spot locations and extent. From a human health perspective, the primary concern is exposure of local residents who have regular, direct contact with soils, and who consume locally produced fish and duck internal organs and fatty tissues from lakes near these three Airbases. It is important to note that other hot spots may exist in Viet Nam, apart from the seven key sites listed above, and that Hatfield/10-80 (2005) study did not explore bases under direction of the ARVN (since data were not available at the time of the study).

Protection of the human food supply from contamination by toxins, including dioxins, is of paramount concern throughout the developed world. A "standards/guideline" approach to human health protection has been taken to address the dioxin issue in many western jurisdictions. Numerical standards and guidelines addressing TCDD contamination have been established by many reputable organizations and scientists (e.g., WHO/EURO 1988, 1989, 1991, 1998a, 1998b, 2001, Agency for Toxic Substances and Disease Registry 1997, 1998; International Agency for Research on Cancer [a division of the World Health Organization] 1997). When these contamination guidelines are exceeded in soils or human food, mitigation action is recommended and/or enforced.

Hatfield/Office 33 believe a similar "standards-based" approach should be taken in Viet Nam. However, western standards are likely not conservative enough, given that most rural people in Viet Nam (particularly ethnic minority groups), live in close contact with the soil (i.e., dirt floor housing, children playing in and ingesting contaminated soil), and depend on locally produced food sources (e.g., fish/ducks). A review of international guidelines for protection of human health from dioxins is provided in Section 1.5.

The research by 10-80 Division/Hatfield (Hatfield/10-80 1998, 2000, 2003, 2005; Dwernychuk *et al*. 2002; Hatfield Consultants Ltd. 2000) has shown unequivocally that hot spots do exist and that dioxin contamination is:

- Not an historical problem, but still occurs to this day in many areas of Viet Nam; and
- Adversely affecting the health of those people living in the vicinity of/on dioxin hot spots.

The principle dioxin reservoirs, or hot spots, that were tentatively identified by Dwernychuk *et al*. (2002) and Hatfield/10-80 (2005) included:

- Former warehouses and Agent Orange spray-plane loading stations (spills, leaks, etc.) such as Bien Hoa and Da Nang;
- Agent Orange spray-plane crash sites;

- Jettison sites (loads dumped because of mechanical or weather difficulties);
- Former air strips (repeated truck and hand-held spraying);
- Perimeters of former military bases (repeated truck and hand-held spraying); and
- Topographical low spots (basins) where dioxin has concentrated in run-off sediment.

10-80 Division/Hatfield studies in A Luoi District, and downstream of the former US military installations at Bien Hoa, Da Nang, Phu Cat, Can Tho, Nha Trang, Pleiku and Tan Son Nhut confirm that significant hot spots exist in Viet Nam. Research and mitigation measures should focus on dioxin hot spots near former US military installations in southern Viet Nam, particularly Da Nang, Bien Hoa and Phu Cat (Hatfield/10-80 2005, Dwernychuk 2005).

Hatfield/10-80 (2005) recommended a phased approach to Viet Nam hot spot studies to provide a systematic and practical way to deal with chemical contamination issues in Viet Nam. The priority is to identify high risk groups, such as children and pregnant/nursing women, who may be exposed to elevated levels of dioxins resulting from their proximity to contaminated hotspots. This approach has been taken for the DDAMP study conducted by Hatfield and Office 33.

1.3 HISTORY OF DA NANG AIRBASE AND DA NANG INTERNATIONAL AIRPORT

In 1953/54 the French laid a NATO-standard 7,800-foot asphalt runway at Toluene, later renamed Da Nang. On 1 July 1955 the newly-independent South Vietnamese Air Force took control of the facility, and Toluene Airfield was turned over to civilian use. In 1958, the South Vietnamese Air Force (SVNAF) re-established a presence at Da Nang, and the South Vietnamese Army (ARVN) also used Da Nang as a ranger training facility.

Da Nang Air Base became a joint operating airfield when U.S. Forces started to arrive in the early 1960s. As the fighting in Viet Nam increased in the 1960s, the number of SVNAF units at Da Nang also increased, as did those of the US Air Force (USAF) and US Marine air units, which swelled the base beyond its operational capacity. Covered and open aircraft revetments were constructed on concrete and asphalt parking aprons to protect the assigned aircraft from North Vietnamese mortar attacks.

In addition to these permanent assigned combat units, the airfield was a cargo facility for the huge C-141s, C-5s, and contract commercial flights of the Military Airlift Command, as well as a civil terminal for the various domestic airlines. It was also one of the staging areas for Operation Ranch Hand, from which Agent Orange and other herbicides were sprayed across central Viet Nam.

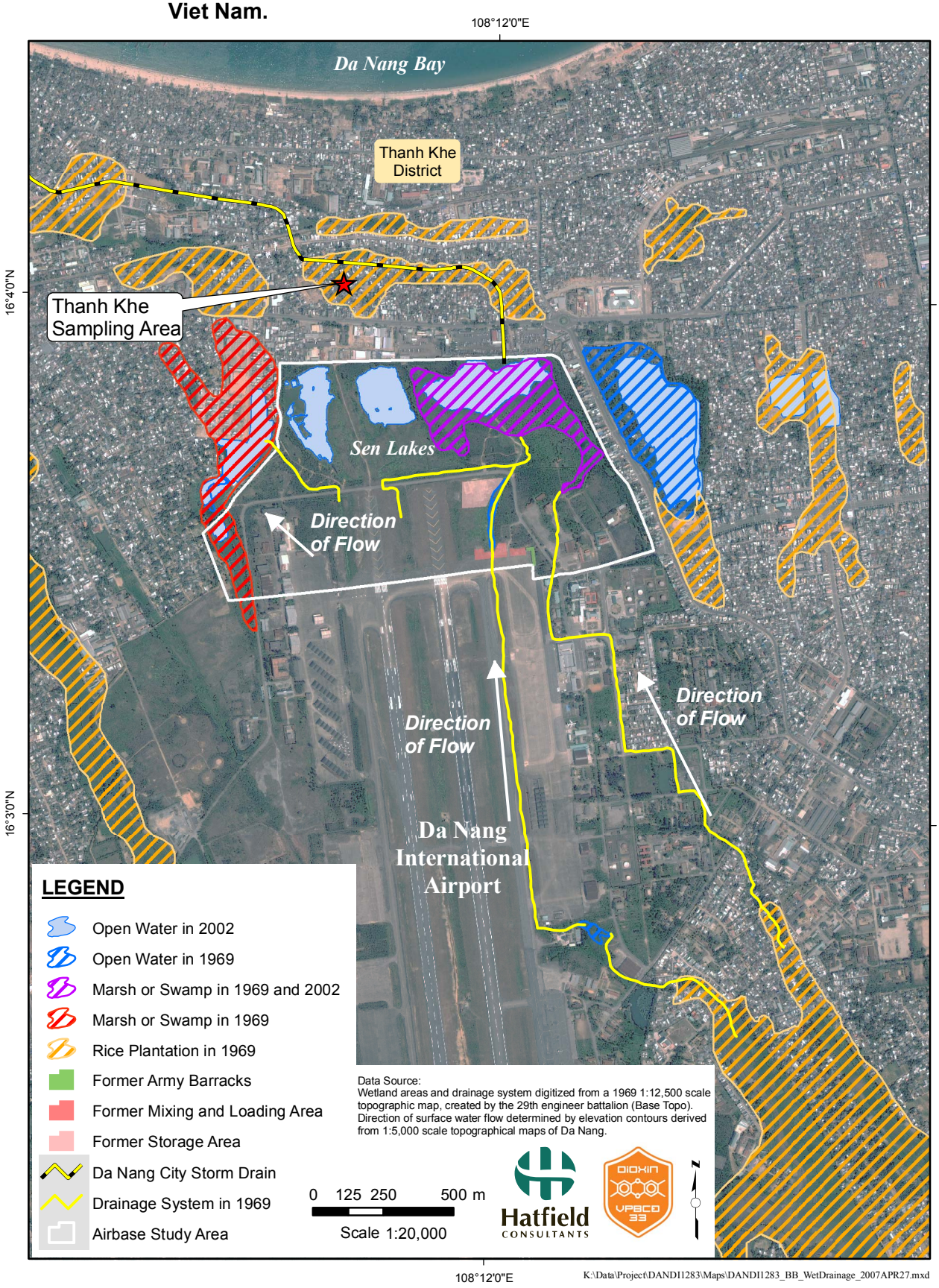
Photo: Thomas Boivin

For the air war over North Viet Nam, Da Nang was considered the most suitable diversionary airfield in case of emergency. Landings of this nature became commonplace for Thailand-based USAF fighter bombers, reconnaissance aircraft, strike aircraft from the Navy air-craft carriers stationed in the South China Sea, and damaged aircraft of all air units stationed throughout South Viet Nam. At its peak in the mid-late 1960s, Da Nang Airbase was one of the busiest airfields in the world.

The current Da Nang Airbase is used both by civilian and military aircraft, and is one of the three international airports in Viet Nam. It is located at 16.043889°N and 108.199444°E, and elevation is 10 m ASL. The northern border of the Airbase is located approximately 1 km from the sea at Da Nang Bay (Figure 1.2). The airport has two runways, including one 10,000 ft (3,045m) paved runway. The airport has a modern aviation equipment system to handle large aircraft. Traffic volume at Da Nang averages 100 to 150 flights every 24 hours. Annual traffic is between 800,000 and 1 million passengers. In 2000, the estimated number of passengers was 1.5 million and will grow to 4 million by 2020.

Today, the city of Da Nang has a population of just over 750,000 (2004 data). The area north of the Airbase is densely populated, and most residents live in Thanh Khe District (population 150,000; 2004 data). During the 1960s land use in the City of Da Nang was very different, particularly north of the Airbase (Figure 1.2). Large tracts of land were used for rice agriculture, and several of the wetlands in the area were basically extensions of the Sen Lake ecosystem. Drainage from the Airbase flowed north towards Da Nang Bay, and into these wetland/rice farming areas. Dioxin and other chemical contamination from the Ranch Hand operation and US military activities on the Da Nang Airbase therefore spread into wetlands, rice fields and residential areas outside the Airbase; fish easily migrated throughout the wetland areas inside and outside the Airbase perimeter, especially during the monsoon period.

Figure 1.2 Land use changes in Da Nang City and Airbase between 1969 and 2002, Viet Nam.



1.4 AGENT ORANGE USE AT DA NANG AND SUSPECTED HOT SPOTS

Da Nang was one of the key Ranch Hand sites in Viet Nam, and was second only to Bien Hoa in terms of number of C-123 sorties (US Army documents 1969, Cecil 1986). Dioxin contamination at Da Nang Airbase is the result of the storage, loading, spillage and handling of Agent Orange and other toxic herbicides during the US-Viet Nam war (1968/69 US military memoranda; Appendix A1). Agent Orange was used at Da Nang primarily between 1965-1971.

A number of investigations into damage to crops and trees in Da Nang took place in the late 1960s, amid allegations that Agent Orange and other herbicides were killing local vegetation. These are summarized below, and in Appendix A1:

- A March 29, 1969 Memorandum entitled "Defoliant Damage in Da Nang", from Colonel Harold C. Kinne, Jr. to Brigadier General John G. Wheelock III (Appendix 1) stated:

"An investigation conducted by a representative of this office, Mr. Flemm of the USAID Forestry Section, and Mr. Stickney disclosed that the primary cause of damage was not leakage from aircraft, but rather, the spread of small amounts of herbicide throughout the area by means of empty herbicide drums."

"On 27 March a report was received from the Chief, CORDS/New Life Development/I CTZ again citing empty herbicide drums as the cause of extensive damage to shade trees in the city of Da Nang. The report also pointed out that the method used by ARVN personnel to transfer the herbicide from drums to large tanks results in a two to three gallon residue being left in each drum. These drums are then allegedly sold to local citizens for 300 piasters each. With the large number of drums being generated by Ranch Hand operations in Da Nang, a significant amount of herbicide is being wasted which in turn is causing damage to trees and crops."

- A subsequent March 29, 1969 memo to Colonel Tran Dinh Tho to Colonel Harold C. Kinne Jr. stated:

"This report confirms a previous investigation made in October 1966 by representatives of my office and the USAID Forestry Section. During this investigation it was noted that empty herbicide drums were also the primary cause of damage to vegetable crops in the Da Nang area…"

- Corrective measures suggested included:

"First, that a more effective means be developed to ensure that the drums are completely emptied when the herbicide is transferred. The present system appears to result in loss of approximately 5% through wastage and is certainly not an economical, use of this expensive material."

"Second, that some system be developed for cleaning the drums prior to disposal. A simple flushing system may be sufficient, or the material may require chemical or steam cleaning; this would have to be investigated."

He further states, "ARVN herbicide storage points are located at Bien Hoa, Phu Cat, Nha Trang, and Saigon in addition to Da Nang. Bien Hoa generates by far the largest number of empty herbicide drums. Results of any investigation should be applied to all herbicide storage and transfer areas since this problem may not be peculiar to Da Nang".

Previous data collected from the Da Nang Airbase and vicinities (MOD unpublished low-resolution GCMS data EPA 2005 Calux data [Xenobiotic Detection Systems Inc. 2006), and Hatfield/ 10-80 2005) suggested potentially high levels of contamination at three key locations (Figure 2.2):

1. **Former Mixing and Loading Area (MLA) –** Located to the northeast of the main runway, approximately 150 m from the current international airport. At this site, Agent Orange and other herbicides were loaded on C-123 airplanes, helicopters and other aircraft, as well as other distribution devices (e.g., backpack sprayers). Planes returning from spray missions were also washed and serviced in this area, leading to spills of herbicides into the surrounding lands and drainage ditches, and ultimately into Sen Lake and other local waterbodies;

2. **Former Storage Area (SA) ("Bai Doc")–** According to MOD, 105,400 barrels of herbicide (208 L or 45 gallons/barrel) were stored at the Storage Area on the Da Nang Airbase during the US-Viet Nam war (Dr. Tran Ngoc Tam, MOD *pers. comm.*). Herbicides were transported from the Storage Area to the MLA for loading onto aircraft or other dispersal mechanisms. The former Storage Area substrate currently consists of hard-packed sand, with no vegetation growing on the site; and

3. **Sen Lakes ('Ho Sen") -** Includes a series of three lakes, referred to in this report as Sen Lake (sometimes also referred to as "Sen Lake A"), Lake B and Lake C. The Sen Lakes form a large (7 ha) wetland situated at the northern border of the Airbase, still within the boundaries of the Airport. A drainage ditch carries run-off waters from the former MLA and former SA to Sen Lake. The area between the former Storage Area and Sen Lakes has been used as a waste dump area for decades, and it is therefore possible that the Sen Lakes received direct dumping of herbicide, and/or empty herbicide barrels during the 1960s (Appendix A1). Drainage from Sen Lake flows north into the Da Nang City storm sewer system.

Additional spillage occurred at Da Nang Airbase during herbicide loading onto aircraft, washing of aircraft tanks, perimeter spraying, and from residual amounts of herbicide left in used barrels.

Extensive sampling and dioxin laboratory analysis was undertaken by MOD (1997) and MOD/VAST/EPA (2005) on Da Nang Airbase, and by Hatfield/10-80 (2005) for areas outside the base (summarized in Table 1.1). Historical sampling focused on the three areas on the Airbase discussed above, with the exception of

the Hatfield/10-80 work, which analyzed soils and sediments downstream of Da Nang Airbase. To date, MOD/VAST/EPA analytical data have not been published in the international scientific literature (Note: Hatfield/10 80/Office 33 presented their results in a paper and oral presentation at *Dioxin 2006* in Oslo, Norway in August 2006). EPA (2005) Calux data are available in an unpublished summary report (Xenobiotic Detection Systems Inc. 2006).

The Sen Lake ecosystem, located on the Da Nang Airbase property, currently has public access, and is therefore considered to be a critical dioxin exposure pathway for the human population of Da Nang City.

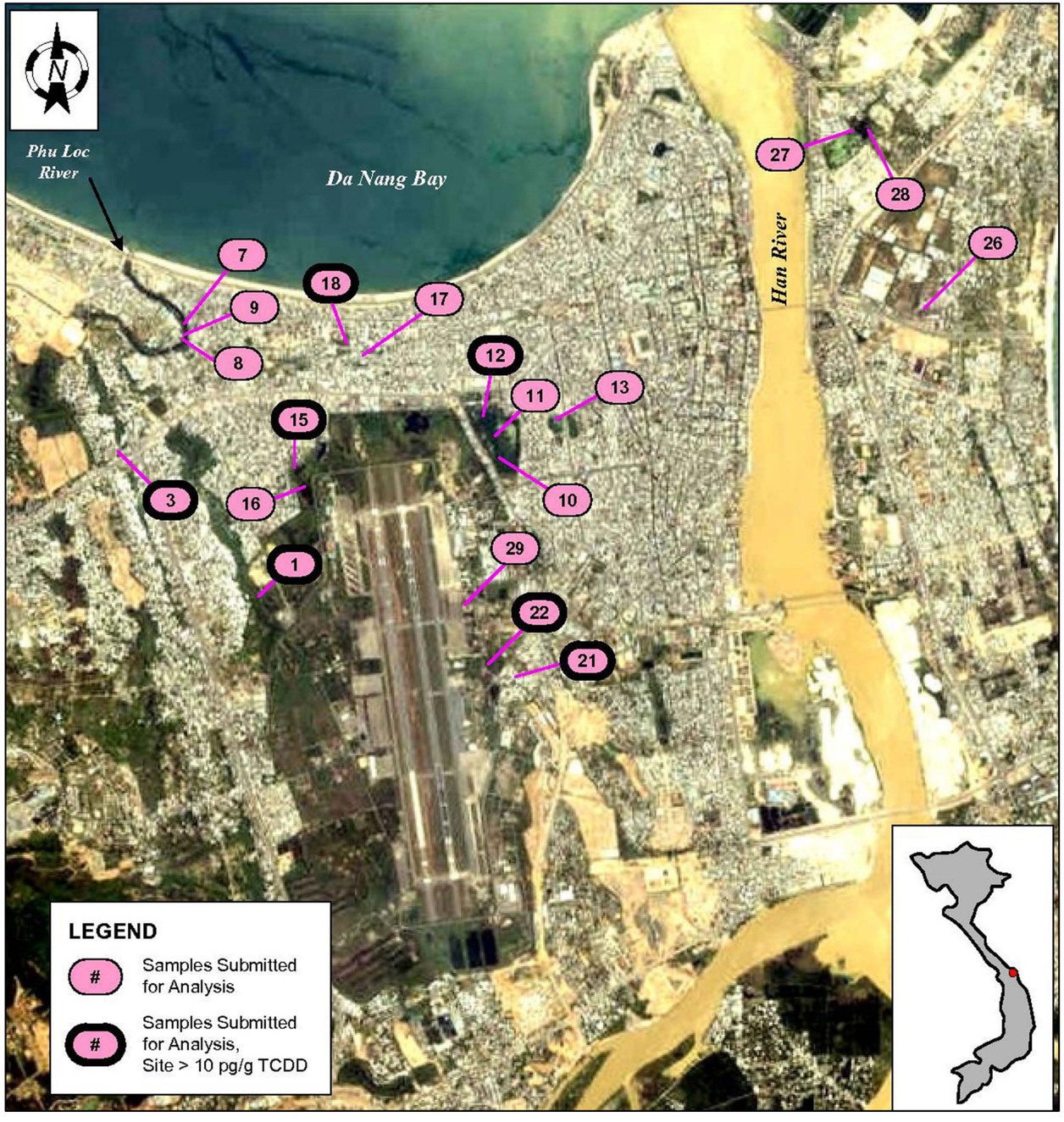
Table 1.1 Da Nang dioxin data analyses completed between 1997 and 2005.

Agency	Year	Number of Samples	Sample Type	Analytical Technique	Laboratory
1) Ministry of National Defense	1997-98	~ 330	Soil & Biological	GCMS (low resolution)	Viet Nam (some in Russia and Japan)
2) Ministry of National Defense & Medical University	2000-05	200	Biological	GCMS (low resolution)	Viet Nam (some in Japan)
3) Viet Nam Academy of Science and Technology, Environment Protection Agency, Ministry of National Defense, and US EPA	2005	109/179	Soil & Biological	Calux	USA
4) Hatfield/10-80	2005	21	Soil & Sediment	GCMS (high resolution)	Canada

Drainage patterns from the Da Nang Airbase into the city of Da Nang were determined based on field investigations by Hatfield and BEM Systems Inc., and also from a 1968 Airbase drainage map of Da Nang obtained by Hatfield from the US Archives in Washington, DC (Hatfield/10-80 2005). The Phu Loc River is regarded as the main recipient of drainage from Da Nang Airbase. Low dioxin levels were found in the Phu Loc River by Hatfield/10-80 (2005). The current study was therefore tasked to also verify the levels of contamination outside the Airbase, in particular in the aquatic ecosystems adjacent to the Sen Lakes (Xuan Lake and March 29 Lake), and in the human food chain.

A summary of dioxin/furan analyses completed in Da Nang City by Hatfield/10-80 (2005) is presented in Table 1.2 on page 1-17; sampling locations are presented in Figure 1.3. Elevated levels of dioxin were recorded in soil and sediments in Thanh Khe District, particularly near 'Site 18' (227 ppt TCDD); over 80% of the TCDD in the TEQ was TCDD, suggesting Agent Orange as the primary source of dioxin contamination at this site. The current study therefore included further investigation of soil, sediment and human blood dioxin levels from the 'Site 18' area, to assess possible impacts to local residents from dioxin exposure.

Figure 1.3 Location of soil/sediment sample collection sites, and 2,3,7,8-TCDD data (pg/g, dry weight), Total TEQ, and percent TCDD of Total TEQ, Da Nang, Viet Nam, 2005



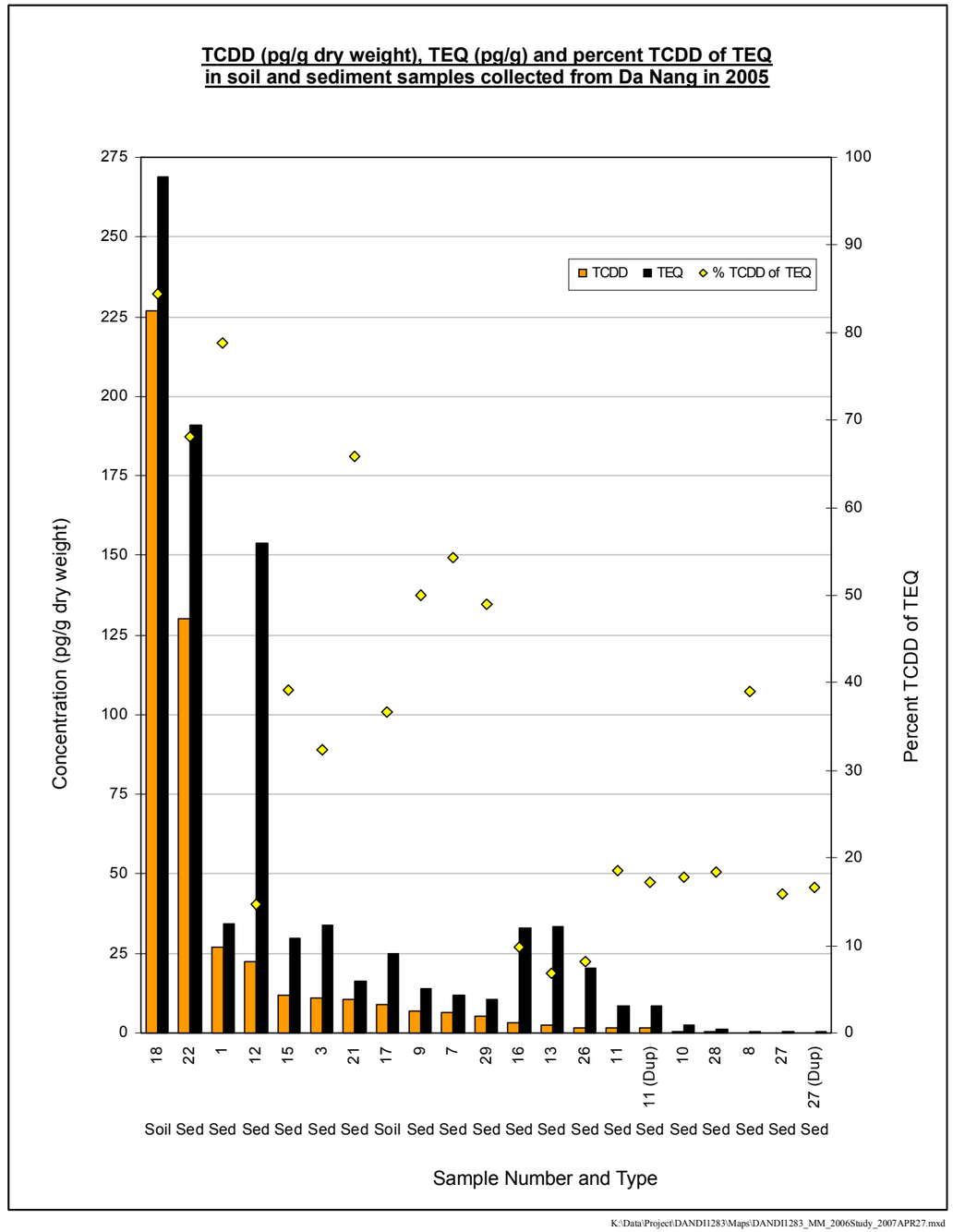


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Table 1.2 **2,3,7,8-TCDD (pg/g dry weight), TEQ (pg/g), and percent TCDD of the TEQ value for soil and sediment samples from Da Nang (outside the Airbase), Viet Nam, 2005 (Hatfield/10-80 2005).**

Sample ID	Sample Type	Location	TCDD	TEQ	% TCDD of TEQ
05VN018	Soil	Cultivated land	227	269	84
05VN022	Sediment	Ditch	130	191	68
05VN001	Sediment	Ditch	27	34.3	79
05VN012	Sediment	March 29 Lake (Ho 29.3)	22.6	154	15
05VN015	Sediment	Xuan Lake (Ho Xuan Ha)	11.7	29.9	39
05VN003	Sediment	Ditch	11	34	32
05VN021	Sediment	Ditch	10.8	16.4	66
05VN017	Soil	Cultivated land	9.06	24.7	37
05VN009	Sediment	Ditch	6.84	13.7	50
05VN007	Sediment	Phu Loc River	6.46	11.9	54
05VN029	Sediment	Ditch	5.14	10.5	49
05VN016	Sediment	Xuan Lake (Ho Xuan Ha)	3.23	32.9	10
05VN013	Sediment	Thac Gian Lake	2.28	33.6	7
05VN026	Sediment	An Don ditch	1.64	20.2	8
05VN011	Sediment	March 29 Lake (Ho 29.3)	1.61	8.69	19
05VN011 (Duplicate)	Sediment	March 29 Lake (Ho 29.3)	1.46	8.47	17
05VN010	Sediment	March 29 Lake (Ho 29.3)	0.415	2.34	18
05VN028	Sediment	An Don pond	0.262	1.42	18
05VN008	Sediment	Phu Loc River	0.175	0.449	39
05VN027	Sediment	An Don ditch	0.07	0.44	16
05VN027 (Duplicate)	Sediment	An Don ditch	0.07	0.42	17

Local Garden outside Da Nang Airbase

Photo: Thomas Boivin

1.5 DIOXIN GUIDELINES AND PUBLIC HEALTH

Dioxins in general, and TCDD in particular, in soils from industrialized countries are expected to be detected at varying concentrations. The production of dioxin and dioxin-like compounds (e.g., PCBs) essentially began during World War I as a result of large-scale industrialization (Webster and Commoner 1994).

Historically, soils near specific industries and certain material treatment processes have a high probability of containing dioxins, particularly if chlorine was involved in the process (e.g., bleaching of pulp and paper with elemental chlorine; incineration of chemical waste, hospital waste and sewage sludge; processing of certain metals) (Webster and Commoner 1994).

Given their low water solubility and resistance to rapid degradation, dioxins (particularly TCDD) tend to partition into soil; consequently, this medium serves as a "reservoir" for the contaminant, and effectively serves to facilitate the contamination of other media long after cessation of an activity and/or process has occurred.

In the United States, the Agency for Toxic Substance and Disease Registry ATSDR (ATSDR, 1998) reports that TCDD is not generally detected in rural soils; however, in industrialized regions of the US, TCDD levels typically range from 1.0 pg/g to 10 pg/g. The International Agency for Research on Cancer (IARC 1997) provides a detailed summary of 42 studies in 18 industrialized countries, presenting over 150 TCDD data points. TCDD concentrations presented in this overview ranged from ND to 9.6×10^9 pg/g; the highest concentrations recorded in the IARC (1997) summary were found in highly contaminated soils from Missouri (i.e., a horse arena and farm soil, Kimbrough *et al.* 1997 and Viswanthan *et al.* 1995, both *cited in* IARC 1997). Other very high TCDD levels (i.e., >1,000 pg/g) were recorded in soils collected from heavily industrialized sites; these sites included manufacturing plants for tetrachlorophenol, pentachlorophenol, chlorophenolics and herbicides (e.g., 2,4-D) and incineration facilities.

Regulatory agencies addressing human health protection have employed various protocols to address the issue of dioxin contamination (e.g., in Canada, Health Canada and provincial health ministries and environmental departments; in the US, the Environmental Protection Agency [EPA] and state health agencies).

In British Columbia (BC), Canada, legislation addresses the issues of contaminated sites and legal standards directed at site remediation. The definition of a "contaminated site" (i.e., soil) in BC is one in which:

> "*…the concentration of any substance in the soil at the site is greater than or equal to… the lowest value of the applicable matrix numerical soil standards…*" (BC Waste Management Act 1996).

For soils contaminated with polychlorinated dioxins and polychlorinated furans (PCDD and PCDF, respectively), legal T-TEQ standards are set, which if exceeded, would designate a site to be a "contaminated site". For example, in BC, the land categories of "agricultural and residential/park" are recognized in the legislation. The site-specific receptors that define the legal threshold contaminant level for the land categories considered above are "human health protection" and "environmental protection" (i.e., ecological health). Table 1.3 summarizes the BC PCDD/PCDF (expressed as T-TEQ) soil standards for agricultural and residential/park soils (source: BC Waste Management Act 1996):

Table 1.3 Matrix numerical soil standard (pg/g Total TEQ).

Site-Specific Factor/Receptor	Agricultural Land	Residential/Park Land
Human Health Protection[1]	350	350
Environmental Protection	10	1,000

[1] An adult is used as the critical receptor, and related to intake (ingestion) of contaminated soil.

When addressing the issue of ecological health (environmental protection), the agricultural land and residential/park categories have different levels, 10 pg/g and 1,000 pg/g T-TEQ, respectively.

When addressing human health protection in BC, T-TEQ for agricultural and residential/park soils is 350 pg/g for both categories. This value is calculated on the basis of oral ingestion of soils alone, and does not make provision for dioxins that may be taken into the body through other avenues (e.g., foods, drinking water, exposure to commercial products; BC Environment 1996).

The above values focus on adult individuals with an assumed soil ingestion rate of 20 mg/day (BC Waste Management Act [BCWMA] 1996). Table 1.4 provides a summation of typical soil ingestion rates for the general population in Canada (source: Angus Environmental 1991, Newhook 1992 and MENVIQ 1992, *cited in* BC Environment 1996):

Table 1.4 Typical average receptor characteristic values for the Canadian general population.

Age Class (years)	Soil Intake (mg/day)
0-0.5	20
0.6-4	80
5-11	20
12-19	20
20+	20

It should be noted here that young children are believed to ingest more soil materials, and generally have greater exposure to soil contaminants relative to adults. Their lower body weight is also a factor in level of exposure.

When a given area is to be assessed and categorized as to whether or not it constitutes a contaminated site in BC, two receptor categories (human health and ecological health, see Table 1.3) are always considered. However, if a land category is designated as contaminated by either standard, and remediation is contemplated, the BCWMA (1996) stipulates that the "lowest" matrix numerical soil standard be applied; that is, if a property is to be remediated for agricultural purposes, the 10 pg/g T-TEQ level for PCDDs/PCDFs is the target (remediation measures must reduce the soil contaminate level below 10 pg/g T-TEQ). Similarly, if land is to be remediated solely for the purposes of residential/park use, 350 pg/g T-TEQ is the target criterion.

The question may be posed: If the ecological health receptor level is 10 pg/g T-TEQ for agricultural land, and the human health receptor level is 350 pg/g T-TEQ, is not more importance being placed on the ecological elements as opposed to human elements of the environment? The rationale for the difference in T-TEQ relates to the issues of bioaccumulation and biomagnification. Agricultural areas are used for raising food (crops and livestock); these foods are ultimately consumed by humans, therefore, directly facilitating dioxin bioaccumulation and biomagnification processes. Since it is important to protect crops, livestock, and human health, a more stringent standard has been designated for ecological health.

A similar rationale is in place for residential/park lands. Given that residential/park areas are not major food producing regions, the ecological health standard is set at 1000 pg/g T-TEQ. The direct ingestion of soil contaminants is considered a greater probability (and greater potential hazard) in residential/park situations relative to the possibility of ingestion from foods produced in these areas. The quantity of foods produced in a residential/park area is markedly less than on agricultural lands, hence the 1000 pg/g and 10 pg/g levels, respectively.

The Canadian Council of Ministers of the Environment (CCME 1999), a joint federal-provincial Canadian agency, has set a guideline for PCDDs and PCDFs (T-TEQ) for land used in agricultural areas at 10 pg/g T-TEQ, and for residential/park land at 1000 pg/g T-TEQ; only a single value is presented for each land category. In Canadian provinces, where contaminated site legislation is available, the provincial regulatory standards take precedence over CCME guidelines. The CCME (1999) T-TEQ values for agricultural and residential/park land use are recommended for remediation quality (i.e., remediation should be equal to or less than these values).

Canada, in general, and as a federal jurisdiction, has a residential soil criterion of 4 pg/g TEQ. However, if provinces have established set guidelines for dioxin, these take precedence over the national guideline.

In the US, the Environmental Protection Agency (EPA) works to protect public health and the environment. Regarding soils and contaminant levels, for example, the US EPA Region III (Delaware, Maryland, Pennsylvania, Virginia, West Virginia and District of Columbia) has set a TCDD level (not T-TEQ level as in BC, Canada) of 4.3 pg/g as a residential soil guideline (a level for agricultural soil does not exist) and 38.0 pg/g for industrial soil (US EPA 1999a). If soil values exceed these guidelines, a risk assessment is required.

In US EPA Region IX (Arizona, California, Nevada, Hawaii, US Territories of Guam and American Samoa, and the Commonwealth of the Northern Marianna Islands, and other unincorporated US Pacific possessions), the soil guidelines for TCDD are 3.9 pg/g and 27 pg/g for residential and industrial soils, respectively (US EPA 1999b).

Some differences related to assumed dioxin exposure, and thus guideline values, exist between Regions III and IX; however, it can be accepted that the residential soil guideline is relatively low (4.3 pg/g and 3.9 pg/g TCDD, respectively).

Soil Sampling on former Storage Area, Da Nang Airbase

Photo: Lady Borton

The 'federal' guideline for the US EPA is 1,000 pg/g TEQ as a remediation goal.

The ATSDR (1997) guideline for dioxin and dioxin-like compounds in residential soils has been set at 50 pg/g T-TEQ. The guideline states that in residential regions where soil T-TEQ levels exceed 50 pg/g, a further site-specific evaluation is required. The ATSDR (1997) indicates that if a soil dioxin level is <50 pg/g T-TEQ, a more detailed site-specific assessment may still be required based on overall community health concerns and a health assessor's concerns regarding other combinations of potential contaminants. In addition, if an exposure pathway (e.g., a food source) is identified, the extent of exposure and public health implications must be further evaluated. The likelihood, frequency, routes

and exposure levels to the contaminant, and information on human populations that are exposed, would require assessment.

The ATSDR (1997) guideline recommends that an area with a soil concentration of >50 pg/g to <1,000 pg/g T-TEQ should be evaluated based on the following criteria:

- Bioavailability;
- Ingestion rates;
- Pathway analyses;
- Soil cover;
- Climate;
- Other contaminants;
- Community concerns;
- Demographics; and
- Background exposures.

ATSDR (1997) also recommends that if soil levels are ≥1000 pg/g T-TEQ, public health actions should be considered, such as:

- Surveillance;
- Research;
- Health studies;
- Community;
- Education, and
- Exposure investigations.

Essentially, health assessors should obtain a sufficiently detailed database to enable a judgment regarding assessment of the site as a public health hazard, thereby facilitating implementation of public health recommendations to prevent human exposure, which includes clean-up of the contaminated site.

Germany has set a soil dioxin guideline for playgrounds at 100 pg/g TEQ and for residential soils at 1,000 pg/g TEQ (NZMOE 2002). In Japan, if a soil dioxin level exceeds 250 pg/g TEQ, investigations must be undertaken to protect human health. Finland has established 500 pg/g TEQ as the residential soil guideline, and 2.0 pg/g TEQ level for protection of humans (NZMOE 2002). Sweden has addressed lands with 'sensitive use' (presumably related to close human contact) with a guideline of 10 pg/g TEQ, and for soils with 'less sensitive use' of 250 pg/g TEQ. The province of Alberta (Canada) has set 1000 pg/g TEQ as the remediation goal for dioxins (Alberta Environment 1994). The Netherlands has

established a level of 10 pg/g TEQ for animal grazing soils and 1000 pg/g TEQ for residential soils (NZMOE 2002).

Table 1.5 summarizes the various soil dioxin criteria over numerous jurisdictions throughout the world. Finland appears to have the most stringent guideline, this being for protection of human health (i.e., 2 pg/g TEQ). Residential soil guidelines range from 4 pg/g TEQ in Canada (Federal) to 1000 pg/g TEQ in the Netherlands and Germany, with values of 10 pg/g TEQ in Sweden and 350 pg/g TEQ in the province of British Columbia (Canada). It is interesting to note that the ATSDR (1997) advocates specific studies (i.e., Evaluation Level) if dioxin TEQ is >50 but < 1000 pg/g.

Dioxins in soil can pose a lingering threat to human health. Paustenbach *et al.* (1992) has indicated that the half-life of dioxins in subsurface soils can extend to 100 years. Therefore, any substantial disturbance of the integrity of soil layers has the potential of re-mobilizing dioxin, and ultimately may lead to its introduction into the human food chain.

A variety of jurisdictions have proposed guidelines for dioxin levels in aquatic sediments. These guideline levels range from 1 pg/g TEQ in the Wisconsin Dept. of Natural Resources, to 100 pg/g TEQ in the Netherlands and New York Dept. of Environmental Conservation (AEA Technology 1999). Germany, Environment Canada and the Great Lakes Science Advisory Board have set 10 pg/g TEQ as the level for protection of human and ecological receptors (AEA Technology 1999).

Small Wetland in Northwest Corner of Da Nang Airbase

Photo: Thomas Boivin

Table 1.5 Summary of dioxin (TCDD and TCDD TEQ) criteria for soil (dry weight basis).

Country/Jurisdiction	Guideline	Comments
Germany[1,2]	5 pg/g TEQ	Agricultural soils
	100 pg/g TEQ	Playground soils
	1000 pg/g TEQ	Residential soils
Japan[2]	250 pg/g TEQ	If exceeded, research studies required
	1000 pg/g TEQ	If exceeded, removal required
Canada (Federal)[2]	4 pg/g TEQ	Agricultural (ecological health) Residential (human health)
British Columbia, Canada[3] (Provincial)	10 pg/g TEQ	Agricultural
	350 pg/g TEQ	Residential
Alberta, Canada[4] (Provincial)	1000 pg/g TEQ	If exceeded, remediation required
USEPA (Federal)[2]	1000 pg/g TEQ	Remediation goal
USEPA, Region 3[5]	4.3 pg/g TCDD	Residential soils, if exceeded, risk assessment required
	38.0 pg/g TCDD	Industrial soils, if exceeded, risk assessment required
USEPA, Region 6[2] & 9[6]	3.9 pg/g TCDD	Residential soils, if exceeded, risk assessment required
USEPA, Region 9[6]	27.0 pg/g TCDD	Industrial soils, if exceeded, risk assessment required
ATSDR[7]	≤50 pg/g TEQ	Screening level
	>50 - <1000 pg/g TEQ	Evaluation level
	≥1000 pg/g TEQ	Action level
Canada[8]	10 pg/g TEQ	Agricultural soils
	1000 pg/g TEQ	Residential/park land soils
Sweden[2]	10 pg/g TEQ	Residential soils
	250 pg/g TEQ	Industrial soils
Netherlands[2]	10 pg/g TEQ	Animal grazing lands (agricultural)
	1000 pg/g TEQ	Residential soils
Finland[1,2]	2 pg/g TEQ	Protection of humans
	500 pg/g TEQ	Limit for contaminated soils

[1] AEA Technology 1999.

[2] NZMOE 2002.

[3] BCWMA 1996.

[4] Alberta Environment 1994.

[5] US EPA 1999a.

[6] US EPA 1999b.

[7] ATSDR 1997.

[8] CCME 1999.

Table 1.6 summarizes proposed sediment dioxin guidelines in a number of jurisdictions.

Table 1.6 Proposed dioxin guidelines (TCDD TEQ) in aquatic sediments (dry weight basis).

Country/Jurisdiction	Guideline	Comments
USEPA, Region 10[1]	4 pg/g TEQ	Protection of human and ecological receptors.
New York State Dept. of Environmental Conservation[1]	10-100 pg/g TEQ	Protection of human and ecological receptors.
Wisconsin Dept. of Natural Resources[1]	1 pg/g TEQ	Protection of human receptors.
Int. Joint Comm., Great Lakes Science Advisory Board[1]	10 pg/g TEQ	Protection of human and ecological receptors.
Canada[2]	21.5 pg/g TEQ	Above this value, adverse ecological effects likely.
Environment Canada, Pacific Yukon Region[1]	10 pg/g TEQ	Protection of ecological receptors.
Germany – Hamburg Dept. of Environment[1]	5-10 pg/g TEQ	Protection of human receptors.
Netherlands[1]	100 pg/g TEQ	Protection of human receptors (threshold for remediation).

[1] AEA Technology 1999.

[2] CCME 1999.

The toxicity of TCDD specifically, and PCDDs and PCDFs in general, has prompted organizations such as the World Health Organization (WHO) and various countries to develop and adopt *tolerable daily intakes* (TDI) for PCDDs and PCDFs in foods, based on international toxic equivalents of TCDD.

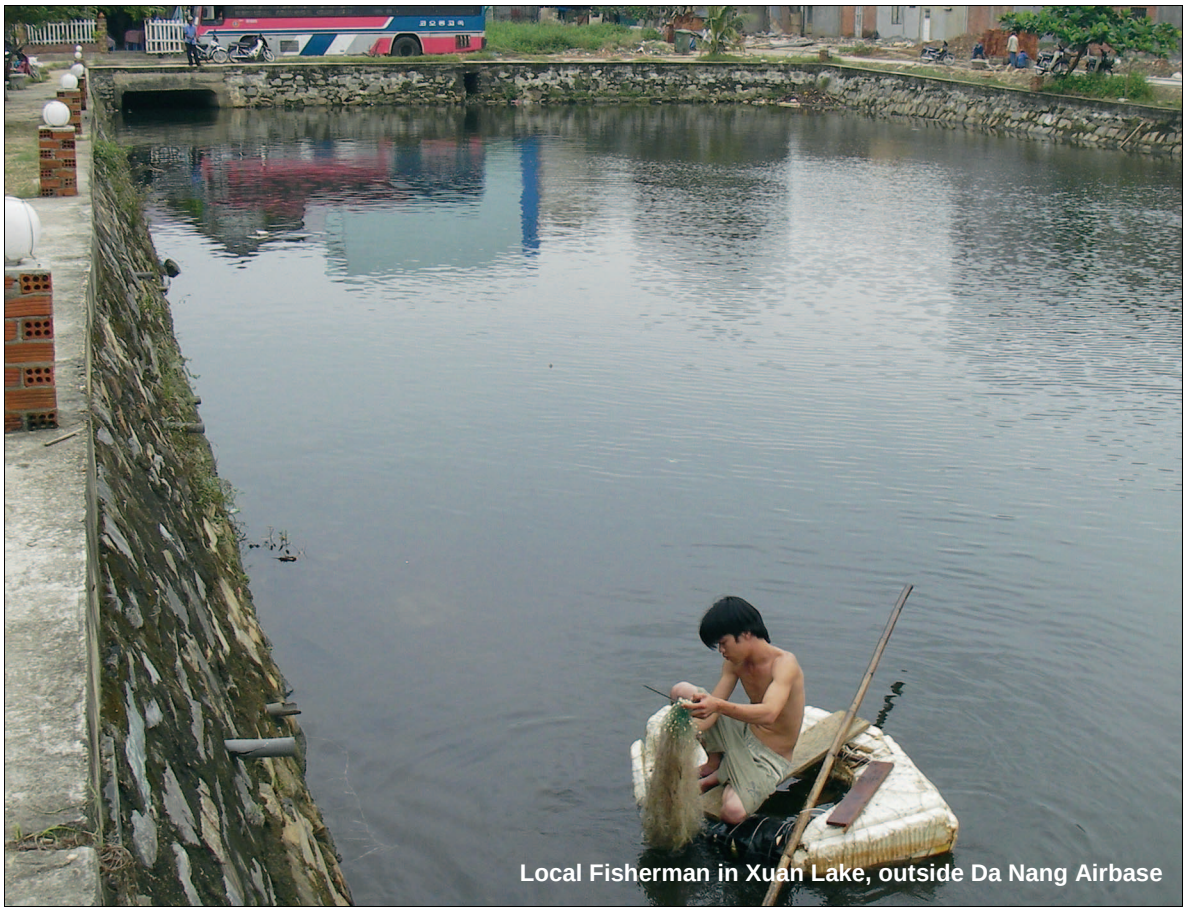
The Canadian and Japanese governments are presently applying a TDI of 10 pg TEQ per kg body weight per day (10 pg TEQ/kg bw/d) (Government of Canada 1993, Health Canada 1996, IARC 1997). This value was originally recommended by the WHO (WHO/EURO 1991) based on liver toxicity, reproductive effects, immunological effects, and on information on kinetics in humans and experimental animals. In Germany, the same limit is being used; if daily intake is higher for an extended period of time, actions are necessary to counter exposure (Schultz 1994).

In Canada, if the upper threshold of 10 pg TEQ/kg bw/d is exceeded on a regular basis, a risk assessment/risk management process is triggered. This guideline is presently under review by Health Canada, given World Health Organization recommendations (see below). An individual consumer is assumed to have a standard weight of 60 kg. The probable daily intake (PDI) of animal liver or fat tissues is set at 20 g tissue/day. Accordingly, a given sample that showed 30 pg/g as Total I-TEQ of PCDDs and PCDFs would achieve the TDI of 10 pg TEQ/kg bw/d, without allowing for any other sources. A similar calculation for muscle tissue, at a set consumption rate of 40 g/day, means that

a concentration of 15 pg/g Total I-TEQ in the muscle would yield the Canadian TDI. A risk assessment/risk management process would be activated in Canada if either the 30 pg/g Total I-TEQ in liver or fat, or 15 pg/g Total I-TEQ in muscle tissue, were exceeded in a tissue sample; these guideline values will be used in this report.

The Netherlands uses a more restrictive TDI of 1-3 pg TEQ/kg bw/d (Birnbaum and Slezak 1999, Patandin *et al*. 1999). The US Environmental Protection Agency has proposed a virtually safe dose of 0.0064 pg TEQ/kg bw/d (McLachlan 1993, Patandin *et al*. 1999).

The WHO revised the recommended TDI, reducing the value from 10 pg TEQ/kg bw/d to a range of 1-4 pg TEQ/kg bw/d (WHO/EURO 1998a,b) based on recent epidemiological and toxicological data, particularly information focusing on neurodevelopment and endocrinological effects. The WHO has stressed that the upper value of the range (4 pg TEQ/kg bw/d) should be considered the maximum TDI, and that "*the ultimate goal is to reduce human intake levels below 1 pg TEQ/kg bw/d*". These new levels recommended by WHO are considerably lower than the TDIs currently in use by several countries, and are somewhat comparable to the Netherlands limits, but are not nearly as low as those of the US EPA.



Local Fisherman in Xuan Lake, outside Da Nang Airbase

Photo: Thomas Boivin

2.0 METHODOLOGY

2.1 GENERAL

All DDAMP sampling activities were undertaken in close cooperation with Office 33 and relevant Vietnamese authorities. Office 33 and other Vietnamese Government agencies, especially the Ministry of Defense (MOD), Ministry of Health (MOH) and local Da Nang authorities, played critical roles in the sampling program, data collection, and in all aspects of project implementation.

MOD supervised all sampling activities on Da Nang Airbase, and provided assistance to Hatfield/Office 33 with dioxin sampling design and sample collection, demining, and security clearance. Hatfield followed the direction of MOD personnel at all stages of the Airbase sampling program, and provided technical training on-site to assist Office 33, MOD and MOH with future dioxin sampling and mitigation programs.

Health and Safety (H&S) of the Hatfield/Office 33/MOD/MOH and other personnel working on the project was a critical component of all sampling activities, given the expected high levels of dioxin contamination and potential for unexploded ordnance (UXO) and landmines in the area. A deminer (from MOD) screened all sampling areas for UXO and landmines prior to sample collection. This included pre-screening of sampling sites on land, and in aquatic ecosystems (e.g., Sen Lake).

All sampling equipment was transported from Canada, including sampling jars, Vacutainers (for blood collection), and sediment coring devices used for collecting samples; the only exception was acetone and hexane (sourced from Japan), stainless steel pans and the Ekman dredge, which was transported from Ha Noi. All environmental samples collected in Da Nang were split into two: one set of samples was taken to Canada for analysis at AXYS Laboratory, and the other was left in Viet Nam for Office 33/MOD. Blood and breast milk samples were exported to Canada (with the exception of one 7 mL blood tube from each patient, which was left in Viet Nam) All samples were sealed with anti-tampering closures and exported to Canada on the same flight as Hatfield personnel, in order to ensure proper chain of custody and QA/QC of samples.

All field sampling activities, both on Da Nang Airbase and in the general Da Nang City population outside of the Airbase, were conducted in December 2006. In the original project plan (Deliverable 2), it was expected that field sampling activities would be split over two separate sampling periods (December 2006 and January 2007); however, all sampling was completed in the single sampling expedition in December 2006.

Soil and sediment sampling on the Da Nang Airbase focused on the three main suspected 'Hot Spots': i) former Mixing and Loading Area; ii) former Storage Area; and iii) Sen Lakes. Fish sampling concentrated on Sen Lake, Lake B, Lake C, and also fishponds located on the west end of the Airbase (referred to

hereafter as 'West Airbase fishponds'); samples were also collected from Xuan Lake ('Ho Xuan Ha'), a recreational area immediately outside the west perimeter of the Airbase. Blood sampling focused on people deriving livelihoods from fisheries and/or agricultural activities on Sen Lake and in fishponds on the western boundary of the Airbase ("West AirBase Workers), including residents of Thanh Khe District (near Site 18 from Hatfield/10-80 [2005]), and in Hai Chau District (used as a reference area). Vegetation was collected and analyzed from Sen Lake. A conceptual diagram of the local ecosystem sampling design is presented in Figure 2.1.

In general, sampling procedures follow those previously developed and applied by Hatfield for Agent Orange dioxin assessment projects in Viet Nam (Hatfield/10-80 1998, 2000, 2005). Standard operating procedures for all Hatfield field sampling programs were applied (Hatfield 2004).

A cloud-free, pan-sharpened QuickBird image of Da Nang area, acquired on April 21, 2002, was purchased in October 2006 by Hatfield to support data collection and mapping activities.

2.2 NUMBER AND TYPES OF ANALYSES PERFORMED

Summaries of samples analyzed are presented in Table 2.1 through to Table 2.4 inclusive. All samples collected were split into two batches at the time of collection, one for archiving in Viet Nam, and one for transport to Canada for analyses and archiving (the exception being blood and breast milk samples, which were not split).

Sediment and soil samples were analyzed for the following variables:

- Dioxins/furans (all samples);
- Total organic carbon (subsample);
- Particle size (subsample); and
- Radioisotopes (for sediment dating, from depth core samples only).

Former Storage Area Soil Sampling, Da Nang Airbase

Photo: Lady Borton

Figure 2.1 Conceptual sampling design, Da Nang, Viet Nam.

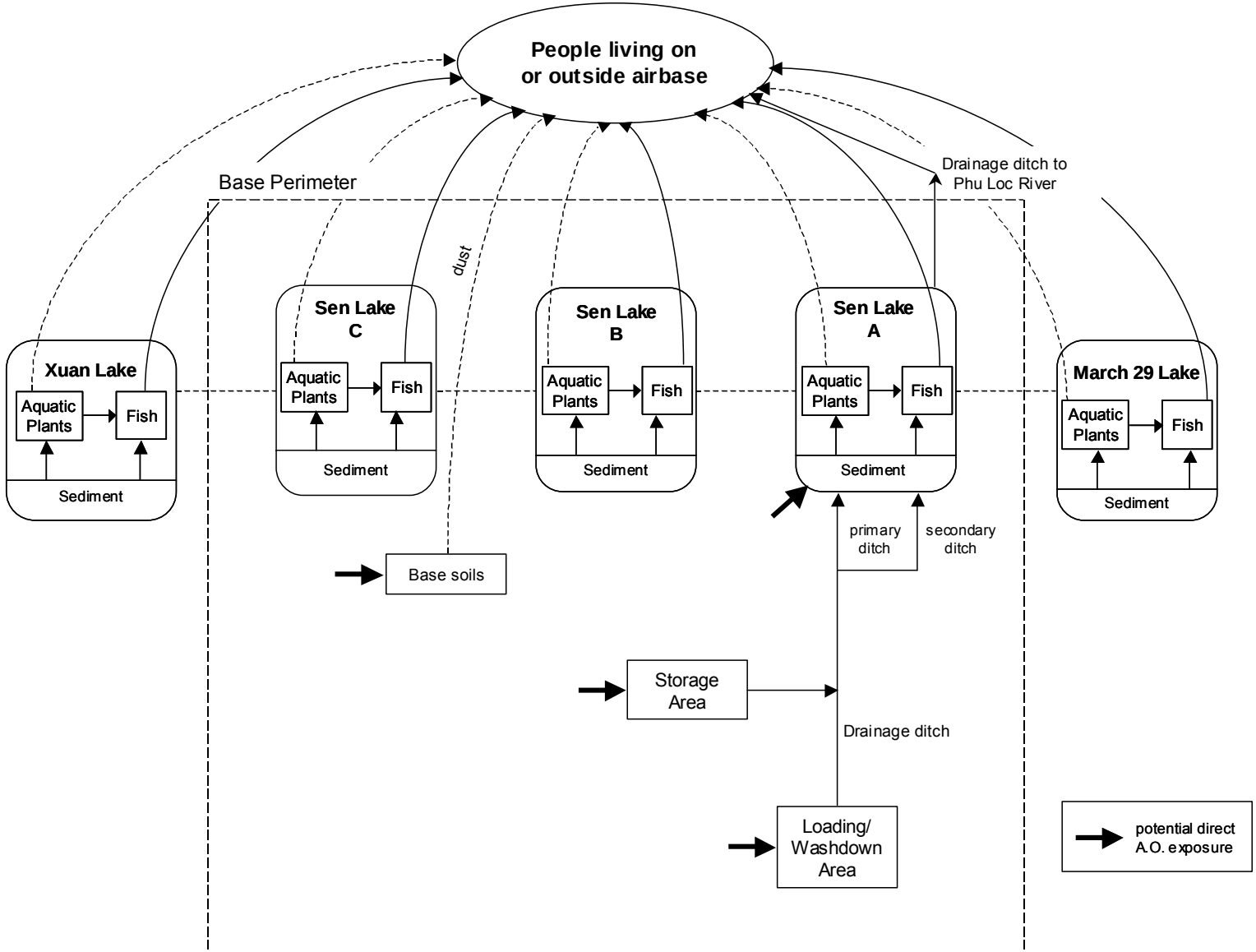


Table 2.1 Soil and sediment samples analyzed, Da Nang, Viet Nam, December 2006.

Location	Media	Depth	Sample Number	Datum: WGS 8A Zone: 49 N		PCDD/F Analysis: 1613B	Co-extraction: 1613B (PCDD/F) + 1668A (PCB)-WHO	OC Pesticides: HR/GCMS	PAH	TOC (ALS)	pH	PSA (ALS)	Chlorophenols	CCME Fractions 1-4	Metals
				Easting	Northing										
Da Nang Airbase															
Former Mixing and Loading Area															
Site 2 - Centre	Soil	0-10 cm	06VN058	200458	1777421	X									
Site 2 - Centre	Soil	10-30 cm	06VN059	200458	1777421	X									
Site 1 - West	Soil	0-10 cm	06VN063	200432	1777422		X	X	X	X	X	X	X	X	
Site 1 - West	Soil	10-30 cm	06VN064	200432	1777422	X									
Site 3 - NE	Soil	0-10 cm	06VN065	200457	1777447	X									
Site 3 - NE	Soil	10-30 cm	06VN068	200457	1777447	X									
Perimeter - S of Former Barracks	Soil	0-10 cm	06VN066	200585	1777394	X									
Perimeter - N of Former Barracks	Soil	0-10 cm	06VN067	200561	1777452	X									
Perimeter - W of Former Barracks	Soil	0-10 cm	06VN069	200546	1777448	X									
Former Storage Area (SA)															
Site 1 - NW	Soil	0-10 cm	06VN075	200353	1777668		X	X	X	X			X		
Site 1 - NW	Soil	10-30 cm	06VN076	200353	1777668	X									
Site 1 - NW	Soil	30-50 cm	06VN077	200353	1777668	X									
Site 2 - NE	Soil	0-10 cm	06VN078	200392	1777672	X									
Site 2 - NE	Soil	10-30 cm	06VN079	200392	1777672					X		X	X		
Site 3 - Centre	Soil	0-10 cm	06VN083	200377	1777643	X									
Site 3 - Centre	Soil	10-30 cm	06VN084	200377	1777643	X									
Site 3 - Centre	Soil	30-50 cm	06VN085	200377	1777643	X									
Site 4 - SW	Soil	0-10 cm	06VN070	200346	1777611	X									
Site 5 - SE	Soil	0-10 cm	06VN074	200390	1777620	X									
Between Storage Area and Mixing and Loading Area															
S of SA / W of Ditch	Soil	0-10 cm	06VN043	200345	1777573	X									
SE of SA / E of Ditch	Soil	0-10 cm	06VN047	200449	1777573	X									
N of MLA / W of Ditch	Soil	0-10 cm	06VN048	200414	1777516	X									
Drainage System															
Water Treatment Basin	Sediment	0-10 cm	06VN072	200435	1777660	X									
Ditch d/s of Storage Area	Sediment	0-10 cm	06VN081	200495	1777701	X									
Da Nang Airbase Perimeter															
Old Munitions Dump	Soil	0-10 cm	06VN035	200581	1777614	X									
Military Garden	Soil	0-10 cm	06VN036	200759	1777448	X									
S of Airlines Staff Residence	Soil	0-10 cm	06VN037	200672	1777735	X									
S of Airlines Staff Residence (Dup)	Soil	0-10 cm	06VN038	200672	1777735	X									
N of Airlines Staff Residence	Soil	0-10 cm	06VN042	200607	1777768	X									
NE of SA / E of Ditch	Soil	0-10 cm	06VN045	200521	1777719	X									

Table 2.1 (Cont'd.)

Location	Media	Depth	Sample Number	Datum: WGS 8A Zone: 49 N		PCDD/F Analysis: 1613B	Co-extraction: 1613B (PCDD/F) + 1668A (PCB)-WHO	OC Pesticides: HR/GCMS	PAH	TOC (ALS)	pH	PSA (ALS)	Chlorophenols	CCME Fractions 1-4	Metals
				Easting	Northing										
Da Nang Airbase Perimeter (cont'd.)															
5m E of Ditch, Near Main Road	Soil	0-10 cm	06VN046	200453	1777638	X									
NE Corner Airbase (1)	Soil	0-10 cm	06VN018	200634	1778104	X									
NE Corner Airbase (2)	Soil	0-10 cm	06VN019	200690	1778032	X									
Btwn SA and Sen Lake (1)	Soil	0-10 cm	06VN001	200393	1777776	X									
Btwn SA and Sen Lake (2)	Soil	0-10 cm	06VN003	200412	1777846	X				X	X	X			
Btwn SA and Lake B (1)	Soil	0-10 cm	06VN004	200182	1777843	X									
Btwn SA and Lake B (2)	Soil	0-10 cm	06VN006	200262	1777814	X									
Btwn Lakes B & C	Soil	0-10 cm	06VN010	199964	1777826	X									
Sen Lake Garden	Soil	0-10 cm	06VN014	200129	1778072	X									
Sen Lake Residence	Soil	0-10 cm	06VN015	200119	1778058	X									
NW Corner Airbase	Soil	0-10 cm	06VN013	199731	1778076	X									
Footpath W Airbase	Soil	0-10 cm	06VN073	199678	1777866	X									
Garden SW Airbase	Soil	0-10 cm	06VN027	199513	1777371	X				X	X	X			
Da Nang City															
March 29 Lake	Sediment	0-10 cm	06VN093	200910	1778130	X				X	X	X			
N of Airbase / Dien Bien Phu Street	Soil	0-10 cm	06VN091	200108	1778118	X									
NE of Airbase / Dien Bien Phu Street	Soil	0-10 cm	06VN092	200525	1778134	X									
Garden near Xuan Lake	Soil	0-10 cm	06VN087	199660	1777909	X									
Xuan Lake (N)	Sediment	0-10 cm	06VN088	199590	1777925	X									
Xuan Lake (S)	Sediment	0-10 cm	06VN090	199395	1777625	X									
Thanh Khe Garden (1)	Soil	0-10 cm	06VN099	199901	1778482		X	X	X						
Thanh Khe Garden (2)	Soil	0-10 cm	06VN100	199945	1778494	X									
Thanh Khe Garden (3)	Soil	0-10 cm	06VN101	199468	1778499	X									
Hai Chau Garden	Soil	0-10 cm	06VN102	202361	1780265		X	X	X						
Airbase Lakes															
Sen Lake															
Outlet to Da Nang City	Sediment	0-10 cm	06VN030	200466	1778115	X				X	X	X	X		
Centre	Sediment	0-10 cm	06VN031	200452	1777984	X									
Centre	Sediment	0-10 cm	06VN032	200452	1777984	X									
SE	Sediment	0-10 cm	06VN033	200485	1778000	X									
NE	Sediment	0-10 cm	06VN052	200533	1778079	X				X	X	X			
NWA	Sediment	0-10 cm	06VN053	200374	1778067	X									
Centre-W	Sediment	0-10 cm	06VN055	200333	1778007	X									
Inlet from Ditch	Sediment	0-10 cm	06VN040	200406	1777958		X	X	X	X	X	X		X	

Table 2.1 (Cont'd.)

Location	Media	Depth	Sample Number	Datum: WGS 8A Zone: 49 N		PCDD/F Analysis: 1613B	Co-extraction: 1613B (PCDD/F) + 1668A (PCB)-WHO	OC Pesticides: HR/GCMS	PAH	TOC (ALS)	pH	PSA (ALS)	Chlorophenols	CCME Fractions 1-4	Metals
				Easting	Northing										
Airbase Lakes (cont'd.)															
Sen Lake Core Sample															
West	Sediment	0-2 cm	06VN062-1	200240	1777982		X			X					X
West	Sediment	2-4 cm	06VN062-2	200240	1777982		X			X					X
West	Sediment	4-6 cm	06VN062-3	200240	1777982		X			X					X
West	Sediment	6-8 cm	06VN062-4	200240	1777982	X				X					X
West	Sediment	8-10 cm	06VN062-5	200240	1777982	X				X					X
West	Sediment	10-14 cm	06VN062-6	200240	1777982	X				X					X
West	Sediment	30-32 cm	06VN062-11	200240	1777982	X				X					X
Lake B															
North	Sediment	0-10 cm	06VN024	200020	1778086	X				X	X	X			
South	Sediment	0-10 cm	06VN029	200037	1777908	X									
Lake C															
North	Sediment	0-10 cm	06VN021	199829	1777956	X									
North (Dup)	Sediment	0-10 cm	06VN022	199829	1777956	X									
South	Sediment	0-10 cm	06VN023	199818	1777888	X				X	X	X			
West Airbase Pond															
Centre	Sediment	0-10 cm	06VN080	199465	1777458	X									

Table 2.2 Fish and vegetation samples analyzed, Da Nang, Viet Nam, December 2006.

Location	Common Name	Latin Name	Media	Sample Number	Easting	Northing	PCDD/F Analysis: 1613B	Co-extraction: 1613B (PCDD/F) + 1668A (PCB)-WHO
Fish Tissues								
Sen Lake	Nile Tilapia	*Oreochromis niloticus niloticus*	Fat	06VN216	200452	1777984		X
			Muscle	06VN217				X
Lake B	Nile Tilapia	*Oreochromis niloticus niloticus*	Fat	06VN232	200020	1778086	X	
			Muscle	06VN233			X	
Lake C	Carp	*Osteocheilus melanopleurus*	Fat	06VN224	199829	1777956	X	
			Muscle	06VN230			X	
Pond W Airbase	Nile Tilapia	*Oreochromis niloticus niloticus*	Muscle	06VN203	199465	1777458	X	
			Fat	06VN206			X	
Pond W Airbase	Catfish (Whitespotted clarias)	*Clarias fuscus*	Fat	06VN209	199465	1777458	X	
			Muscle	06VN210			X	
Xuan Lake	Snakehead Murrell	*Channa striata*	Muscle	06VN109	199590	1777925	X	
			Liver	06VN110			X	
Vegetation Samples								
Sen Lake Garden	Sweet potato	*Ipomoea*	Root	06VN094	200129	1778072	X	
Sen Lake	Lotus	*Lotus*	Stem	06VN098	200452	1777984	X	

Table 2.3 Human blood analyzed, Da Nang, Viet Nam, December 2006.

Location	Sample ID	Sex	Age	PCDD/F Analysis: 1613B	Co-extraction: 1613B (PCDD/F) + 1668A (PCB)-WHO
Sen Lake Workers					
	06VNB001	F	72		X
	06VNB002	M	42		X
	06VNB003	F	44	X	
	06VNB004	F	17		X
	06VNB005	M	54	X	
	06VNB006	M	28	X	
	06VNB007	F	52	X	
	06VNB008	M	20	X	
	06VNB009	M	24	X	
	06VNB010	M	22	X	
	06VNB011	M	23		X
West Airbase Workers					
	06VNB050	M	39	X	
	06VNB051	M	39	X	
	06VNB052	M	29		X
	06VNB053	F	23		X
	06VNB054	M	27	X	
	06VNB055	F	24	X	
	06VNB056	F	52		X
	06VNB057	F	35	X	
	06VNB058	F	35	X	
	06VNB059	M	42		X
	06VNB060	F	34	X	
Thanh Khe District (Random)					
	06VNB012	M	58	X	
	06VNB013	F	57	X	
	06VNB014	M	57		X
	06VNB015	M	26		X
	06VNB016	M	61	X	
	06VNB031	F	54		X
	06VNB034	M	18	X	
	06VNB035	M	32	X	
	06VNB037	M	30	X	
	06VNB041	M	52	X	
	06VNB042	F	43	X	
	06VNB043	F	57		X
	06VNB044	M	33	X	
	06VNB045	F	21		X
	06VNB046	F	35	X	
	06VNB048	F	23	X	
Hai Chau District (Random)					
	06VNB017	M	47	X	
	06VNB018	F	42	X	
	06VNB019	M	36	X	
	06VNB020	F	36	X	
	06VNB021	M	54		X
	06VNB022	F	55	X	
	06VNB023	M	57		X
	06VNB024	M	22		X
	06VNB026	F	49	X	
	06VNB027	M	58	X	
	06VNB028	F	54		X
	06VNB049	F	20		X
Non-Random Samples					
Thanh Khe District	06VNB036	F	51	X	
	06VNB038	F	19	X	
	06VNB039	M	28	X	
	06VNB040	M	52	X	
Hai Chau District	06VNB061	F	44	X	

Table 2.4 Additional analyses, Da Nang, Viet Nam, December 2006.

Location / Sample Type	Media	Comments	Sample Number	PCDD/F Analysis: 1613B	Co-extraction: 1613B (PCDD/F) + 1668A (PCB)-WHO
Human Breast Milk					
Thanh Khe District	Human Breast Milk	60 mL	06VN201-M		X
Rinseate Samples					
Rinseate 1	Water	At start of program	06VN001 (W)	X	
Rinseate 2	Water	At former Storage Area	06VN075 (W)	X	

Samples were also analyzed for other contaminants in order to verify if the source of dioxins originates from historical Agent Orange use, and to verify if there were industrial or agricultural sources of dioxin contamination in the area. Additional environmental analyses, performed on select samples, included the following:

- Polychlorinated biphenyls (PCBs);
- Organochlorine pesticides;
- Polycyclic aromatic hydrocarbons (PAHs);
- Hydrocarbons;
- Chlorinated Phenolics; and
- Heavy metals.

Select samples were also analyzed for:

- pH (soils and sediments); and
- Lipid content of tissue samples (fish, human blood, breast milk, etc.).

2.3 SAMPLING SITE SELECTION

The location of sampling sites is presented in Figure 2.2.

Soil and sediment sampling locations were determined during a pre-field desktop review of existing topographic maps and remote sensing information available for the study area, in conjunction with historical sampling results from areas within and surrounding the Da Nang Airbase. Priority sampling areas were confirmed during the October 2006 scoping mission to Da Nang.

Sampling density was highest in the near-field area in the December 2006 program (i.e., within the Airbase perimeter), to provide sufficient data to allow dioxin concentration mapping of surface conditions. Dioxin concentration

mapping was based on final environmental sample distribution and post-processing analytical results, with sampling focus placed in the following order:

- Sen Lake;
- Lake B;
- Vegetated area surrounding Sen Lake;
- Lake C;
- Former Storage Area;
- Former Mixing and Loading Area; and
- March 29 Lake and Xuan Lake (outside the Airbase perimeter).

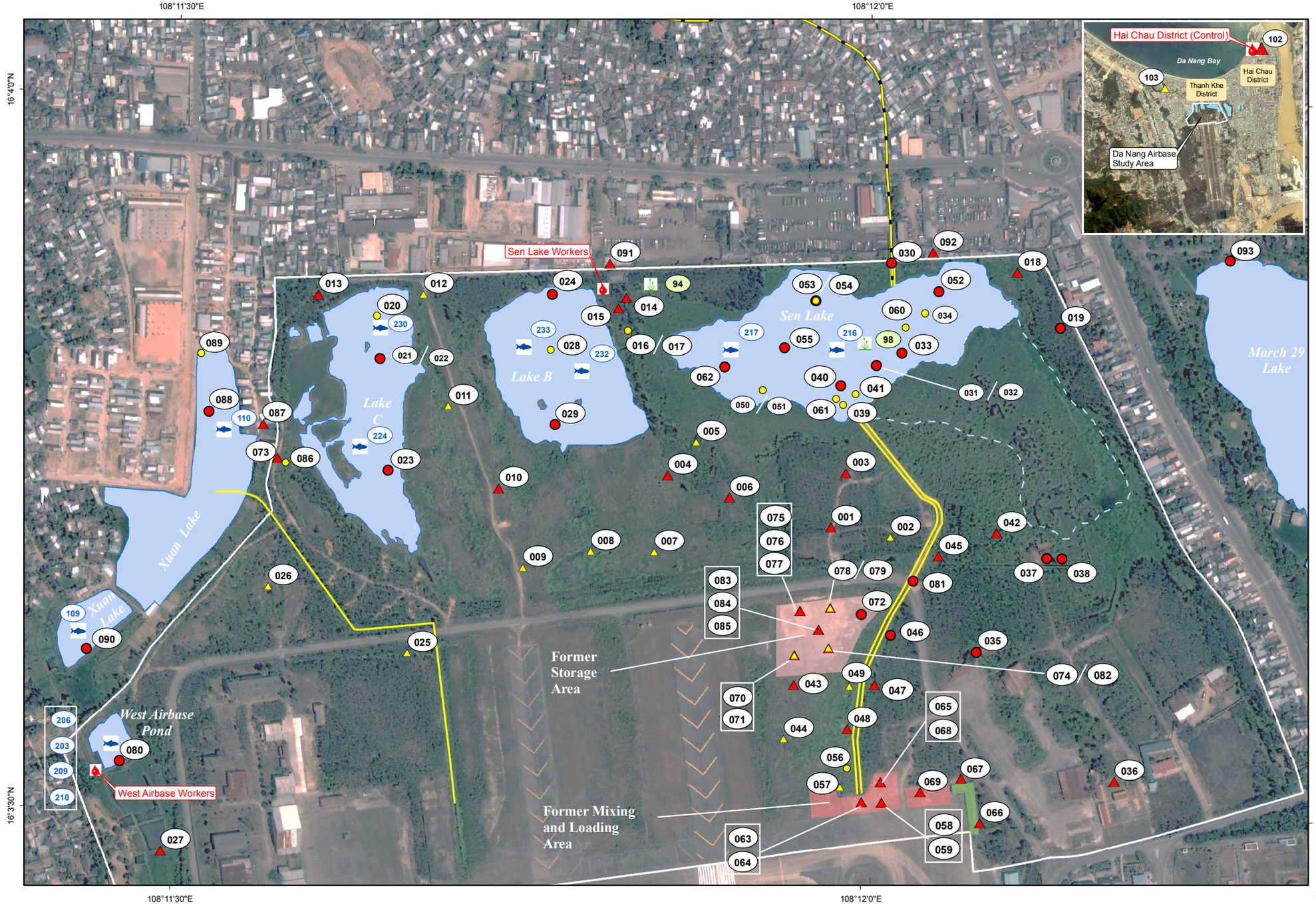
The study design included sampling sequentially from the least to the most contaminated sites. On-site conditions were evaluated prior to the initiation of field sampling to ensure physical habitat variables were similar between sample sites. For sediment sampling, special consideration was given to water depth (primary) and substrate composition. Both of these variables were assessed during completion of pre-sampling depth transects, using a portable depth sounder. Detailed Lake Bathymetry information was collected by BEM Systems Inc., and provided to Hatfield following the field program.

Where possible, stations corresponded with historical dioxin/furan sampling locations (MOD, EPA, Hatfield/10-80 and other studies).

Sample Site Selection and UXO Screening, Da Nang Airbase

Photo: Lady Borton

Figure 2.2 All sites sampled in Da Nang City and Airbase, Viet Nam, December 2006.



2.4 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

Quality assurance sample collection was undertaken at the generally accepted rate of 5% of total samples. For each 20 environmental samples collected, one water rinseate blank and one duplicate or split sample were collected. Duplicate samples provide a level or measure of within-site variability, while split samples allow laboratory measurement precision to be identified. Rinseate blanks identify potential cross-contamination issues related to field sampling equipment.

Quality control on all samples was an essential component of the program. To ensure samples were not contaminated during the collection process, a number of sampling procedures have been incorporated. These were followed at all times and included:

- Disposable latex gloves were used to handle all samples and specimens; gloves must be changed between samples and specimens;
- All sampling equipment that came in direct contact with samples was constructed of stainless steel;
- All stainless steel equipment (dissection trays, scalpels, forceps, calipers, etc.) was rinsed in ambient water, cleaned with Sparkleen, triple rinsed with environmental grade acetone and triple rinsed with environmental grade hexane before each use and between sample collections;
- All dioxin samples were placed in 125-mL heat treated, wide-mouth jars and sealed immediately after collection; all jars were transported to Viet Nam by Hatfield, and shipped directly to AXYS by Hatfield;
- Sample jars were pre-labeled, cross-referenced to field sheets, stored in a cooler and placed in a shaded area, and transported to cooler/freezer facilities within two hours of collection;
- Any tools or gloved areas that could possibly come in direct contact with skin or organs of sampled fish were not permitted to touch internal tissues; any tissue suspected of being contaminated in this manner was discarded;
- Split samples were collected at all sampling stations. One sample was provided to Office 33 (with the exception of blood and milk samples, which were shipped to Canada – one 7 mL blood tube from each patient was left in Viet Nam);
- The location of each sampling station was recorded using a hand-held GPS, and digital photos of each site were collected to ensure repeatability in future sampling programs;
- Records of the name of the owners of local houses, fields, fishponds, and animals sampled were collected through interviews with local residents; and

- Smoking was not permitted in the vicinity of sampling activities.

2.5 SAMPLING METHODOLOGY

All soil sampling was conducted in a similar manner to previous Hatfield programs in Viet Nam (Hatfield/10-80 1998, 2000, 2003, 2005, Dwernychuk *et al.* 2002). All soil and sediment sampling sites were screened for UXO in advance of samples being collected.

2.5.1 Surface Sediment Sampling Protocol

Surface sediment samples were collected using a 6"x6" stainless steel Ekman grab or an Okeechee sediment corer with stainless steel liner. Each sample consisted of a single grab. The top 5 cm of sediment was collected at each site, with the exception of core samples collected for depth concentration analyses (three core samples were collected, as described in Section 2.5.2).

Detailed Ekman sample collection procedure is provided below:

1. Clean sampling equipment as described above;
2. Bring sampler grab up and set in the cleaned stainless steel sampling tray;
3. Drain excess overlying water in dredge;
4. Thoroughly mix sample in stainless steel pan;
5. Fill appropriate sample jars (dioxin + total organic carbon + particle size);
6. Discard remainder of grab;
7. Complete soil observations + photograph sample;
8. Fill out station details on sediment data sheet; and
9. Take photos at each station of sampling procedure, sediments and shoreline.

Detailed Okeechee Sand Corer sample collection procedure:

1. Clean the stainless steel corer, liner and slide hammer;
2. Set the corer at the desired sample collection location (attach sufficient additional lengths of corer to ensure the top is above the water surface);
3. Either sink the corer into the sample using body pressure, or utilize the slide hammer to pound the corer into the substrate;
4. Remove the corer by hand, or using the slide hammer if manual removal is difficult;

5. Using gloved hands, remove the core tip and slide the core liner out of the corer;

6. Hold the corer at a proper angle to ensure sample is not lost. The liner should be held over a cleaned stainless steel tray at all times; and

7. Using the cleaned core sample slide plunger, push the required volume of sample out of the liner, and place it into a labeled sample jar. A trowel, knife or spoon may be required to section off the appropriate sample volume from the liner.

2.5.2 Sediment Core Sampling Protocol (for Ageing and Determination of Dioxin Concentrations at Different Depths)

To determine soil age (using radioisotopes) and allow corresponding dioxin concentration values to be derived, multiple sample sections were collected from a single sediment core. Deployment of the corer followed the instructions above, with the exception of the core sectioning from the stainless steel liner. This step required multiple core cross-sections to be collected as they were pushed out of the liner using the core sample slide plunger. Each cross-section was split into two containers to allow radioisotope and dioxin analyses to be completed independently.

The width of each core varied depending on sample density, cohesiveness and total depth sampled; however, a general rule of thumb was:

- Top 10 cm of sample – 2 cm thick cross-sections (n=5); and
- 10 – 50 cm of sample – 4 cm thick cross-sections (n=10).

Not all samples collected were analyzed for dioxin concentration. First, all samples were aged, using radioisotope analyses. These results were then used to gauge which cross-sections are most closely related to desired historical dates.

2.5.3 Soil Sampling Protocol

All soil sampling was conducted in a similar manner to previous Hatfield programs in Viet Nam (i.e., composite of 10 soil samples). Soil sampling to a maximum of 50 cm depth was conducted.

Soil samples were collected using a stainless steel soil corer in softer ground, and stainless steel digging instruments (e.g. spade, chisel) in harder ground.

Each soil sample consisted of a composite of 10 sub-samples. Each sample utilized a standardized area coverage and spacing system, as follows:

- 5 x 5 m square plot; and
- Two rows of 5 sub-samples collected at 1-m intervals. Rows were spaced 5 m apart.

All ten sub-samples were transferred to a clean stainless steel tray, homogenized with a clean stainless steel spoon, and transferred to a laboratory-supplied sample jar.

Samples collected from underneath cement aprons (e.g., former Mixing and Loading Area) did not use the composite procedures outlined above. A 50 cm X 50 cm area of the apron was removed by MOD personnel, following procedures agreed by all project stakeholders (manual removal, to ensure external contaminants were not introduced). Extreme care was taken to not disturb the soils beneath the apron. All surface soils (0-10 cm) in the 50 cm X 50 cm area below the apron were removed using a spade, transferred to a stainless steel pan for compositing and placed into glass jars. Deeper soils (10 to 30 cm) were sampled in a similar manner (all soils 10-30 cm removed, composited in a stainless steel pan, and transferred to jars).

For mapping of probable TCDD values for non-sampled areas, a geostatistical interpolation method was used to create an optimal interpolated surface (i.e., a statistical estimation of where a certain value may occur based on known measured values) (ESRI 2007). An ordinary Kriging algorithm was used (ArcGIS v9.0) to predict a surface based on collected samples. With the assumption that auto-correlation decreases with increasing distance, an exponential model was applied to the semi-variogram. A variable search radius of a maximum 150 m was used in the model with a lag size of 4 m.

2.5.4 Vegetation Sampling Protocol

Samples for analysis included lotus stem and sweet potato grown locally and harvested from Sen Lake and cultivated fields on the Airbase. Samples were pulled from the sediment/ground/water column, washed in ambient water after any soil/sediment was brushed off, and sectioned directly into a pre-cleaned sample jar. Lotus was not in season at the time of sampling, so it was not possible to sample flowers or bulbs; however, stems were collected.

2.5.5 Fish Tissue Sampling Protocol

Nile Tilapia (*Oreochromis niloticus niloticus*), various carp species (*Osteocheilus melanopleurus*; Nile carp – *Osteochilus hasseltii*; Common carp – *Cyprinus carpio;* Grass carp *(Ctenopharyngodon idella*), Catfish (Whitespotted clarias; *Clarias fuscus*), Snakehead Murrell *(Channa striata),* and Bronze featherback (*Notopterus notopterus)* were sampled from the three Sen Lakes and in the West Airbase fishponds. Three-spot gourami (*Trichogaster trichopterus*) were captured by local fishermen in Xuan Lake.

Only fish visually certified as being captured in target waterbodies were collected and analyzed. Fish were captured by local residents using traditional fishing techniques (i.e., netting). Captured fish were frozen in facilities provided by the Thanh Khe Medical Centre, and were dissected within 72 hours of capture.

Muscle tissues (skin removed) were collected from the left side of each fish, above the lateral line, and between the dorsal and caudal fins. Liver tissue samples (entire livers removed from each specimen), fish fat (collected from the viscera), and on occasion fish roe (eggs) were collected. Samples were placed in individual jars for each type of fish tissue and frozen immediately after dissections were completed.

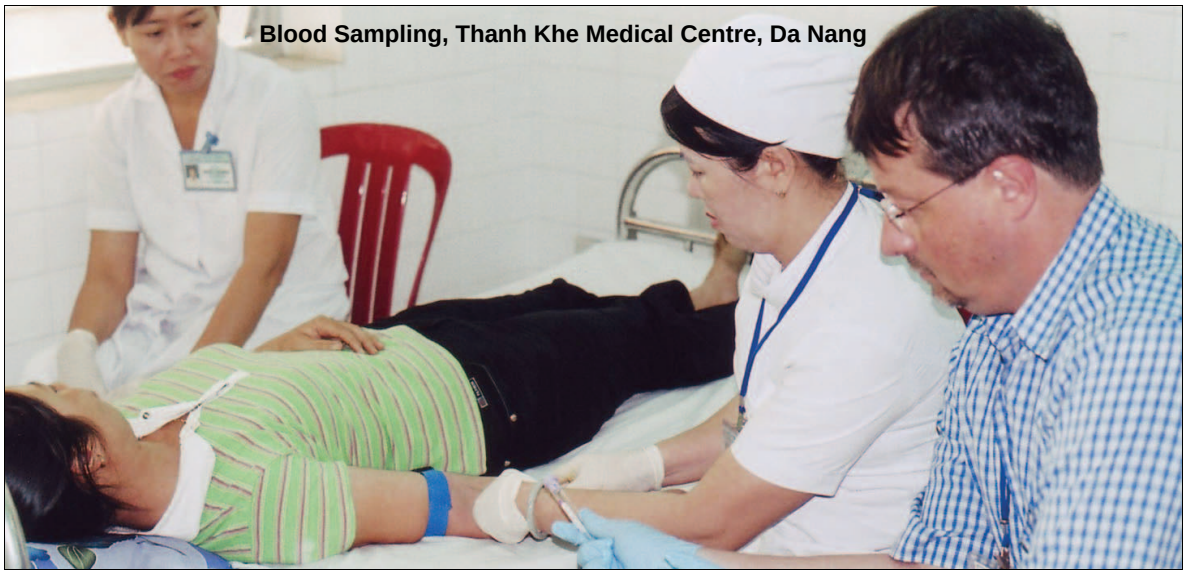
A fish sampling field data sheet was filled out for each specimen. This record documented fork length (mm), whole weight (g), sex (visual inspection of gonads), liver weight (g), and tissue sample weights (g); any abnormalities were also noted.

2.5.6 Human Blood and Breast Milk Sampling Protocol

Human blood and breast milk sampling was undertaken according to protocols employed in previous Hatfield/10-80 Division investigations in Viet Nam (Hatfield/10-80 1998, 2000, 2003, 2005). Hatfield personnel supervised all sample collections, and consent forms were obtained in advance from all donors (Appendix A6). A total of 55 blood samples were collected from 62 eligible donors (the remainder refused to provide a sample, or did not appear at the medical clinic to provide samples on the date prescribed).

Department of Health professionals in Da Nang City collected individual blood samples using multiple 7-mL glass Vacutainers with a target volume of 80 mL, and also assisted with collection of breast milk samples.

Breast milk samples were collected from two volunteer donors in Thanh Khe District; no other lactating females were present in the sample population. Breast milk sampling was conducted at the same time as the blood sampling program. Volunteer patients were asked to donate 15-50 cc of breast milk; milk was manually extruded by each individual mother, with assistance of a medical professional from Thanh Khe Medical Centre, directly into the sample jar.



Blood Sampling, Thanh Khe Medical Centre, Da Nang

Photo: Lady Borton

2.5.7 Questionnaire and Consent Form Protocol

Human tissue sampling was performed on a volunteer basis and followed internationally-accepted protocols to ensure consent of donors. Prior to human tissue sampling, a detailed survey of each potential donor was conducted. All donors signed consent forms in advance of completing detailed questionnaires (Sample form in Appendix A6); both consent forms and questionnaires were translated into Vietnamese language, and were presented through Vietnamese translators.

Socioeconomic data collection, completion of questionnaire surveys and human donor screening was conducted by MOH, Office 33, and Hatfield in December 2006.

Questionnaire design was based on the format used for the University of Michigan Dioxin Study, and pre-approval to use the Michigan questionnaire as a model was provided by Dr. Alfred Fransblau. Review of the questionnaire was provided by Prof. Dr. Nguyen Van Tuong (Hanoi Medical University) who has extensive experience working on dioxin exposure in Da Nang. Dr. Tran Manh Hung (MOH) supervised the human health component of the program, and worked with Hatfield to implement the socio-economic survey and blood/milk sampling program. Extensive information was collected from each patient in advance of blood/milk sampling, including age, sex, family history, general health, work history, smoking habits, food consumption patterns, and awareness on the dioxin issue (Appendix A6).

Each volunteer donor was interviewed by the Hatfield/Office 33/MOH/ Da Nang Health Department staff to determine name, age and personal medical history. Between 30 and 80 mL of blood was collected from each patient. Samples were collected by Thanh Khe Medical Centre professionals using a syringe and 7 mL glass Vacutainers with a pre-added sodium heparin preservative, and was supervised by Thomas Boivin of Hatfield. All blood collection equipment was imported from Canada. Whole blood samples were kept cool on ice packs during the sampling procedure, and frozen at the Thanh Khe Medical Centre within one hour of collection.

Blood samples were collected from the following groups of people:

1. **Sen Lake (A, B and C) Workers and their families (n=11) —** representing people known to have been exposed to, had direct contact with, and/or consumed/ingested Sen Lake water, sediments, fish, other aquatic organisms, lotus or other vegetation. These individuals were considered to be in a highly exposed group, given the previously reported high dioxin concentrations in Sen Lake.

2. **West Airbase Workers and their families (n=11) —** representing people known to have been exposed to, had direct contact with, and/or consumed/ingested water, sediments, fish, other aquatic organisms,

lotus and other vegetation from fishponds located on the Western perimeter of the Airbase. These individuals were considered to be in an exposed group, given that the fishponds are located within the perimeter of the Da Nang Airbase.

3. **Thanh Khe District residents (n=16) —** representing people living outside the Airbase, but within 1 km of its boundary. The sampling area selected consisted of a densely populated urban community situated on a low-lying former wetland area downstream of the Airbase (the wetland is currently a water spinach agricultural area). During flood season, the agricultural area becomes a pond with migratory fish; historically, this may have included fish originating from the Sen Lakes. In past years, local residents have harvested these fish. Thanh Khe individuals living in this area were considered to be a potentially exposed group, since slightly elevated dioxin concentrations were recorded in previous surveys (near 'Site 18' from Hatfield/10-80 [2005]). Some residents in Thanh Khe had previously worked or lived on Da Nang Airbase, and were therefore more physically influenced by the presence of the Airbase. Individual blood donors were selected randomly from local census data; all individuals of legal age from a random selection of eight of 37 potential households bordering the wetland/agricultural area were asked to participate in the blood sampling program.

4. **Hai Chau District residents (n=12)** - representing a reference group, Hai Chau is located more than 5 km from the Airbase. The area is outside of the direct downstream influence of the Airbase, both physically and economically (residents had limited or no past contact with the Airbase for livelihoods). Hai Chau District is a densely populated urban community, and was similar to Thanh Khe District in most respects (cultural make-up, livelihoods, and standard of living). Individual blood donors were selected randomly from local census data; all individuals of legal age from a random selection of eight potential households in the District were asked to participate in the blood sampling program.

5. An additional five blood samples were collected (non-randomly) from donors from Thanh Khe District (n=4) and Hai Chau District (n=1).

For comparative purposes, the following age and sex categories were utilized in the data analysis and interpretation:

- Males <30 years of age (representing "post war" residents);
- Females <30 years of age (representing "post war" residents);
- Males ≥30 years of age (representing residents born before or during the war); and
- Females ≥30 years of age (representing residents born before or during the war).

2.6 LABORATORY HANDLING REQUIREMENTS

Table 2.5 provides a summary of laboratory sample requirements for the Da Nang dioxin sampling program.

Table 2.5 Typical sample sizes, sample storage, and sample receipt requirements for PCDD/F analysis.

Matrix	Sample Size (per analysis)	Sample Container	Condition Upon Receipt	Storage Conditions
Solid (Sed/Soil)	10 g dry	Glass	<4°C, dark	<-10°C, dark
Tissue (Including plants)	10 g wet	Glass or foil wrapped	<4°C, dark	<-10°C, dark
Aqueous (water)	1 L	Amber Glass	0 - 4°C	0 - 4°C, dark
Blood	5-20 g	Glass	<4°C	<-10°C, dark
Milk	50-150 g	Glass	<4°C	<-10°C, dark

Source: AXYS

All samples were kept cool (4°C), or frozen (for sediments, sufficient airspace was left in the jars to prevent breakage upon freezing). Samples were exported to Canada immediately after completion of the field program. Canadian and international shipping/handling protocols for samples were employed. Hatfield personnel transported the samples back to Canada with them upon departure from Ho Chi Minh City. This was essential to ensure QA/QC and proper chain-of-custody of the samples. Samples were transferred immediately to freezer facilities at Hatfield upon arrival in Vancouver, and then shipped to AXYS Analytical Laboratories in Sidney (British Columbia), ALS Environmental Laboratories in Vancouver (British Columbia), and to Flett Research in Winnipeg (Manitoba) within 48 hours of arrival in Canada. Laboratory analytical methods used in this study are provided in Appendices A2.6, A4.2 and A5.2.

2.7 HEALTH AND SAFETY

Health, safety, and security of Hatfield and Vietnamese personnel working on the project was a top priority. Extensive measures were taken to protect our workers from exposure to toxic contamination, landmines and UXO, and to ensure safety of all day-to-day fieldwork activities.

Demining personnel from MOD accompanied Hatfield staff to all sites and screened all sampling sites prior to collection of soils/sediments on Da Nang Airbase.

Utmost caution was taken to protect sampling personnel from direct exposure to highly contaminated soils present on the base. Protective clothing, gloves, soap, and water were kept on hand to limit direct skin contact with sediment and soil.

3.0 RESULTS AND DISCUSSION

3.1 SOIL – DIOXINS/FURANS

3.1.1 Da Nang Airbase Soils

3.1.1.1 Former Mixing and Loading Area (MLA)

- **Figure 3.1; Table 3.1**

Nine soil samples were analyzed from the former Mixing and Loading Area (Figure 3.1; Table 3.1). The highest soil TCDD concentration recorded was 361,000 ppt (06VN058) in the 0-10 cm fraction; the corresponding TEQ was 365,000 ppt, and 99% of the TEQ was attributed to TCDD. Deeper soils (10-30 cm) at the same site exhibited similar dioxin concentrations (330,000 ppt TCDD; 333,000 TEQ; TCDD accounted for 99% of the TEQ). Other samples from the former MLA were lower, ranging between 1190 ppt TCDD (06VN063; 0-10 cm) and 36,800 ppt TCDD (06VN068; 10-30 cm); for these latter samples, deeper soils tended to have slightly higher TCDD levels than surface soils.

Three surface soil (0-10 cm) samples analyzed from the perimeter of the former MLA, west of the former Military Barracks, also showed elevated TCDD; the maximum concentration was 165,000 ppt (167,000 ppt TEQ; 06VN069), from a sample collected east of the former MLA.

The TCDD concentrations recorded at the former MLA, and former Military Barracks, indicate the source of contamination was Agent Orange, given the high percentage of TCDD in the TEQ in all samples analyzed (range: 95% to 100%).

3.1.1.2 Former Storage Area (SA)

- **Figure 3.1; Table 3.1**

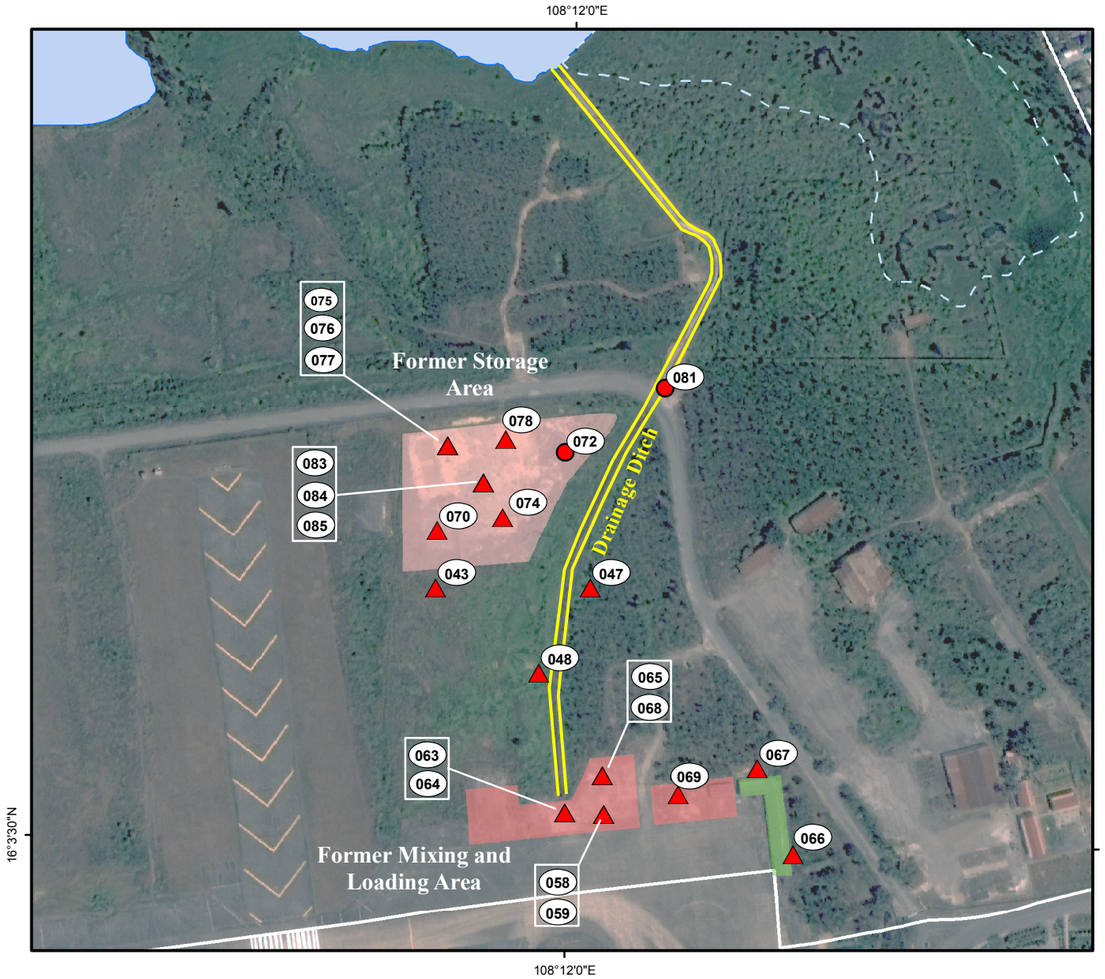
A total of five (5) surface soil samples (0-10 cm) were analyzed from the former Storage Area (Figure 3.1; Table 3.1). In addition, deeper soil samples (10-30 cm and 30-50 cm depth) were analyzed from two sites. All samples were highly contaminated with Agent Orange dioxin, as evidenced by the high TCDD contributions to total TEQs (range: 95% to 100%), with the exception of a single sample 30 to 50 cm depth (06VN077), which had the lowest TEQ (24.5 ppt; 37% TCDD). TEQs for soil samples taken from the top 10 cm ranged between 3,520 ppt (06VN070) to 106,000 ppt (06VN078). Soil profile data indicate that the contamination concentrations decline with depth. TEQs were successively lower in the 10-30 cm fraction and the 30-50 cm fraction compared to the corresponding surface soil samples (Figure 3.1).

Table 3.1 Concentrations of polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) in Da Nang Airbase soil and sediment samples (pg/g [ppt] dry weight), Da Nang, Viet Nam, December 2006.

Sample ID	Location	Media	Depth	PCDD (pg/g dry weight)						PCDF (pg/g dry weight)						TEQ (WHO 1998) ND=1/2DL	TEQ (WHO 2005) ND=1/2DL	TCDD as % of TEQ (2005)
				2,3,7,8-TCDD	Total T4CDD	Total P5CDD	Total H6CDD	Total H7CDD	Total O8CDD	2,3,7,8-TCDF	Total T4CDF	Total P5CDF	Total H6CDF	Total H7CDF	Total O8CDF			
Former Mixing and Loading Area (MLA)																		
06VN058	Site 2 - Centre	Soil	0-10 cm	361000	378000	21200	33800	35300	25200	7900	40500	34600	4530	1820	1340	365000	365000	99
06VN059	Site 2 - Centre	Soil	10-30 cm	330000	346000	18600	29700	31500	24300	7890	36700	28300	3920	1840	1470	333000	333000	99
06VN063	Site 1 - West	Soil	0-10 cm	1190	1230	34.1	44.7	10.6	240	NDR 13.2	56	62.2	9.68	3.67	NDR 3.38	1200	1200	99
06VN064	Site 1 - West	Soil	10-30 cm	8730	9050	388	751	26.7	973	95.4	545	504	102	4.16	< 2.42	8770	8770	100
06VN065	Site 3 - NE	Soil	0-10 cm	27700	29100	1220	1870	2230	7070	413	2000	1900	374	116	77.9	27900	27900	99
06VN068	Site 3 - NE	Soil	10-30 cm	36800	38300	1010	1550	1680	7920	437	2080	2020	450	128	89.7	37000	37000	99
06VN066	Perimeter - S of Former Barracks	Soil	0-10 cm	858	931	151	356	1320	5240	36.6	165	190	143	171	132	899	899	95
06VN067	Perimeter - N of Former Barracks	Soil	0-10 cm	4820	5170	616	999	3130	12700	143	649	731	382	412	309	4980	4980	97
06VN069	Perimeter - W of Former Barracks	Soil	0-10 cm	165000	175000	8220	12100	17900	27600	4300	19500	11900	1310	786	730	167000	167000	99
Former Storage Area (SA)																		
06VN075	Site 1 - NW	Soil	0-10 cm	5100	5400	259	174	204	1980	228	1440	917	116	57.2	62.7	5200	5200	98
06VN076	Site 1 - NW	Soil	10-30 cm	773	826	53.5	49.9	370	19600	278	2340	417	46.8	135	237	783	787	98
06VN077	Site 1 - NW	Soil	30-50 cm	9.12	9.12	< 5.34	< 4.72	466	26100	< 3.62	14.1	< 4.06	< 4.36	< 3.90	NDR 20.9	19.7	24.5	37
06VN078	Site 2 - NE	Soil	0-10 cm	106000	110000	1370	1080	754	3130	1760	7020	5780	687	183	65	106000	106000	100
06VN083	Site 3 - Centre	Soil	0-10 cm	61500	64600	1810	1420	1460	10800	3170	14200	12900	1250	183	77.8	62200	62200	99
06VN084	Site 3 - Centre	Soil	10-30 cm	336	360	14.9	24.2	207	9930	255	918	386	4.74	< 2.94	NDR 5.07	346	347	97
06VN085	Site 3 - Centre	Soil	30-50 cm	136	141	< 4.23	11	143	8360	43.6	143	74.9	< 2.85	< 3.59	NDR 3.56	142	143	95
06VN070	Site 4 - SW	Soil	0-10 cm	3350	3960	1250	2370	2700	24200	252	1280	951	209	111	77.4	3520	3520	95
06VN074	Site 5 - SE	Soil	0-10 cm	63200	68700	7870	10900	11400	14600	2850	16300	14500	2100	805	407	64600	64600	98
Between Storage Area and Mixing and Loading Area																		
06VN043	S of SA / W of Ditch	Soil	0-10 cm	136	149	74.6	92.4	243	6550	6.52	48.1	108	20.4	2.34	NDR 6.29	169	170	80
06VN047	SE of SA / E of Ditch	Soil	0-10 cm	6080	6490	1580	2260	2660	3370	245	1800	3410	826	141	56.6	6520	6520	93
06VN048	N of MLA / W of Ditch	Soil	0-10 cm	3840	4080	1180	2030	2570	3540	213	749	2060	634	110	43.5	4150	4150	93
Drainage System																		
06VN072	Water Treatment Basin	Sediment	grab	25700	29100	7560	3820	4320	12900	5070	9690	6180	1070	199	94.1	27700	27700	93
06VN081	Ditch d/s of Storage Area	Sediment	grab	8390	8880	811	1280	1760	4280	340	1370	1480	327	153	99.7	8580	8580	98

ND = Not detected; for "Total TEQ" calculations, if ND, 1/2 detection level was used.
NDR = Peak detected but did not meet quantification criteria; for 'Total TEQ' calculations, NDR was treated as ND.

Figure 3.1 TCDD and TEQ (pg/g dry weight) in Da Nang Airbase soil and sediment samples, Viet Nam, December 2006.



LEGEND

- Open Water
- Wetted Extent
- Drainage Ditch
- Airport Study Area
- Former Army Barracks
- Former Mixing and Loading Area
- Former Storage Area

Soil & Sediment Sample Sites

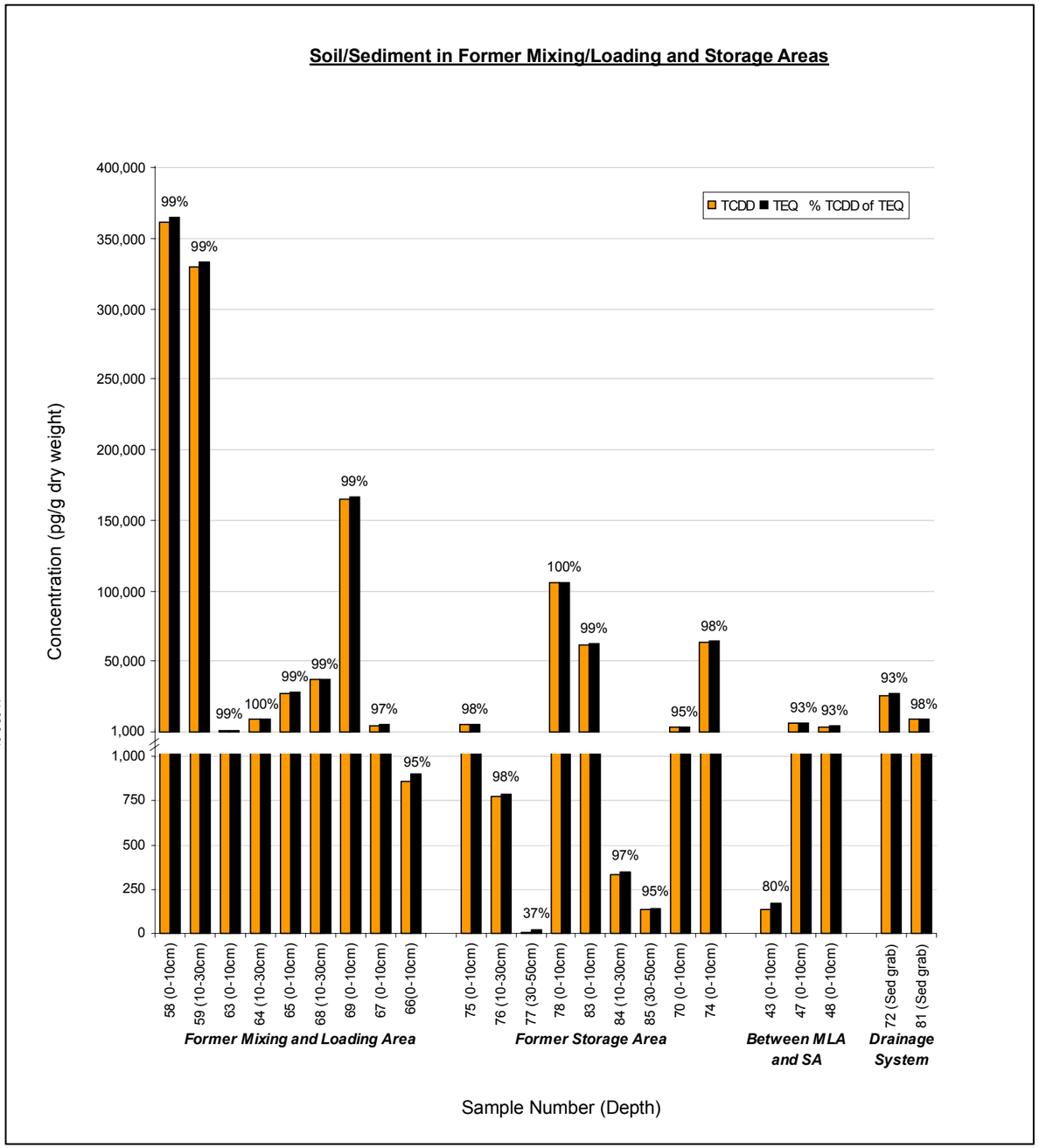
- Sediment Sample
- Soil Sample

Hatfield CONSULTANTS

0 100 200 m

Scale 1:4,000

Data Source: QuickBird (April 21, 2002)
Projection: UTM Zone 49 North
Datum: WGS 84



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3.1.1.3 Water Treatment Basin and Drainage Ditch Downstream of Storage Facility

- **Figure 3.1; Table 3.1**

Samples collected from the drainage ditch immediately downstream of the former SA (06VN081) exhibited high TCDD (8,390 ppt) and TEQ (8,580 ppt) values. Soil samples analyzed between the former SA and former MLA also exhibited elevated TEQs (6,520 and 4,150 ppt, in samples 06VN047 and 06VN048, respectively). One sample analyzed from the water treatment basin on the former Storage Area (06VN072) also was highly contaminated (TCDD 25,700 ppt; TEQ 27,700 ppt). These surface samples were collected downstream of the former SA and former MLA, suggesting significant ongoing movement of Agent Orange-contaminated soil and sediments from the former MLA and former SA to the drainage ditch, and subsequent contamination along the drainage ditch perimeter along its course towards Sen Lake.

3.1.1.4 Airbase Perimeter Areas

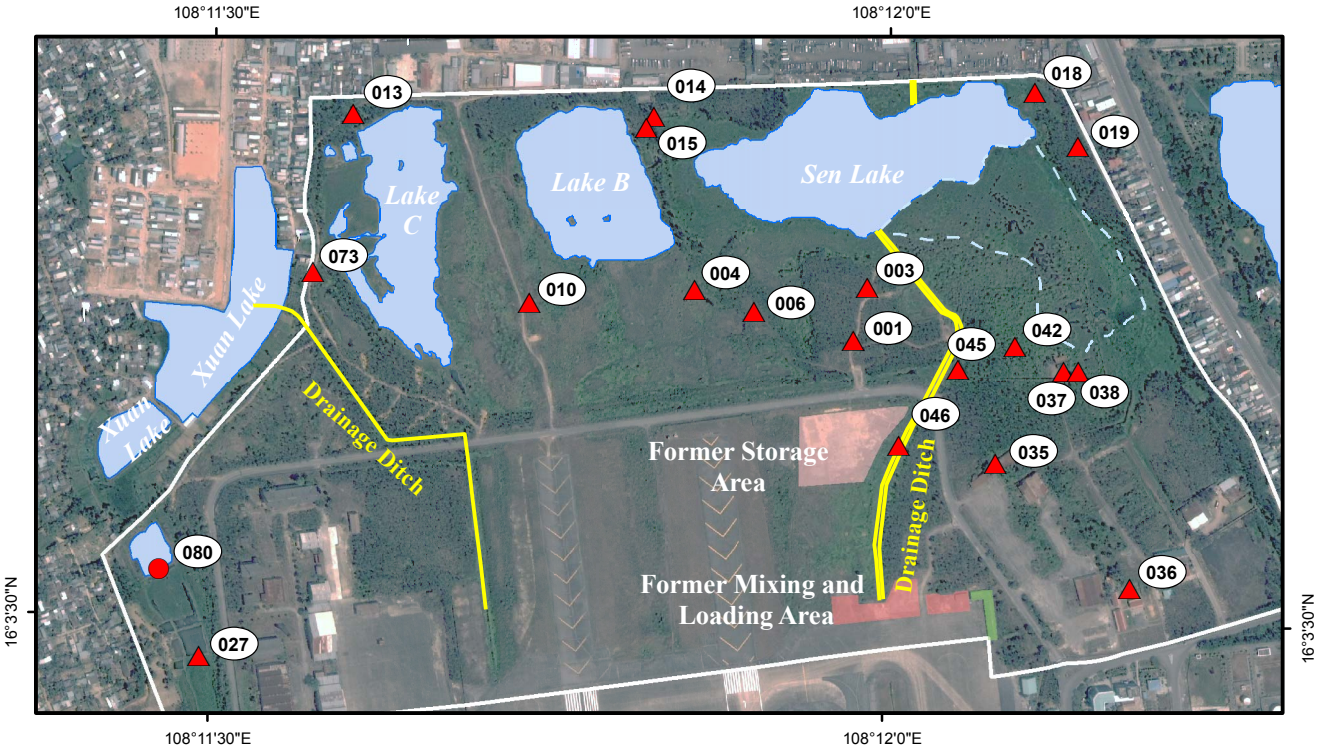
- **Figure 3.2; Table 3.2**

A number of samples were analyzed within the confines of the Airbase, including the perimeter wall forming the border of the Airbase, between the former SA and Sen Lake, and to the east and west of the drainage ditch. The two most contaminated samples collected from the perimeter areas were 06VN042 (1,830 ppt TEQ; 93% TCDD) and 06VN045 (674 ppt TEQ; 89% TCDD). These samples were collected near the Airline Staff residence immediately east of the drainage ditch (see Figure 3.2). The third most contaminated Airbase perimeter sample was 06VN004 (232 ppt TEQ; 94% TCDD) collected between Sen Lake and Lake B. All three samples had a very high contribution of TCDD to the total TEQ (92% average) indicating the source of contamination was Agent Orange.

Areas on the boundary between the Airbase and the City of Da Nang exhibited much lower dioxin concentrations, although TCDD was recorded in all samples. The northeast corner of the Airbase (06VN018) had the highest TEQ value (72.9 TEQ; 60% TCDD), and the northwest corner of the Airbase (06VN013) showed similar concentrations (68.2 ppt TEQ, 78% TCDD). Samples analyzed from the northern perimeter of the base were collected from areas adjacent to populated centres, and therefore there is an ongoing potential for human contact with these dioxin-contaminated soils. The soil TEQ value recorded between Lakes B and C (06VN010) was in the same range (49.2 ppt TEQ; 52% TCDD).

The remaining perimeter sample concentrations were lower in general, but all were contaminated with dioxins and furans; TEQs ranged from 0.64 ppt (06VN073) to 31 ppt (06VN036), indicating widespread low-level contamination at the north end of the airbase, outside of the identified "hot spots".

Figure 3.2 TCDD and TEQ (pg/g dry weight) in Da Nang Airbase perimeter soil and sediment samples, Viet Nam, December 2006.



LEGEND

Open Water
Wetted Extent

Soil & Sediment Sample Sites
Sediment Sample
Soil Sample

0 150 300 m
Scale 1:10,000

Data Source: QuickBird (April 21, 2002)
Projection: UTM Zone 49 North
Datum: WGS 84

Hatfield CONSULTANTS

DIOXIN VPBCO 33

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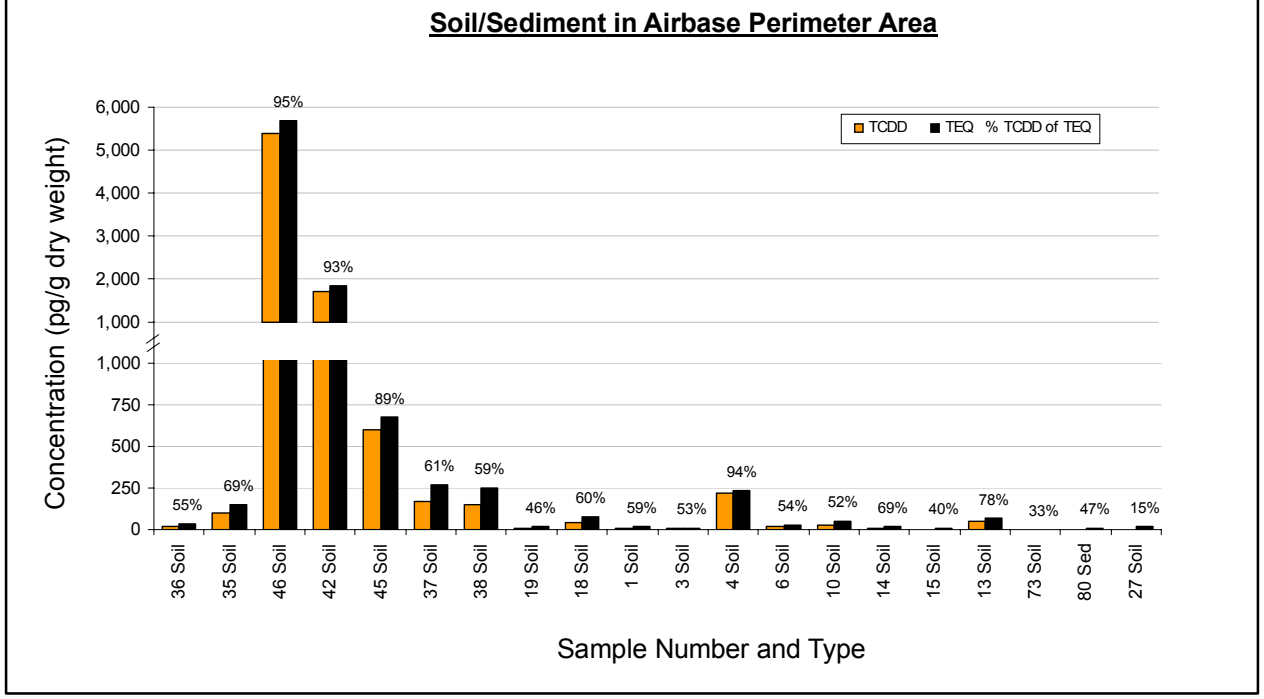

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Table 3.2 Concentrations of polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) in Da Nang Airbase perimeter soil and sediment samples (pg/g [ppt] dry weight), Da Nang, Viet Nam, December 2006. All samples collected at the surface (0-10 cm).

Sample ID	Location	Media	PCDD (pg/g dry weight)						PCDF (pg/g dry weight)						TEQ (WHO 1998) ND=1/2DL	TEQ (WHO 2005) ND=1/2DL	TCDD as % of TEQ (2005)
			2,3,7,8-TCDD	Total T4CDD	Total P5CDD	Total H6CDD	Total H7CDD	Total O8CDD	2,3,7,8-TCDF	Total T4CDF	Total P5CDF	Total H6CDF	Total H7CDF	Total O8CDF			
06VN036	Military Garden	Soil	16.9	23.4	17.8	102	670	4760	4.11	23.3	54.3	104	142	95.9	30.9	31	55
06VN035	Old Munitions Dump	Soil	103	152	112	522	2770	16900	32	183	230	323	482	326	150	149	69
06VN046	5m E of Ditch, Near Main Roa	Soil	5400	5780	1110	1800	2110	3570	333	1740	2240	502	113	57	5690	5690	95
06VN042	N of Airline Staff Residence	Soil	1700	1890	458	1510	7720	41900	92.7	512	710	923	1040	634	1830	1830	93
06VN045	NE of SA / E of Ditch	Soil	598	667	156	506	3210	17500	35.5	235	279	414	774	593	673	674	89
06VN037	S of Airlines Staff Residence	Soil	165	334	302	891	4100	19900	61.6	358	481	603	596	313	272	270	61
06VN038	S of Airlines Staff Res. (Dup)	Soil	150	307	282	930	4590	22100	54	317	443	585	644	310	255	253	59
06VN019	NE Corner Airbase (2)	Soil	7.91	17.7	21.8	57.8	280	6490	6.13	29.1	40.8	32.7	21.4	10.2	16.4	17.1	46
06VN018	NE Corner Airbase (1)	Soil	43.6	76.7	59.7	139	587	18400	27.4	147	202	195	186	148	72.2	72.9	60
06VN001	Btwn SA and Sen Lake (1)	Soil	9.66	13.1	11.6	50.7	389	4460	2.19	10.7	16.9	25.2	49.3	48.4	15.7	16.4	59
06VN003	Btwn SA and Sen Lake (2)	Soil	6.44	11.6	15.8	55.5	263	1970	1.81	9.26	12.7	19.7	27.8	21.9	11.9	12.2	53
06VN004	Btwn SA and Lake B (1)	Soil	219	230	23.5	110	598	6240	7.52	43	67.3	65.9	85.2	52.6	231	232	94
06VN006	Btwn SA and Lake B (2)	Soil	14	14.9	3.77	35.5	410	28900	0.434	2.66	5.81	2.63	2.06	12.3	20.3	26	54
06VN010	Btwn Lakes B & C	Soil	25.4	36	25.2	166	1360	9640	2.67	17.3	67.2	185	224	115	48.4	49.2	52
06VN014	Sen Lake Garden	Soil	12.5	20.7	14.2	51.1	262	1580	4.05	22.2	20.8	21.2	25.1	13.0	18	18	69
06VN015	Sen Lake Residence	Soil	1.72	4.65	7.12	26.8	133	1260	1.31	7.51	6.14	6.33	9.52	7.35	4.2	4.34	40
06VN013	NW Corner Airbase	Soil	53.1	58.9	21	117	697	9760	2.17	11.7	31.3	71.1	65.7	21.1	66.8	68.2	78
06VN073	Footpath W Airbase	Soil	0.212	0.266	0.187	1.38	18.3	878	0.075	0.131	0.293	0.117	0.358	0.555	0.479	0.643	33
06VN027	Garden SW Airbase	Soil	2.29	30.9	36.7	186	708	5180	2.8	18	28	38.8	41.3	21.8	14.5	15	15

ND = Not detected; for "Total TEQ" calculations, if ND, 1/2 detection level was used.
NDR = Peak detected but did not meet quantification criteria; for 'Total TEQ' calculations, NDR was treated as ND.

3.1.2 Da Nang City

- **Figure 3.3; Table 3.3**

Ten (10) soil and sediment samples were analyzed from locations outside the perimeter of the airbase (Table 3.3). These data were compared with results from the March 2005 sampling program in which sediments and soils were collected from areas surrounding the Da Nang Airbase (Hatfield/10-80 2005).

3.1.2.1 Thanh Khe District

The most contaminated sample measured in Thanh Khe District in December 2006, 06VN099 (36.1 ppt TEQ; 72% TCDD), was located in a garden in Thanh Khe District in the same location as 'Site 18' from Hatfield/10-80 (2005). In 2005, the maximum TEQ recorded at this site was 269 ppt (84% of the TEQ was attributed to TCDD) (Hatfield/10-80 2005). Soil sample 06VN099 also had the highest contribution of TCDD to the total TEQ, as was recorded at this site in 2005 (Hatfield/10-80 2005). Sample 06VN100, collected near sample 06VN099, exhibited much lower dioxin levels (3.94 ppt TEQ; 32% TCDD). A third garden site sampled 500 m west of Site 18 was also low (5.34 ppt TEQ; 12% TCDD).

Sediment samples collected from both March 29 Lake (06VN093; 26.9 ppt TEQ) and Xuan Ha Lake (06VN088, 06VN090; 17.8 ppt and 16.7 ppt TEQ, respectively) had elevated levels of dioxins. Given their direct connection hydrologically to Da Nang Airbase, these perimeter wetlands may be regarded as historical and present day sinks for dioxin contamination from the Airbase.

3.1.2.2 Hai Chau District (Reference)

The "reference" soil sample (06VN102), located several kilometers northeast of the Airbase, near where the Han River empties into Da Nang Bay, had the lowest TEQ of the 10 samples analyzed outside the Airbase (3.14 ppt TEQ, 21% TCDD).

Interviewing Residents of Thanh Khe District, Da Nang

Photo: Thomas Boivin

Figure 3.3 TCDD and TEQ (pg/g dry weight) in Da Nang City soil and sediment samples, Viet Nam, December 2006.

LEGEND

Open-Water
Wetted Extent

Soil & Sediment Sample Sites
Sediment Sample
Soil Sample

0 200 400 m
Scale 1:13,000

Data Source: QuickBird (April 21, 2002)
Projection: UTM Zone 49 North
Datum: WGS 84

Hatfield CONSULTANTS

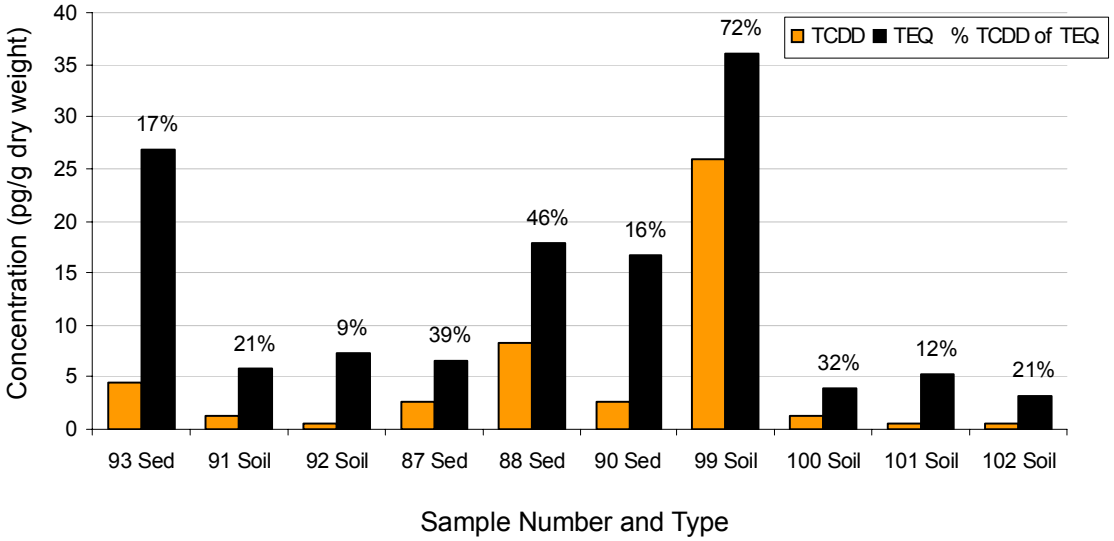

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Table 3.3 Concentrations of polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) in Da Nang City soil and sediment samples (pg/g [ppt] dry weight), Da Nang, Viet Nam, December 2006. All samples collected at the surface (0-10 cm).

Sample ID	Location	Media	PCDD (pg/g dry weight)						PCDF (pg/g dry weight)						TEQ (WHO 1998) ND=1/2DL	TEQ (WHO 2005) ND=1/2DL	TCDD as % of TEQ (2005)
			2,3,7,8-TCDD	Total T4CDD	Total P5CDD	Total H6CDD	Total H7CDD	Total O8CDD	2,3,7,8-TCDF	Total T4CDF	Total P5CDF	Total H6CDF	Total H7CDF	Total O8CDF			
06VN093	March 29 Lake	Sediment	4.57	65.2	89.8	265	962	6650	17.3	126	129	124	129	77.3	27.5	26.9	17
06VN091	N of Airbase / Dien Bien Phu Street	Soil	1.26	4.69	7.96	26.3	149	4830	2.83	17.3	19.5	20.1	17.6	10.3	5.26	5.91	21
06VN092	NE of Airbase / Dien Bien Phu Street	Soil	0.649	4.08	5.43	17.4	181	13100	2.35	14.1	14.5	12.9	9.34	8.23	5	7.36	9
06VN087	Garden near Xuan Lake	Sediment	2.58	9.05	10.4	55.1	283	4180	0.607	4.16	4	4.42	4.27	3.39	5.89	6.66	39
06VN088	Xuan Lake (N)	Sediment	8.21	49.4	52.5	210	685	8480	1.43	9.76	7.05	8.32	8.75	7.32	16.2	17.8	46
06VN090	Xuan Lake (S)	Sediment	2.63	31.8	51.8	247	905	7210	1.25	11.9	18.9	60.7	76.8	28.7	15.5	16.7	16
06VN099	Thanh Khe Garden (1)	Soil	26	40.1	28.7	82.2	336	2060	14	46	41.4	41.5	49.8	35.8	36.2	36.1	72
06VN100	Thanh Khe Garden (2)	Soil	1.28	3.22	5.71	23.7	133	1030	0.741	3.79	5.7	12.3	17.6	12.4	3.82	3.94	32
06VN101	Thanh Khe Garden (3)	Soil	0.616	5.41	11.3	38.1	231	1550	1.56	10.9	10.2	18.9	44	50.4	5.18	5.34	12
06VN102	Hai Chau Garden	Soil	0.644	2.34	3.77	21.5	111	691	1.01	5.84	7.18	11.7	16.7	13.6	3.13	3.14	21

ND = Not detected; for "Total TEQ" calculations, if ND, 1/2 detection level was used.

NDR = Peak detected but did not meet quantification criteria; for 'Total TEQ' calculations, NDR was treated as ND.

The data indicate low-level contamination with a range of dioxin congeners in areas outside the Airbase perimeter. The dioxin/furan congener profiles suggest that, in addition to Agent Orange, other sources of dioxins and furans are contributing to local contamination.

3.2 SEDIMENT — DIOXINS/FURANS

3.2.1 Sen Lake (A)

- **Figure 3.4; Table 3.4**

Sen Lake sediments were highly contaminated with TCDD, exhibiting TEQs ranging from 68.6 ppt (06VN033; 90% TCDD) to 6,820 ppt (06VN053; 91% TCDD). Six of nine surface sediment samples analyzed exceeded 1,000 ppt, and all but one had >90% contribution of TCDD to the TEQ. A number of other dioxin and furan congeners were present in the samples, most notably O8CDD (maximum value 72,200 ppt total O8CDD in sample 06VN052). Highest contamination was found in samples collected from the northern perimeter of Sen Lake, and significant levels were also found near the drainage ditch outlet to Da Nang City (06VN030; 292 ppt TEQ; 87% TCDD). Contaminated sediments entering Sen Lake from the former MLA and former SA therefore migrate into the Da Nang City drainage system through the outlet ditch, especially during the rainy season; it is likely that contaminated fish are also able to pass through this ditch into Da Nang City.

Sediment Core Analysis

Of the eleven sediment strata collected through core sampling in the west section of Sen Lake, seven (06VN062-1, -2, -3, -4, -5, -6 and -11) were analyzed for dioxins/furans and various metals, specifically: 0 to 2 cm, 2 to 4 cm, 4 to 6 cm, 6 to 8 cm, 8 to 10 cm, 10 to 14 cm, and 30 to 32 cm. These core strata were aged radiometrically, through comparison of concentrations of cesium-137, lead-210, and radium-226 in each stratum. All core-aging methods showed good agreement (Dr. R. Flett, Flett Research Ltd., Winnipeg, MB, *pers. comm.* 2007).

Ageing data suggest that sedimentation rates in Sen Lake are very low, with the top 2 cm of sediment comprising sediments deposited over the past 23 years (i.e., since 1983). Sediments 6 cm below the Sen Lake bottom surface were determined to have been deposited nearly 100 years ago.

Dioxin and furan concentrations were highest in the 0-2 and 2-4 cm strata (i.e., 4,050 ppt TEQ and 750 ppt TEQ, respectively), and were much lower and generally consistent in all deeper sections (i.e., TEQ values of approximately 20-39 ppt; Figure 3.4). The percentage of TEQ comprised of TCDD was low in deep layers (i.e., 22% to 33% in core strata below 6 cm), but very high in the top two strata (i.e., ≥ 90%).

Concentrations of several metals in sediments, including arsenic, copper, zinc, and cadmium, exhibited similar profiles with depth (Table 3.11).

Table 3.4 Concentrations of polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) in Airbase lake sediments (pg/g [ppt] dry weight), Da Nang, Viet Nam, December 2006.

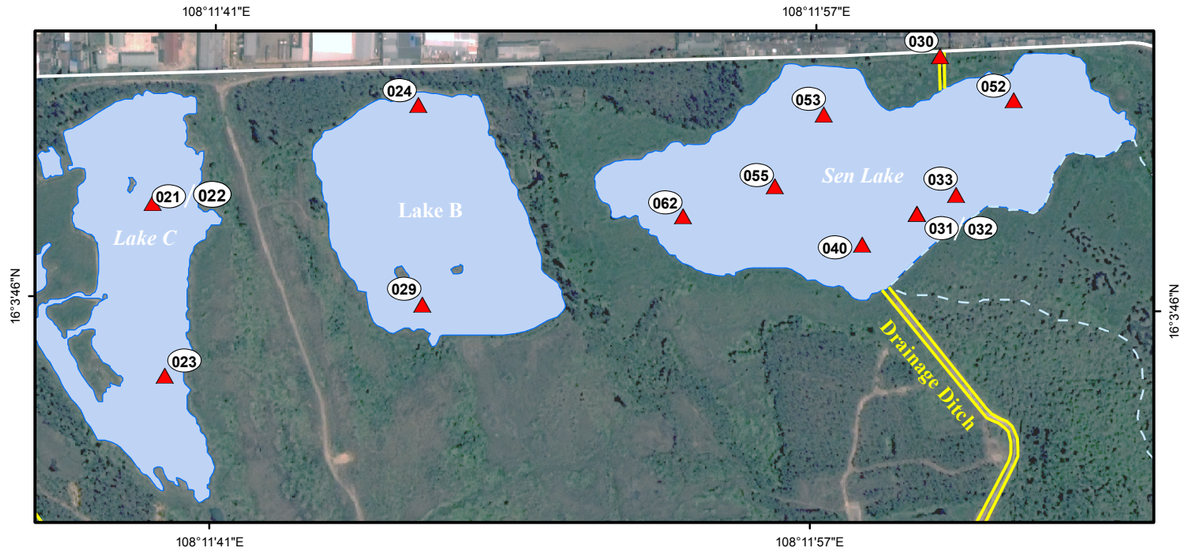
Sample ID	Location	Depth	PCDD (pg/g dry weight)						PCDF (pg/g dry weight)						TEQ (WHO 1998) ND=1/2DL	TEQ (WHO 2005) ND=1/2DL	TCDD as % of TEQ (2005)
			2,3,7,8-TCDD	Total T4CDD	Total P5CDD	Total H6CDD	Total H7CDD	Total O8CDD	2,3,7,8-TCDF	Total T4CDF	Total P5CDF	Total H6CDF	Total H7CDF	Total O8CDF			
Sen Lake																	
06VN030	Outlet to Da Nang City	Grab	253	264	21.1	143	3470	25600	26	54.4	91.7	398	740	189	289	292	87
06VN030**	Outlet to Da Nang City	Grab	232	259	31.6	94.7	398	2330	27.7	85.9	78.1	67.1	51	20.6	245	244	95
06VN031	Centre	Grab	191	199	< 4.91	49.2	274	1690	21.5	37.7	12.2	19.3	25.3	NDR 14.9	193	198	96
06VN031**	Centre	Grab	184	187	< 5.24	71.3	300	1890	22.7	46.3	30.4	28.6	25.3	NDR 16.3	192	192	96
06VN032	Centre	Grab	2750	3040	614	1630	6730	31900	727	1560	1020	770	1110	933	2980	2980	92
06VN032**	Centre	Grab	1140	1280	256	648	2510	12700	296	627	419	311	452	321	1230	1230	93
06VN033	SE	Grab	61.4	61.4	< 5.47	24	237	1080	16.9	23.3	15	4.8	29.4	NDR 22.2	62.9	68.6	90
06VN033**	SE	Grab	63.6	63.6	6.46	55.1	212	973	15.6	23.5	6.76	16	17.7	20	69.2	69.2	92
06VN052	NE	Grab	5440	6160	1370	3340	14900	72200	1850	3550	2310	1770	2480	1940	5950	5950	91
06VN053	NW	Grab	6240	7160	1540	3190	10200	43300	2330	4370	2710	1270	1400	999	6820	6820	91
06VN055	Centre-West	Grab	3190	3570	853	2120	7490	36500	1060	2060	1390	869	1210	933	3510	3520	91
06VN040	Inlet from Ditch	Grab	1160	1290	188	648	2950	15100	201	492	416	400	668	565	1290	1290	90
Core Sample from Sen Lake																	
06VN062-1	West	0-2 cm	3730	4160	731	1430	3780	22400	1660	2630	1170	382	337	198	4050	4050	92
06VN062-2	West	2-4 cm	674	819	170	718	2130	14600	320	457	192	53.2	61.1	41.1	747	750	90
06VN062-3	West	4-6 cm	22.3	121	79.1	441	1380	7650	8.29	20.1	4.66	0.628	5.17	5.26	38	39.4	57
06VN062-4	West	6-8 cm	6.15	88.1	74.2	351	1040	5670	2.75	12.6	1.11	0.646	< 0.480	2.36	17.8	18.9	33
06VN062-5	West	8-10 cm	6.45	99.8	86.3	379	1060	5200	2.68	17.3	< 0.408	0.589	2.35	2.57	18.7	19.8	33
06VN062-6	West	10-14 cm	4.4	158	115	534	1350	6500	1.75	29.7	2.49	< 0.373	1.95	1.91	19	20.2	22
06VN062-11	West	30-32 cm	5.91	203	140	655	1620	7520	2.75	42.6	2.58	0.935	2.55	NDR 2.64	21.6	23.1	26
Lake B																	
06VN024	North	Grab	30.4	36.8	19.4	83	424	5080	8.33	22.3	25.3	21.7	19.6	13.3	38.8	39.4	77
06VN029	South	Grab	57.1	65.9	29.2	122	620	6740	12.2	36.6	41.4	36.7	34.9	21.5	69.7	70.5	81
Lake C																	
06VN021	North	Grab	11.7	17.5	14.2	78.3	468	7510	2.85	15	16.9	20.4	23.7	16.5	18.9	20.1	58
06VN022	North (Dup)	Grab	8.89	13.3	13.1	64.7	391	6530	2.21	11.6	13.3	17.4	19.6	13.3	14.7	16	56
06VN023	South	Grab	4.54	6.97	7.01	34	196	2720	1.34	6.39	6.8	8.54	10.9	7.91	7.56	7.99	57
West Airbase Pond																	
06VN080	Centre	Grab	3.35	8.09	10	47.1	225	1790	0.991	8.29	11.3	14.9	14.4	7.47	6.92	7.14	47

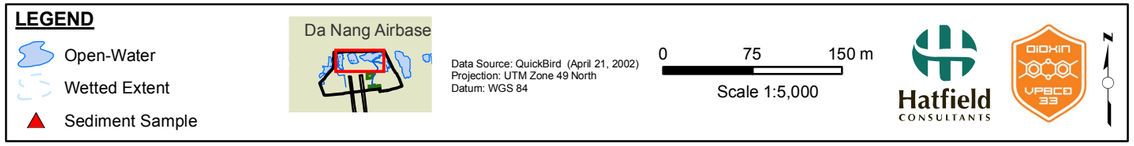
ND = Not detected; for "Total TEQ" calculations, if ND, 1/2 detection level was used.

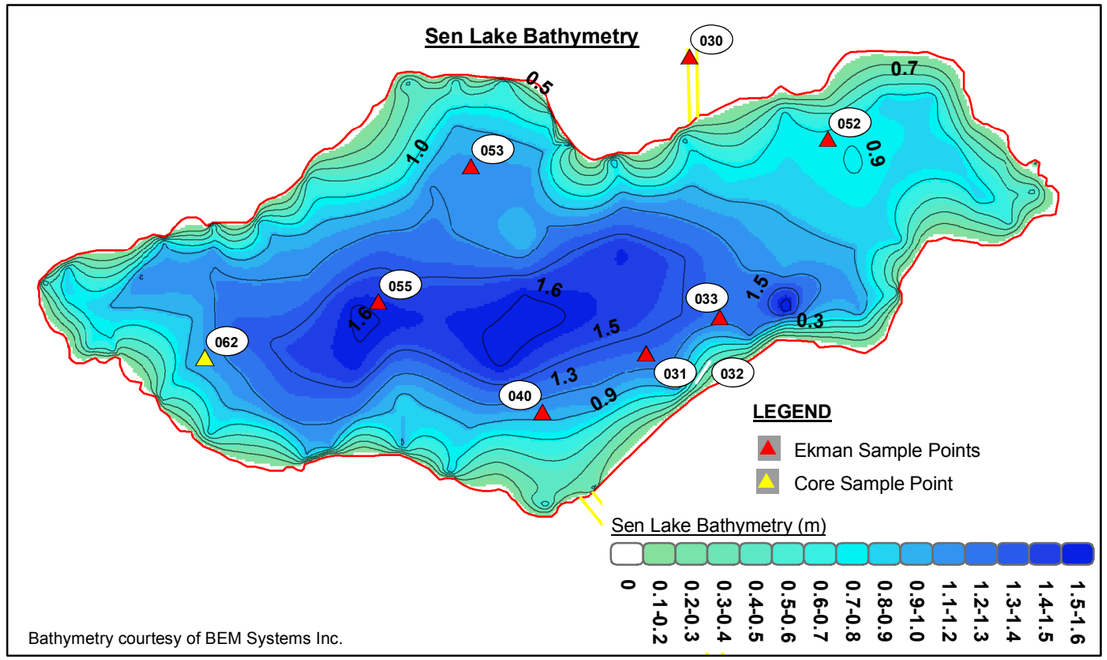
NDR = Peak detected but did not meet quantification criteria; for 'Total TEQ' calculations, NDR was treated as ND.

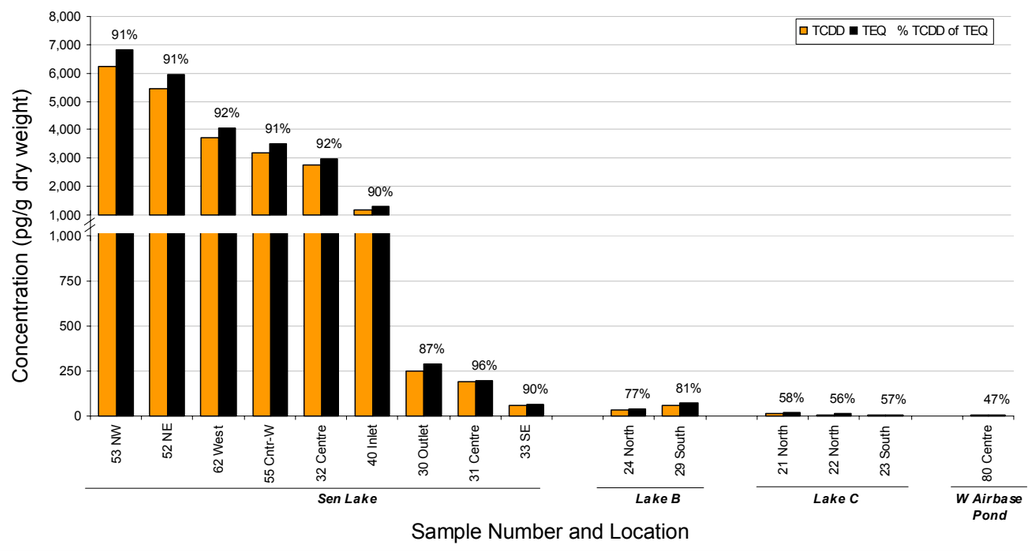
** Sample analyses repeated; these data are not illustrated on figure.

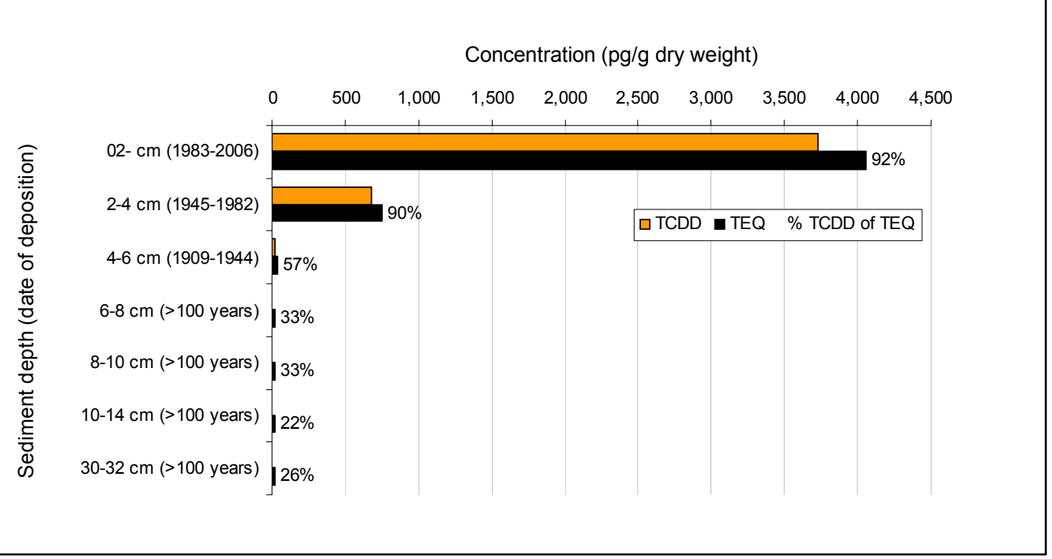
Figure 3.4 TCDD and TEQ (pg/g dry weight) in Sen Lake, Lake B and Lake C sediment samples, Viet Nam, December 2006.











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The 4- to 6-cm stratum, estimated to have been deposited between 1909 and 1944, exhibited slightly elevated dioxin and furan and metals concentrations. Although this stratum was deposited well before the US-Viet Nam war, downward diffusion of contaminants into deeper sediment layers would be expected, contributing to the observed values, which were slightly above historical background.

Results indicate that high concentrations of dioxins and furans observed in surface sediment samples collected throughout Sen Lake likely do not extend far below the substrate surface (i.e., top 8-10 cm). However, they also indicate that the most highly contaminated sediments in Sen Lake are available to fish and any invertebrate prey items, and that burial of highly contaminated sediments is not occurring.

The peak period of Agent Orange use at the Da Nang airbase falls within the depositional period of the 2- to 4-cm stratum, deposited between 1945 and 1982. This stratum exhibited the second-highest concentrations of dioxins/furans and metals. Although the lower half of this stratum (i.e., the portion deposited before the early 1960s) would not have received contaminant inputs from handling or storage of Agent Orange, the higher concentrations observed in the top stratum (0-2 cm) suggest that much of the dioxin/furan load to the lake has occurred after the US-Viet Nam war, and that this loading continues to this day. This interpretation is consistent with observed high dioxin/furan concentrations in surface sediments recorded in the drainage ditch flowing from the former MLA and former SA to Sen Lake.

3.2.2 Lake B

- **Figure 3.4; Table 3.4**

Two sediment samples were collected from Lake B, directly north of the two runways at the Da Nang airbase, and between Lake C to the west and Sen Lake to the east (Figure 3.4). Sample 06VN024 had a TEQ of 39.4 ppt (77% TCDD) and sample 06VN029 had a TEQ of 70.5 ppt (81% TCDD).

3.2.3 Lake C

- **Figure 3.4; Table 3.4**

Levels of dioxin/furan contamination in the three sediment samples analyzed from Lake C (NW corner of the airbase, see Figure 3.4) exhibited lower levels of TCDD and overall TEQs than samples collected from Lake B. Sample 06VN021 exhibited a TEQ of 20.1 ppt (58% TCDD); a duplicate sample from this site (06VN022) showed similar results (16 ppt TEQ). Sample 06VN023 was slightly lower, with a TEQ of 7.99 ppt (57% TCDD).

3.2.4 West Airbase Fishponds

- **Figure 3.4; Table 3.4**

A single sediment sample (06VN080) was analyzed from a fishpond located near the perimeter of the airbase, located directly west of the northern end of the runways (Figure 3.2). The sample had a TEQ of 7.14 ppt (47% TCDD). This TEQ is lower that the TEQs detected in sediments from Xuan Ha Lake, slightly to the north of the fishponds and outside the base perimeter.

3.2.5 Xuan Lake (Ho Xuan Ha)

- **Figure 3.3; Table 3.3**

Two sediments were analyzed from Xuan Ha Lake; samples 06VN088 and 06VN090 had TEQs of 17.8 ppt (46% TCDD) and 16.7 ppt (16% TCDD), respectively. These values are higher than found in West Airbase fishpond (and one sample analyzed from Lake C); however, it should be noted that the TCDD concentration from the West Airbase fishpond fell between the two values detected in Xuan Ha lake, suggesting other sources of dioxin contamination. Xuan Lake was also sampled in a past study by Hatfield/10-80 (2005; see Table 1.2); the maximum TEQ value recorded in 2005 was 29.9 ppt (39% TCDD), while one other sediment sample had a lower value (32.9 ppt; 10% TCDD). Therefore, sediments sampled in 2006 exhibited lower dioxin levels than in 2005. However, this lake has recently been dredged during construction of a recreational area, and dioxin-contaminated sediments may have been removed from the lake in the past year (i.e., mid-late 2006). It is not known where the dredged sediments from Xuan Lake were placed. Local inhabitants fish the area extensively for snakehead and gourami, primarily for recreation; it is assumed that these fish are also consumed by people in Da Nang.

3.2.6 March 29 Lake

- **Figure 3.3; Table 3.3**

One sediment sample was analyzed from March 29 Lake (06VN093), situated to the NE of the airbase perimeter (Figure 3.3). This sample had an elevated TEQ (26.9 ppt); however only 17% of the TEQ was derived from TCDD, indicating non-Agent Orange sources of dioxin are also impacting the lake. March 29 Lake was also sampled by Hatfield/10-80 (2005; see Table 1.2); the maximum TEQ value recorded in 2005 was 154 ppt (15% TCDD), and three other sediments exhibited lower values in 2005 (8.69, 8.47 and 2.34 ppt, respectively). Therefore, dioxin-contaminated sediments continue to be present in the lake over time.

3.3 SELECT SOIL AND SEDIMENT ANALYSES

3.3.1 Total Organic Carbon (TOC)

- **Table 3.5**

Levels of TOC should be considered when reviewing contaminant levels in soils and sediments. Many contaminants preferentially partition into, or bind onto, organic material. If samples have significantly different levels of TOC, contaminant concentrations can be normalized against TOC in order to compare the impacts of different soil types on contamination levels.

As per Table 3.5, the three soil samples analyzed for TOC from Airbase hotspots (06VN063, 06VN075, and 06VN079) were all less than or equal to 0.6% TOC, consistent with the generally sandy nature of the soils on the Airbase. Three sediments were analyzed from Sen Lake (06VN030, 06VN040, and 06VN052); the latter two exhibited elevated levels of TOC (14.5% and 14.8%), respectively. One sample each from Lake A (06VN024) and Lake B (06VN023) were analyzed for TOC and had intermediate levels of 2.5% and 2.0% TOC, respectively.

Levels of TOC from two additional soil samples collected on the base, but outside the hotspots, were determined to be 0.5% (06VN003) and 1.1% (06VN027).

One sediment sample collected from March 29 Lake (06VN093) was determined to have a TOC level of 6.1%.

3.3.2 Particle Size (PSA)

- **Table 3.5**

PSA analyses were completed for a subsample of soils and sediments collected. The percentage of gravel (>2 mm), sand (2 mm – 0.063 mm), silt (0.063 mm – 4 μm), and clay (<4 μm) can impact contaminant levels in soils and sediments. In general, soils with high gravel and sand content retain lower levels of contaminants than soils predominantly composed of silt and clay. Sand dominated the PSA profiles of the four soils analyzed for PSA (73% of 06VN063 to 92% of 06VN003), and the six sediment samples generally had higher levels of silts and clays. High organic material content in Sen Lake sediments is a key factor in binding of TCDD.

3.3.3 pH

- **Table 3.5**

pH was analyzed in eight soil and sediment samples, and ranged from extremely acidic (4.5; Garden SW Base; 06VN027) to strongly alkaline (9.1; Former MLA; 06VN063). Sediment samples analyzed from Sen Lake were neutral or slightly acidic.

Table 3.5 Particle size, physical measurements and carbon content in soil and sediment samples, Da Nang, Viet Nam, December 2006.

Sample ID	Location	Matrix	Particle Size				Physical Tests				Organic Parameters			
			% Gravel (>2 mm)	% Sand (2.0 mm to 0.063 mm)	% Silt (0.063 mm to 4 µm)	% Clay (<4 µm)	% Moisture	Conductivity (EC)	pH	pH (1:2 soil:water)	$CaCO_3$ Equivalent (%)	Total Organic Carbon (%)	Total Carbon by Combustion (%)	Inorganic Carbon (%)
Airbase														
06VN063	Former Mixing	Soil	3	73	20	4	16	-	-	9.1	2.9	<0.1	0.3	0.3
06VN075	Former Storage (surface)	Soil	-	-	-	-	4.84	-	-	-	1.1	0.3	0.3	<0.1
06VN079	Former Storage (10cm)	Soil	<1	80	8	12	10.8	-	-	-	0.7	0.6	0.6	<0.1
Lakes														
06VN030	Sen Lake	Sediment	<1	95	2	3	0.58	-	-	6.8	<0.7	0.6	0.6	<0.1
06VN040	Sen Lake	Sediment	<1	11	63	25	84	0.44	6.6	-	4.6	14.5	15.0	0.5
06VN052	Sen Lake	Sediment	<1	12	40	48	-	-	-	5.9	3.1	14.8	15.2	0.3
06VN024	Lake B	Sediment	<1	58	27	15	-	-	-	6.3	0.8	2.5	2.5	<0.1
06VN023	Lake C	Sediment	<1	69	23	8	-	-	-	6.3	<0.7	2	2.0	<0.1
06VN062-1	Core 1	Sediment	-	-	-	-	-	-	5.42	-	-	-	-	-
06VN062-2	Core 2	Sediment	-	-	-	-	-	-	5.02	-	-	-	-	-
06VN062-3	Core 3	Sediment	-	-	-	-	-	-	4.44	-	-	-	-	-
06VN062-4	Core 4	Sediment	-	-	-	-	-	-	4.58	-	-	-	-	-
06VN062-5	Core 5	Sediment	-	-	-	-	-	-	4.75	-	-	-	-	-
06VN062-6	Core 6	Sediment	-	-	-	-	-	-	4.24	-	-	-	-	-
06VN062-11	Core 11	Sediment	-	-	-	-	-	-	5.08	-	-	-	-	-
Other Areas on Airbase														
06VN003	Btwn SA / Sen Lake (2)	Soil	<1	92	6	3	-	-	-	6.6	0.7	0.5	0.5	<0.1
06VN027	Garden SW Base	Soil	<1	81	10	9	-	-	-	4.5	0.8	1.1	1.1	<0.1
Outside Airbase														
06VN093	March 29 Lake	Sediment	<1	57	25	18	-	-	-	7.6	9.6	6.1	7.2	1.1

3.3.4 Polychlorinated Biphenyls (PCBs)

- **Table 3.6**

PCBs are synthetic compounds containing chlorine that are stable at high temperatures, very volatile, attracted to lipids (i.e., fat), and repel water. The manufacture of PCBs in North America was terminated in 1979, given concerns for the environment and human health. Prior to restrictions, approximately 370,000 tonnes of PCBs were released to the environment across the globe (Environment Canada 2006).

PCBs have the capacity to bond to soils; however, they do not move well through soil layers with water flow, particularly in soils with high silt and clay content (e.g., Sen Lake). They are generally resistant to degradation (i.e., physical, chemical, biological), but do exhibit slow degradation over time.

PCBs can accumulate in plants and animals, and may magnify in the food chain. Their presence in living organisms may result in metabolic changes and potentially death.

Table 3.6 summarizes PCB levels in one sediment sample and four soil samples. Reference soil was collected from the Hai Chau District area.

Overall, PCB TEQ of soils were low. The CCME (1999) guidelines for PCB in soil are 500,000 ppt (0.5 ppm) for agricultural solids and 33,000,000 ppt (33.0 ppm) for commercial/industrial soils. Although some PCBs did exceed levels detected at the reference location, the Canadian guideline for soils was not exceeded in any soil or sediment sample analyzed.

The Sen Lake sediment sample had a TEQ of 18 ppt. PCB-118 was recorded at the highest concentration (40,600 ppt) in this sample. With reference to the CCME guideline for freshwater sediments (34,100 ppt, or 34.1 ppb), PCB-118 exceeds the guideline level in Sen Lake. No other PCB exceeded the guideline. Values ranged from a low of <16.7 ppt (PCB 169), to a high of 17,800 ppt (PCB-180/193).

Start of Ditch at Former Mixing and Loading Area, Da Nang Airbase

Photo: Thomas Boivin

Table 3.6 Concentrations of polychlorinated biphenyls (PCBs) in soil and sediment samples (pg/g [ppt] dry weight), Da Nang, Viet Nam, December 2006.

PCB / TEQ Value	06VN040 Sen Lake-Inlet Sediment (grab)	06VN062-1 Sen Lake-West Sediment (0-2 cm)	06VN062-2 Sen Lake-West Sediment (2-4 cm)	06VN062-3 Sen Lake-West Sediment (4-6 cm)	06VN063 Former MLA Site 1 Soil	06VN075 Former SA Site 1 Soil	06VN099 Thanh Khe Garden (1) Soil	06VN102 Hai Chau Garden Soil
	pg/g (dry weight basis)							
CL4-PCB-77	5910	1080	221	11.5	221	15	95.1	13.2
CL4-PCB-81	83.6	8.03	2.65	< 0.382	3.12	< 0.998	3.48	0.777
CL5-PCB-105	10200	1670	350	33.1	185	64.2	447	80.5
CL5-PCB-114	437	57.7	11	0.865	2.37	3.77	18.2	3.84
CL5-PCB-118	40600	9050	1780	138	312	137	911	284
CL5-PCB-123	558	94.4	19.1	NDR 1.83	13.3	1.86	22.9	7.1
CL5-PCB-126	154	45.9	NDR 9.81	< 0.752	6.8	1.85	13.3	3.58
CL6-PCB-156/157	4900	800	148	12.7	46.9	24.2	317	68
CL6-PCB-167	1950	351	67.3	5.59	18.3	9.74	127	29.9
CL6-PCB-169	< 16.7	< 10.0	< 2.20	< 1.82	< 1.46	< 0.721	< 20.9	< 2.07
CL7-PCB-170	7370	1320	270	20.9	113	80.3	2100	119
CL7-PCB-180/193	17800	3000	616	45.4	240	183	6620	244
CL7-PCB-189	344	56.9	11.1	< 2.34	4.35	4.53	54.5	5.55
% Moisture	73.5	67.4	61.3	45.2	17.3	5.9	39.7	16.4
TEQ (WHO 1998) ND=0	23.9	6.22	0.319	0.0251	0.779	0.221	1.65	0.433
TEQ (WHO 1998) ND=1/2DL	23.9	6.27	0.378	0.072	0.786	0.225	1.76	0.444
TEQ (WHO 2005) ND=0	17.8	5.06	0.0945	0.00686	0.721	0.194	1.4	0.374
TEQ (WHO 2005) ND=1/2DL	18	5.21	0.176	0.0719	0.742	0.205	1.71	0.405

ND represented as "<" with detection limit.
NDR = Peak detected but did not meet quantification criteria.

3.3.5 Organochlorine Pesticides

- **Table 3.7**

A suite of organochlorine pesticides were analyzed from four soil and one sediment sample (see Table 3.7 below) to establish levels of other contaminants in the study area. Most pesticides are synthetic compounds, and many are halogenated, fat soluble and can bio-accumulate in plants and animals. Their presence in living organisms may result in metabolic changes and potentially death.

Table 3.7 Concentrations of organochlorine pesticides in soil and sediment samples (ng/g dry weight), Da Nang, Viet Nam, December 2006.

Analyte	06VN040 Sen Lake Sediment	06VN063 Former Mixing/ Loading Area Soil	06VN075 Former Storage Area Soil	06VN099 Thanh Khe (Site 18) Soil	06VN102 Hai Chau Garden Soil
	ng/g (dry weight basis)				
delta-HCH	NDR 0.019	< 0.0172	NDR 0.050	0.02	0.003
Heptachlor-Epoxide	< 0.0071	< 0.0080	0.02	NDR 0.004	< 0.0003
alpha-Endosulphan	< 0.0636	< 0.0582	< 0.0428	NDR 0.011	< 0.0032
Dieldrin	0.973	< 0.0188	0.876	2.03	0.029
Endrin	< 0.0400	< 0.0206	< 0.174	NDR 0.013	0.003
beta-Endosulphan	< 0.119	< 0.113	< 0.0829	< 0.0161	< 0.0036
Endosulphan-Sulphate	< 0.109	< 0.103	< 0.0759	0.039	NDR 0.005
Endrin-Aldehyde	< 0.0700	< 0.0543	< 0.193	< 0.0092	< 0.0021
Endrin-Ketone	< 0.0188	NDR 0.730	NDR 0.540	NDR 0.008	< 0.0007
Methoxychlor	NQ	< 0.0441	< 0.0322	< 0.0162	NDR 0.004
HCB	0.152	0.155	0.298	0.067	0.019
alpha-HCH	NDR 0.086	NDR 0.016	NDR 0.083	0.05	NDR 0.008
beta-HCH	0.065	0.037	0.127	0.102	0.041
gamma-HCH	0.074	NDR 0.014	0.142	0.023	0.015
HEPTACHLOR	NQ	< 0.0126	NDR 0.410	NDR 0.004	< 0.0005
ALDRIN	2.04	0.034	< 0.0250	0.852	0.004
OXYCHLORDANE	<0.0454	< 0.0335	< 0.0380	< 0.0058	NDR 0.007
t-CHLORDANE	0.858	NDR 0.033	18.7	0.194	0.05
c-CHLORDANE	0.817	0.026	19.9	0.155	0.051
t-NONACHLOR	0.317	0.039	6.32	0.108	0.208
c-NONACHLOR	0.331	NDR 0.034	2.97	0.093	0.06
o,p-DDD	2.67	0.083	0.332	1.52	0.118
p,p-DDD	11.9	0.155	1.6	8.69	0.643
o,p-DDE	1.93	0.069	0.117	0.172	0.032
p,p-DDE	41	0.506	3.01	5.73	1.97
o,p-DDT	NQ	0.131	2.83	0.432	0.431
p,p-DDT	NQ	0.543	12.8	1.96	2.47
MIREX	0.196	NDR 0.010	< 0.0153	0.048	2.22
% Moisture	73.5	17.3	5.9	39.7	16.4

NQ = Not quantifiable.

NDR = Peak detected but did not meet quantification criteria.

Table 3.7 summarizes pesticide levels in one sediment sample and four soil samples collected in December 2006. Reference soil was collected from Hai Chau District (06VN102). Concentrations for many of the pesticides were at, or below detection limits, and only samples with elevated levels are discussed in the following paragraphs.

Soil collected from the former Storage Area (06VN075) had the highest concentrations of 10 different pesticides, compared to the Sen Lake sediment (06VN040), which had the highest concentration of five different pesticides. The least contaminated sample was collected from the former Mixing and Loading Area (06VN063), which was mainly contaminated with low levels of DDD, DDE and DDT.

Dieldrin was detected in four of the five samples with concentrations ranging from below detection (06VN063) to 2.03 ng/g (06VN099). These concentrations are below Canadian Environmental Quality Guidelines for freshwater sediments (2.85 ng/g or ppb); guidelines have not yet been established dieldrin in soils.

HCB (Hexachlorobenzene) was detected in four of the five samples analyzed, with concentrations ranging from 0.019 ng/g (06VN102) to 0.298 ng/g (06VN075). None of these levels exceed Canadian Environmental Quality Guidelines for agricultural soils (0.05 mg/kg or ppm or 50 ng/g (ppb)). Canadian sediment guidelines have not yet been established for HCB.

Chlordanes (both t- and c-chlordane) were detected in all five samples. Lowest concentrations were detected in soil from the former Mixing and Loading Area (06VN063), and highest levels were in found in soil from the former Storage Area (06VN075; 18.7 ng/g for t-chlordane and 19.9 ng/g for c-chlordane) followed by Sen Lake sediment (06VN040; 0.858 ng/g for t-chlordane and 0.817 ng/g for c-chlordane). The Canadian Environmental Quality Guidelines for freshwater sediments (4.50 µg/kg or ppb) was not exceeded for 06VN040; Canadian soil guidelines have not yet been established for chlordane. Lower concentrations of t-nonachlor and c-nonachlor were detected in all five samples, with the highest levels in 06VN075 (6.32 ng/g and 2.97 ng/g, respectively) followed by 06VN040 (0.317 ng/g and 0.331 ng/g, respectively).

Low levels of DDD and DDE were detected in all five samples. DDT was detected in all four soil samples, but not in the sediment sample. The Canadian Guideline for DDD in freshwater sediment is 3.54 ng/g, and was exceeded in Sen Lake (06VN040; 11.9 ng/g). Canadian DDD guidelines have not yet been developed for soils. Similarly, Canadian Guidelines for DDE in freshwater sediments (1.42 ng/g) were exceeded in Sen Lake (06VN040; 1.92 ng/g). The Canadian Guideline for DDT in agricultural soil of 0.7 ng/g was exceeded in soil from the former Storage Area (06VN075; 2.83 ng/g and 12.8 ng/g for o,p-DDT and p,p-DDT respectively) and for p,p-DDT in 06VN099 (1.96 ng/g) and 06VN102 (2.47 ng/g).

Mirex was detected in the Sen Lake sediment (06VN040; 0.196 ng.g), and in two of the soil samples (06VN099; 0.048 ng/g and 06VN102; 2.22 ng/g). Guidelines defining acceptable soil concentrations have not yet been developed for Mirex.

In summary, a range of organochlorine pesticides were detected in the four soil and one sediment sample analyzed, indicating widespread contamination of pesticides throughout the study area. Highest concentrations were generally found in soil from the former Storage Area (06VN075) and in sediment from Sen Lake (06VN040). Levels of some pesticides exceeded Canadian Guidelines for either soils or sediment, where such guidelines existed.

3.3.6 Polycyclic Aromatic Hydrocarbons (PAHs)

- **Table 3.8**

Polycyclic aromatic compounds (PAHs) are generally present in the environment as complex mixtures, largely produced through the combustion of organic matter. Forest fires are natural sources of PAHs and often represent the largest contributor to PAHs in the natural environment. PAHs are ubiquitous in urban settings as a result of their presence in petroleum hydrocarbons and their formation during the combustion of organic materials. An important anthropogenic source in some countries is aluminum smelters that use the Horizontal Stud Söderberg process, but this is not considered an important source in Da Nang.

A study in the US found particles in runoff from six parking lots with coal-tar emulsion sealcoat had a mean concentration of PAHs of 3,500 mg/kg (ppm), 65 times higher than the mean concentration from four unsealed asphalt and cement lots (Van Metre and Mahler 2005). Note that these levels are several orders of magnitude higher than found in any of the Da Nang samples (Table 3.8). Canadian Soil Quality Guidelines to protect against adverse effects to environmental health on agricultural land is 0.1 mg of PAHs per kg of soil (only seven specific PAHs are listed in the guidelines: Benzo[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Dibenz[a,h]anthracene, Indeno[1,2, 3-c,c,d]pyrene, Phenanthrene and Pyrene). This is equivalent to 0.1 µg/g, or 100 ng/g. Levels of selected PAHs from Sen Lake exceeded 100 ng/g (including PAHs not listed in the Canadian Guidelines; see Table 3.8); however, PAH concentrations from other samples were below the 100 ng/g level, with the exception of 06VN099 (Site 18) which had a value of 369 ng/g (ppb) for C4-Naphthalene.

The Hai Chau sample (06VN102) was also analyzed for a range of PAHs (Table 3.8). Of the five soils and sediments analyzed for PAHs, 06VN102 had the highest concentrations for four PAHs, and was second highest for six other PAHs.

Table 3.8 Concentrations of polycyclic aromatic hydrocarbons (PAHs) in soil and sediment samples (ng/g [ppb] dry weight), Da Nang, Viet Nam, December 2006.

Analyte	06VN040 Sen Lake Sediment	06VN063 Former Mixing/ Loading Area Soil	06VN075 Former Storage Area Soil	06VN099 Thanh Khe (Site 18) Soil	06VN102 Hai Chau Garden Soil
	ng/g (dry weight basis)				
Naphthalene	87.5	1.11	1.2	24	4.53
Acenaphthylene	6.43	0.096	NDR 0.139	1.96	2.28
Acenaphthene	21	NDR 0.176	< 0.441	< 0.433	0.817
Fluorene	24.9	< 0.087	< 0.356	3.49	0.42
Phenanthrene	97.8	0.5	2.48	22.9	7.95
Anthracene	20.1	< 0.062	< 0.775	3.66	2.91
Fluoranthene	149	0.42	NDR 3.14	38.7	57.1
Pyrene	192	0.463	1	46.8	65.4
Benz[a]anthracene	53.9	0.182	< 0.184	NDR 24.4	66.4
Chrysene	132	0.655	1.89	40.8	71.2
Benzo[e]pyrene	105	0.456	0.914	36.1	70.1
Benzo[a]pyrene	65.6	0.244	< 0.264	37.2	97.5
Perylene	131	NDR 0.129	< 0.261	8.25	27.8
Dibenz[a,h]anthracene	13.4	< 0.185	< 0.205	6.57	15.1
Indeno[1,2,3-c,d]-pyrene	66.5	0.479	0.513	44.8	70.8
Benzo[g,h,i]perylene	94.6	0.66	0.569	48.6	63
2-Methylnaphthalene	46.1	0.693	0.819	12.7	2.39
1-Methylnaphthalene	18.7	0.494	0.652	5.23	2.51
C1-Naphthalenes	64.9	1.19	1.47	17.9	4.9
C2-Naphthalenes	174	3.41	4.08	38	6.69
C3-Naphthalenes	123	1.52	7.25	39.6	3.7
2,3,5-Trimethylnaphthalene	29.3	NDR 0.193	1.08	8.2	0.75
C4-Naphthalenes	187	1.33	11.4	369	3.73
C1-Fluorenes	86	0.882	8.01	59	2.01
C2-Fluorenes	95.8	0.608	3.26	23	2.23
C3-Fluorenes	211	1.52	15.9	46.2	4.94
C4-Fluorenes	96.5	2.62	21.3	31.1	4.02
Dibenzothiophene	17.1	NDR 0.090	NDR 1.04	3.73	0.504
C1-Dibenzothiophenes	91.8	0.119	8	20.6	1.33
C2-Dibenzothiophenes	433	2.76	32.2	79.4	2.4
C3-Dibenzothiophenes	585	4.53	32.7	108	2.15
C1 Phenanthrenes/Anthracenes	114	0.745	5.89	32.8	7.28
2,6-Dimethylphenanthrene	NDR 15.4	< 0.208	0.529	NDR 3.73	NDR 0.710
1,5/1,7-Dimethylphenanthrene	23.8	NDR 0.255	1.08	7.02	1.1
C2 Phenanthrenes/Anthracenes	182	1.56	7.11	48.1	7.68
C3-Phenanthrenes/Anthracenes	232	2.35	14.7	47.7	6.44
Retene	185	< 0.440	< 1.75	4.19	1.07
C4-Phenanthrenes/Anthracenes	469	5	34.1	92.7	82.1
C1-Fluoranthenes/Pyrenes	178	0.71	1.87	46.4	48.7
C2-Fluoranthenes/Pyrenes	145	0.792	5.58	49.1	30
C3-Fluoranthenes/Pyrenes	50.4	0.947	4.6	20.2	9.2
C4-Fluoranthenes/Pyrenes	6.14	< 0.117	2.72	6.22	2.98
% Moisture	74.9	16.6	4.82	39	15.9

ND represented as "<" with detection limit.

NDR = Peak detected but did not meet quantification criteria.

3.3.7 Volatiles and Hydrocarbons

- **Table 3.9**

One soil sample from the former MLA (06VN063) and one Sen Lake sediment sample (06VN040) were analyzed for volatiles and hydrocarbons. All volatiles were below detection, with the exception of toluene, which was present in both samples and exceeded Canadian Environmental Quality Guidelines for toluene in agricultural soil of 0.1 mg/kg. Extractable hydrocarbons were also detected in both samples (see Table 3.9 below).

Table 3.9 Volatiles and hydrocarbons in soil and sediment samples (mg/kg [ppm] dry weight), Da Nang, Viet Nam, December 2006.

Analyte	Unit	06VN040 Sen Lake Sediment	06VN063 Former Mixing/ Loading Area Soil
Non-Halogenated Volatiles			
Benzene	mg/kg dry wt	<0.005	<0.005
EthylBenzene	mg/kg dry wt	<0.01	<0.01
Toluene	mg/kg dry wt	<0.01	<0.01
Xylenes	mg/kg dry wt	<0.02	<0.02
F1(C6-C10)	mg/kg dry wt	<5	<5
F1-BTEX	mg/kg dry wt	<5	<5
Toluene d8		104	61
Extractable Hydrocarbons			
F2 (C10-C16)	mg/kg dry wt	<5	<5
F3 (C16-C34)	mg/kg dry wt	27	2700
F4 (C34-C50)	mg/kg dry wt	36	2100
2-Bromobenzotrifluoride	%	90	85
Hexatriacontane	%	115	125
Chromatogram to baseline at nC50		NO	NO

Former Mixing and Loading Area, Da Nang Airbase

Photo: Thomas Boivin

3.3.8 Chlorophenolic Compounds

- **Table 3.10**

Chlorophenols were analyzed in three soil and one sediment sample (Table 3.10 below). These compounds were analyzed in response to high levels of octa-dioxin measured in several samples, to determine if the source was from historical use of wood preservatives and other chemicals on the Airbase. Levels were below detection in all samples, with the exception of low levels of 2,4,5-Trichlorophenol in the former MLA soils (06VN063) and in Sen Lake sediments (06VN030). Levels of 2,4,5-Trichlorophenol in former MLA soils (0.287 mg/kg [ppm]; 06VN063) exceeded the Canadian Environmental Quality Guideline for agricultural soil of 0.05 mg/kg. This indicates some historical contamination from use of trichlorophenols at this site.

Table 3.10 Chlorophenolic concentrations in soil and sediment samples (mg/kg [ppm] dry weight), Da Nang, Viet Nam, December 2006.

Analyte	06VN030 Sen Lake Sediment	06VN063 Former Mixing/ Loading Area Soil	06VN075 Former Storage (0-10 cm) Soil	06VN079 Former Storage (10-30 cm) Soil
Phenolics				
Tetrachlorocatechol	<0.0050	<0.0050	<0.060	<0.080
Tetrachloroguaiacol	<0.0050	<0.0050	<0.050	<0.050
3,4,5-Trichlorocatechol	<0.0050	<0.0050	<0.030	<0.0050
3,4,5-Trichloroguaiacol	<0.0050	<0.0050	<0.0050	<0.0050
2,3,4-Trichlorophenol	<0.0020	<0.0020	<0.20	<5.0
2,3,5-Trichlorophenol	<0.0020	<0.0020	<0.0020	<0.020
2,3,6-Trichlorophenol	<0.0050	<0.0030	<0.60	<0.10
2,4,5-Trichlorophenol	0.0043	0.287	<3.0	<9.0
2,4,6-Trichlorophenol	<0.0020	0.0113	<1.0	<2.0
2,3,4,5-Tetrachlorophenol	<0.0020	<0.0020	<0.40	<0.30
2,3,4,6-Tetrachlorophenol	<0.0020	<0.0020	<0.40	<0.080
2,3,5,6-Tetrachlorophenol	<0.0020	<0.0020	<0.40	<0.30
Pentachlorophenol	<0.0020	<0.0020	<0.40	<0.20

3.3.9 Heavy Metals

- **Table 3.11**

A sediment core sample from Sen Lake was fractionated into different depth strata, with each stratum analyzed for a suite of metals (see Table 3.11 below). Highest concentrations of metals were generally detected in the top 2 cm of the core. Of particular note were elevated levels of arsenic in the 0- to 2-cm fraction (1,230 mg/kg [ppm]), which declined with depth (180 mg/kg at 2 to 4 cm; and 15.3 mg/kg at 4 to 6 cm). These levels exceed both Canadian Environmental Quality Guidelines for freshwater sediments (5.9 mg/kg) and agricultural soils (12 mg/kg). Lead and mercury were also elevated in the 0- to 2-cm and 2- to 4-cm fractions. Levels of lead in the top two strata were 169 mg/kg and 46 mg/kg, respectively, compared to Canadian Environmental Quality

Photo: Thomas Boivin

Guidelines for freshwater sediments (35 mg/kg) and agricultural soils (70 mg/kg). Mercury concentrations in the top two strata were 0.63 mg/kg and 0.167 mg/kg respectively, compared to Canadian Environmental Quality Guidelines for freshwater sediment (0.17 mg/kg) and agricultural soil (6.6 mg/kg).

Tin was detected (13 mg/kg) in the top sediment stratum at a concentration that exceeds Canadian guidelines for agricultural use (5 mg/kg). Vanadium was detected in all strata at levels below Canadian guidelines for agricultural use (130 mg/kg). Zinc was also detected in all strata, and exceeded Canadian guidelines for agricultural use (200 mg/kg) in the top stratum (2,300 mg/kg).

Antimony was detected only in the top stratum at a concentration of 23 mg/kg, which is higher than the Canadian guideline for agricultural soil (20 mg/kg). Similarly, cadmium was detected in the top stratum (0 to 2 cm) at a concentration that exceeded guidelines (12.8 mg/kg vs. Canadian guideline for agricultural soil of 1.4 mg/kg). Cobalt and copper were both detected in the upper sediment strata, however levels were below Canadian guidelines for agricultural soils.

Table 3.11 Metal concentrations (mg/kg [ppm] dry weight) in Sen Lake sediment core sample, Da Nang, Viet Nam, December 2006.

Sample ID	Location	Depth	pH	Antimony (Sb)	Arsenic (As)	Barium (Ba)	Beryllium (Be)	Cadmium (Cd)	Chromium (Cr)	Cobalt (Co)	Copper (Cu)
06VN062-1	Core 1	0-2 cm	5.42	23	1230	202	<1.0	12.8	62.4	10.9	52.9
06VN062-2	Core 2	2-4 cm	5.02	<10	180	94.1	<0.50	1.30	31.3	4.0	15.1
06VN062-3	Core 3	4-6 cm	4.44	<10	15.3	57.4	<0.50	<0.50	14.2	<2.0	6.2
06VN062-4	Core 4	6-8 cm	4.58	<10	5.9	51.1	<0.50	<0.50	11.3	<2.0	4.6
06VN062-5	Core 5	8-10 cm	4.75	<10	<5.0	59.4	<0.50	<0.50	10.4	<2.0	3.5
06VN062-6	Core 6	10-14 cm	4.24	<10	<5.0	81.9	<0.50	<0.50	13.9	2.8	5.4
06VN062-11	Core 11	30-32 cm	5.08	<10	<5.0	79.8	0.56	<0.50	16.3	2.5	6.4

Table 3.11 (Cont'd.)

Sample ID	Depth	Lead (Pb)	Mercury (Hg)	Molybdenum (Mo)	Nickel (Ni)	Selenium (Se)	Silver (Ag)	Thallium (Tl)	Tin (Sn)	Vanadium (V)	Zinc (Zn)
06VN062-1	0-2 cm	169	0.630	<8.0	25.0	<4.0	<4.0	<1.0	13.0	57.2	2300
06VN062-2	2-4 cm	46	0.167	<4.0	10.7	<5.0	<2.0	<1.0	<5.0	28.7	265
06VN062-3	4-6 cm	<30	0.0595	<4.0	<5.0	<2.0	<2.0	<1.0	<5.0	17.0	24.6
06VN062-4	6-8 cm	<30	0.0471	<4.0	<5.0	<3.0	<2.0	<1.0	<5.0	12.8	15.5
06VN062-5	8-10 cm	<30	0.0293	<4.0	<5.0	<2.0	<2.0	<1.0	<5.0	13.2	10.4
06VN062-6	10-14 cm	<30	0.0359	<4.0	<5.0	<2.0	<2.0	<1.0	<5.0	16.0	13.5
06VN062-11	30-32 cm	<30	0.0384	<4.0	5.9	<4.0	<2.0	<1.0	<5.0	21.8	17.0

3.4 SUMMARY DISCUSSION — SOIL AND SEDIMENT

- **Figure 3.5; Figure 3.6**

Agent Orange is clearly responsible for the high levels of TCDD in soil and sediment samples on Da Nang Airbase recorded in this study (Table 3.1, Figure 3.1). The former Mixing and Loading Area and former Storage Area, in addition to areas situated between these zones, exhibited extremely high TCDD levels in soil. When compared to guideline levels throughout the world (Table 1.5), it is clear these aforementioned regions of the Da Nang Airbase greatly exceed all guidelines presented by significant margins. Guideline levels set in Canada, the US EPA and Finland are the most stringent.

Soils from areas on the Airbase that were used to store and transfer herbicides are highly contaminated and are incompatible for 'any' human/environmental use. Of particular concern is potential contact with contaminated soils by people living and working on the Airbase, and the potential for transport of contaminants from hotspots to areas outside the Airbase through erosion and particulate transport.

For other areas on the Da Nang Airbase (i.e., perimeter areas, Table 3.2, Figure 3.2) and Da Nang City (Table 3.3, Figure 3.3), lower levels of dioxin contamination were recorded. However, even though they were physically removed from the most contaminated locations (Table 3.1), soils in these areas constitute environmental and human health risks when reviewed in the context of global guidelines (Table 1.5).

There is no doubt that historical use of the Da Nang Airbase by the US military and their Operation Ranch Hand contributed directly to the dioxin contamination of soils in those areas of exceedingly high TCDD levels (Table 3.1 and Table 3.2).

Bottom sediments in waterbodies on the Da Nang Airbase, particularly Sen Lake (Table 3.4, Figure 3.4), exhibited high levels of TCDD as a result of direct drainage and sediment transport from the former Mixing and Loading Area and former Storage Area. For sediments, Sen Lake had the highest TCDD and TEQ levels, all clearly the result of Agent Orange, given the high percentage of TCDD responsibility for TEQ. Lakes B and C had lower levels of dioxin, relative to Sen Lake.

Sediment data, when compared to guidelines from a number of countries/ jurisdictions (Table 1.6), reveals that the vast majority of the sampling stations exceeded international guidelines, some by very significant margins. Soil and bottom sediment dioxin data characterize specific areas on the Da Nang Airbase as dioxin Hot Spots; these include the former Mixing and Loading Area, former Storage Area, and Sen Lake. These areas constitute the most contaminated regions related to Agent Orange use/storage and the transport of dioxin residues into water bodies. There is considerable potential for transport of dioxin residues from the Airbase proper, to Da Nang City.

Photo: Lady Borton

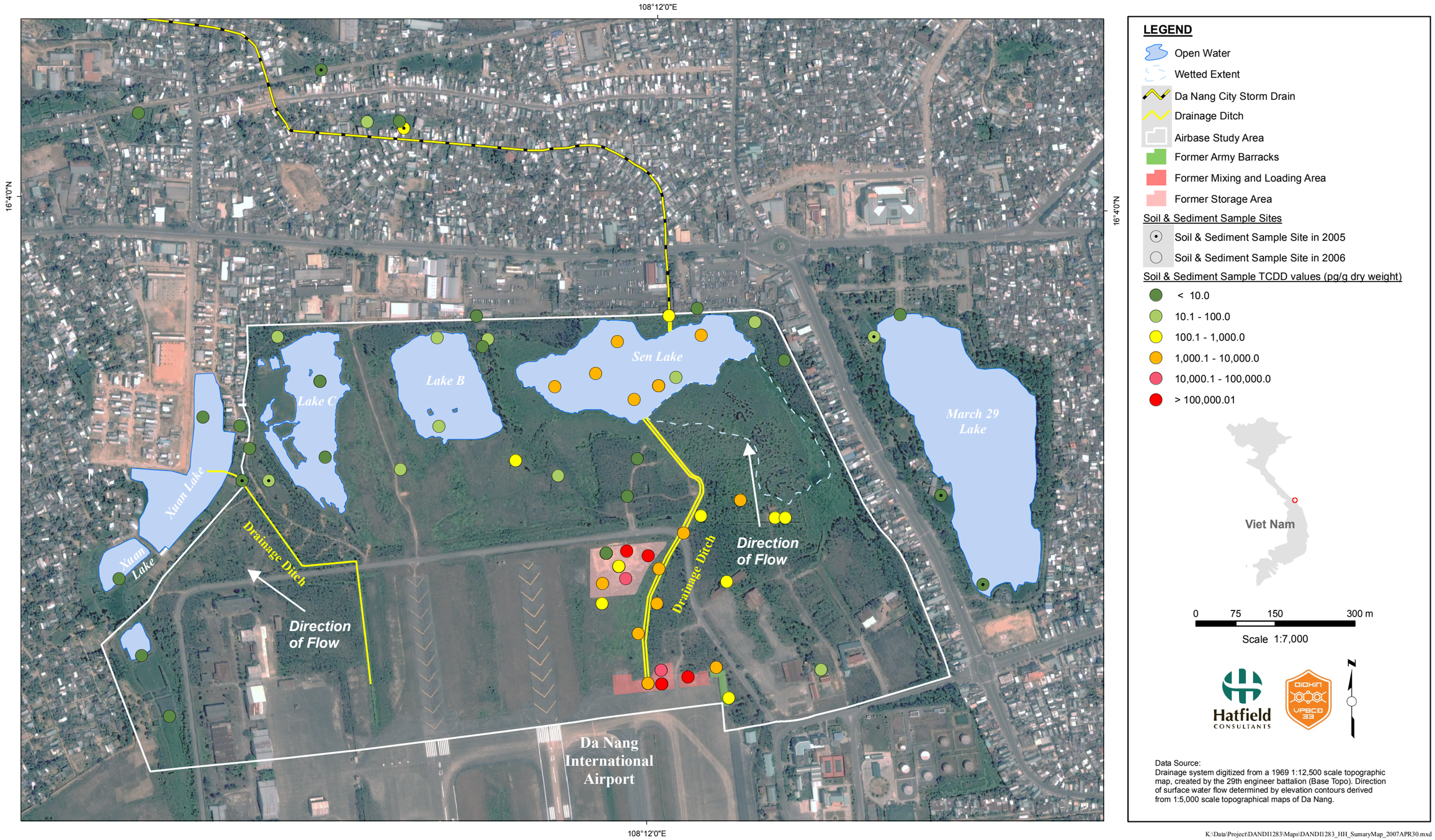
In the Hatfield/10-80 (2005) study of dioxin concentrations in Da Nang City (downstream of the Airbase) the highest concentration of TCDD was recorded at Site 18 in Thanh Khe District; a level of 227 pg/g TCDD and a TEQ of 269 pg/g was recorded. For that sample, 84% of the TEQ value was due to the toxicity contribution of TCDD. This site is equivalent to samples 06VN099 and 06VN100 in the current study. Hatfield/10-80 (2005) were not permitted to collect soils on the actual Airbase during the 2005 survey. Soil dioxin levels in Thanh Khe District (Site 18) in 2006 were significantly lower (36.1 ppt TEQ; 72% TCDD at site 06VN099), suggesting inter-year variation in levels recorded in this area. Monitoring of levels in Thanh Khe District is recommended in future, to ensure that residents do not continue to be exposed to high TCDD levels in soils.

Levels in March 29 Lake in December 2006 were considerably lower compared to samples collected in 2005 (maximum 22.6 ppt TCDD; 154 ppt TEQ); a similar trend was seen at Xuan Lake in 2005 (maximum 11.7 ppt TCDD; 32.9 ppt TEQ) (Hatfield/10-80 2005). Xuan Lake has been recently dredged as part of a new development in Da Nang City, and this area is slated for future use as a recreational area. Contaminated sediments may be therefore have been removed from the site, but the exact location of their disposal is unknown.

In addition to dioxins and furans, a subsample of soils and sediments were analyzed for a range of other physical and chemical variables including: total organic carbon, particle size analysis, PCBs, organochlorine pesticides, PAHs, volatiles and hydrocarbons, chlorophenolic compounds and heavy metals (see Sections 3.3.1 to 3.3.9 and Table 3.5 to Table 3.11). Exceedances relative to Canadian Environmental Quality Guidelines for sediments and agricultural soils were observed for numerous variables. Highest levels of PCBs and PAHs were observed in Sen Lake sediments, consistent with the observation that this basin is the primary recipient of drainage from the most contaminated areas of the Airbase (former Storage Area and former Mixing and Loading Area). Although a range of contaminants other than dioxins and furans were detected, soil and sediment data presented above are consistent with Agent Orange being the primary source of 2,3,7,8-TCDD contamination at the Da Nang airbase and surrounding areas. Levels of other contaminants are consistent with the use of a variety of fuels, solvents, pesticides and other chemicals at a military airbase and in the surrounding areas.

A summary of TCDD values for all soil and sediment samples analyzed is provided in Figure 3.5. Interpolated TCDD values for the Da Nang Airbase, providing estimated concentrations throughout the study area, are provided in Figure 3.6.

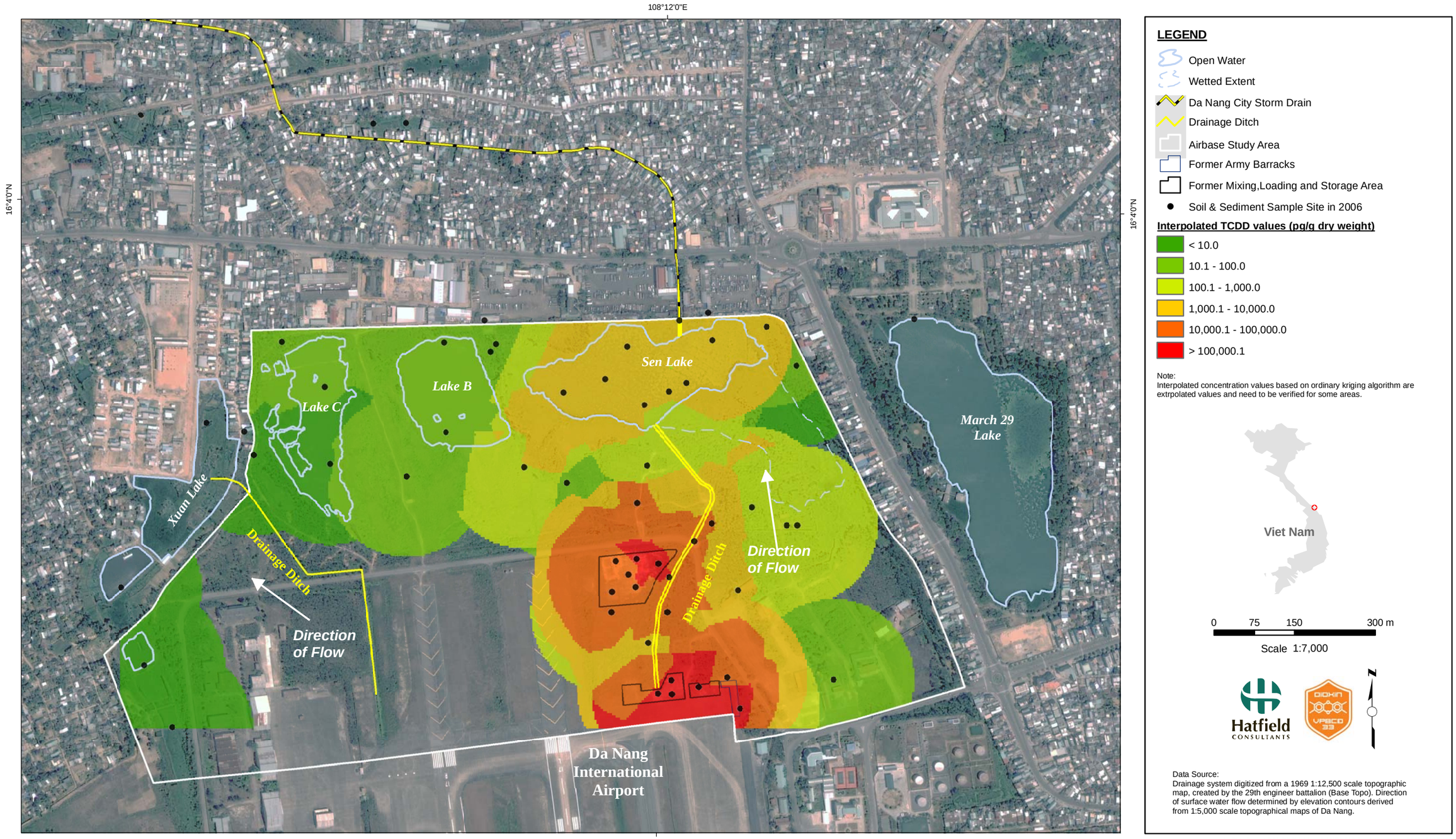
Figure 3.5 Summary of TCDD values (pg/g dry weight) for soil and sediment samples analyzed in Da Nang, Viet Nam, 2005 and 2006.



Data Source:
Drainage system digitized from a 1969 1:12,500 scale topographic map, created by the 29th engineer battalion (Base Topo). Direction of surface water flow determined by elevation contours derived from 1:5,000 scale topographical maps of Da Nang.

K:\Data\Project\DAND11283\Maps\DAND11283_HH_SumaryMap_2007APR30.mxd

Figure 3.6 Summary of interpolated TCDD values (pg/g dry weight) for the Da Nang Airbase study area, Viet Nam, 2006.



3.5 FISH AND VEGETATION — DIOXINS/FURANS AND PCBs

3.5.1 Fish

- **Figure 3.7, Table 3.12, Table 3.13**

Dioxin/furan contamination levels in fish tissues were elevated on all Airbase lakes and fishponds, and were well above Health Canada consumption guidelines (15 ppt in muscle and 30 ppt in fat/liver). Sen Lake, Lake B and Lake C are separate waterbodies during the dry season, but are connected into one large wetland area during the rainy season. Highest levels were recorded in Tilapia sampled from Sen Lake, followed by Lake B and West Airbase fishponds. Lake C carp tissue TEQs were low, and were similar to those sampled from Xuan Lake fish tissues. Data are summarized in Table 3.12, and are briefly discussed below.

Sen Lake (Lake A)

Tilapia fat (06VN216; 3,120 ppt TEQ) and muscle (06VN217; 34.5 ppt TEQ) from Sen Lake were significantly contaminated with dioxins and furans. In both fat and muscle tissues, TCDD (3,000 ppt and 33.2 ppt, respectively) accounted for 96% of the total TEQ, demonstrating Agent Orange was the source of the contamination. The dioxin levels and TEQ in fish fat from Sen Lake is the highest recorded in Viet Nam to date.

Tilapia Sampled from Sen Lake

Photo: Thomas Boivin

Lake B

TEQs in Tilapia fat (06VN232; 72.6 ppt) and muscle (06VN233; 0.967 ppt) were lower than in Sen Lake, but were also largely (>90%) derived from TCDD indicating Agent Orange origin. TEQs in Tilapia tissues from Lake B are comparable with those found in the West Airbase fishpond, south of Xuan Ha Lake. Muscle levels were within acceptable standards, but fish fat was significantly elevated compared to Canadian and international consumption guidelines.

Lake C

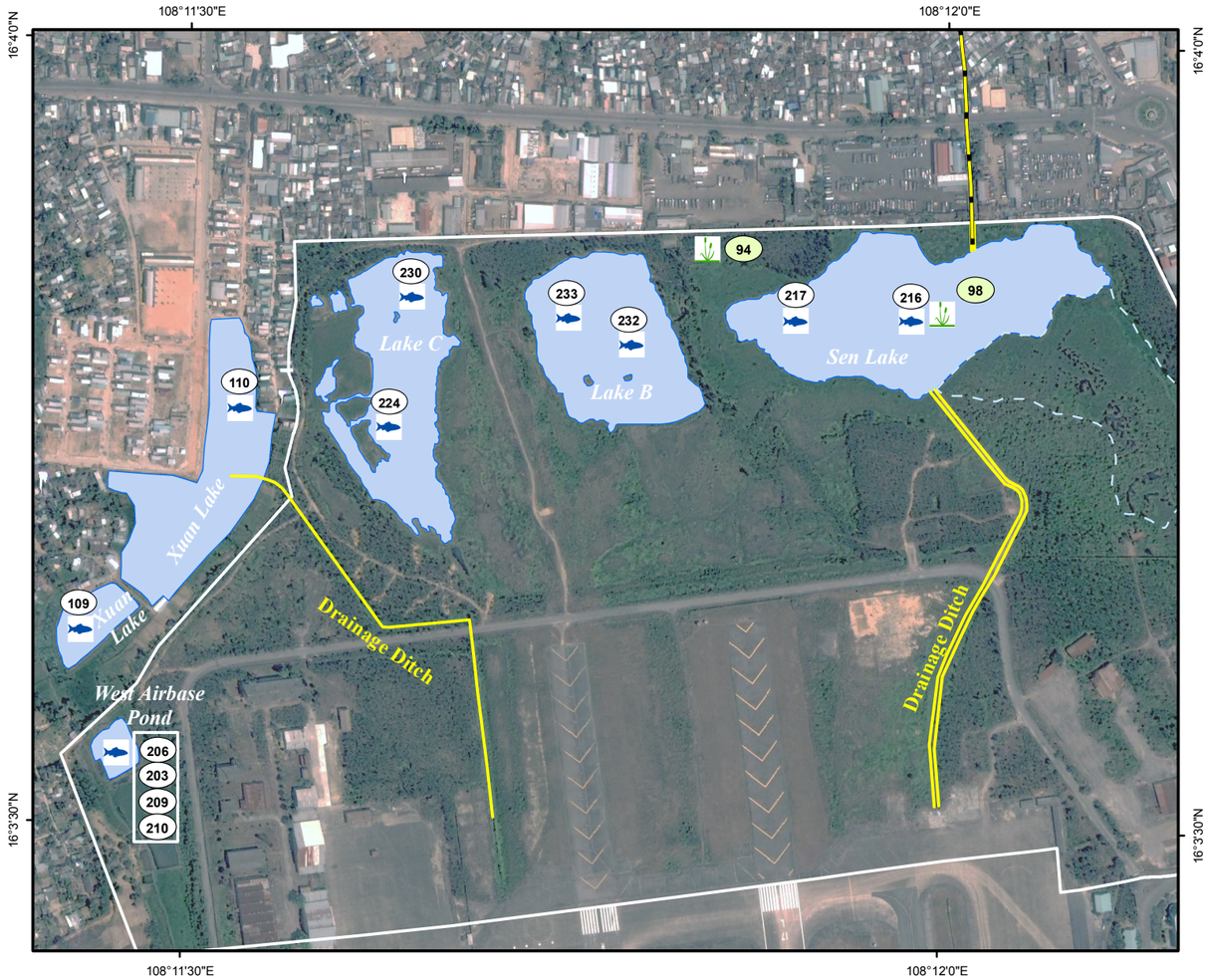
TEQs for carp fat (06VN224; 8.22 ppt) and muscle (06VN230; 0.22 ppt) were lower than both Sen Lake and Lake B, but similar to fish tissues found in Xuan Ha Lake.

Table 3.12 Concentrations of polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) in fish tissue and vegetation samples (pg/g [ppt] wet weight), Da Nang, Viet Nam, December 2006.

Sample ID	Location	Common Name	Latin Name	Sample Type	PCDD (pg/g wet weight)						PCDF (pg/g wet weight)						Total TEQ (WHO 1998) ND=1/2DL	Total TEQ (WHO 2005) ND=1/2DL	TCDD as % of TEQ (2005)
					2,3,7,8-TCDD	Total T4CDD	Total P5CDD	Total H6CDD	Total H7CDD	Total O8CDD	2,3,7,8-TCDF	Total T4CDF	Total P5CDF	Total H6CDF	Total H7CDF	Total O8CDF			
Fish																			
06VN216	Sen Lake	Nile Tilapia	*Oreochromis niloticus niloticus*	Fish Fat	3000	3000	17.5	7.74	10.9	29	1060	1080	19.6	3.96	1.99	1.04	3120	3120	96
06VN217	Sen Lake	Nile Tilapia	*Oreochromis niloticus niloticus*	Fish Muscle	33.2	33.2	0.12	< 0.0497	< 0.0497	0.464	11.6	11.7	0.069	0.055	< 0.0497	< 0.0497	34.5	34.5	96
06VN232	Lake B	Nile Tilapia	*Oreochromis niloticus niloticus*	Fish Fat	68.4	69.7	1.69	0.631	0.855	3.36	27.1	34.6	3.32	< 0.114	< 0.114	0.2	72.6	72.6	94
06VN233	Lake B	Nile Tilapia	*Oreochromis niloticus niloticus*	Fish Muscle	0.898	0.898	< 0.0501	< 0.0501	0.072	0.167	0.349	0.349	0.067	< 0.0501	< 0.0501	< 0.0501	0.98	0.967	93
06VN224	Lake C	Carp	*Osteocheilus melanopleurus*	Fish Fat	6.61	8.81	1.54	0.749	1.19	4.08	6.01	23	7.35	0.753	< 0.0517	NDR 0.058	8.47	8.22	80
06VN230	Lake C	Carp	*Osteocheilus melanopleurus*	Fish Muscle	0.163	0.163	< 0.0500	< 0.0500	< 0.0500	NDR 0.067	0.056	0.056	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.226	0.22	74
06VN206	Pond W Airbase	Nile Tilapia	*Oreochromis niloticus niloticus*	Fish Fat	45.8	50.2	6.42	6.9	5.91	13.7	36.1	56.9	22	2.41	0.305	NDR 0.118	57.5	56.1	82
06VN203	Pond W Airbase	Nile Tilapia	*Oreochromis niloticus niloticus*	Fish Muscle	1.14	1.14	0.1	< 0.0492	< 0.0492	0.354	0.82	1.36	0.231	< 0.0492	< 0.0492	NDR 0.052	1.42	1.38	83
06VN209	Pond W Airbase	Catfish (Whitespotted clarias)	*Clarias fuscus*	Fish Fat	33.6	34.7	8.19	32.8	63	112	7.43	13.9	34.8	28.6	10.6	0.89	56.5	53	63
06VN210	Pond W Airbase	Catfish (Whitespotted clarias)	*Clarias fuscus*	Fish Muscle	0.943	0.943	0.198	0.599	1.24	2.3	0.155	0.155	0.525	0.538	0.196	0.091	1.47	1.39	68
06VN110	Xuan Lake	Snakehead Murrell	*Channa striata*	Fish Liver	3.21	3.21	1.51	5.9	21	58.5	0.578	0.578	2.61	1.81	0.881	0.173	6.75	6.37	50
06VN109	Xuan Lake	Snakehead Murrell	*Channa striata*	Fish Muscle	0.171	0.171	< 0.0480	< 0.0480	< 0.0480	0.178	< 0.0480	< 0.0480	< 0.0480	< 0.0480	< 0.0480	< 0.0480	0.228	0.223	77
Vegetation																			
06VN094	Sen Lake Garden	Sweet Potato	*Ipomoea*	Sweet Potato Root	NDR 0.280	0.057	0.343	2.41	18.2	116	0.08	0.08	0.379	0.778	1.36	1.48	0.324	0.332	42
06VN098	Sen Lake	Lotus	*Lotus*	Lotus Stem	6.91	7.84	0.454	2.88	13.5	70.2	1.41	3.28	1.9	1.54	2.18	1.7	7.25	7.25	95

ND = Not detected; for "Total TEQ" calculations, if ND, 1/2 detection level was used.
NDR = Peak detected but did not meet quantification criteria; for 'Total TEQ' calculations, NDR was treated as ND.

Figure 3.7 TCDD and TEQ (pg/g wet weight) in fish and vegetation samples, analyzed in Da Nang, Viet Nam, December 2006.



LEGEND

- Open Water
- Wetted Extent
- Da Nang City Storm Drain
- Drainage Ditch
- Airbase Study Area

Sample Sites

- Vegetation Sampling Site
- Fish Sampling Site

Hatfield CONSULTANTS

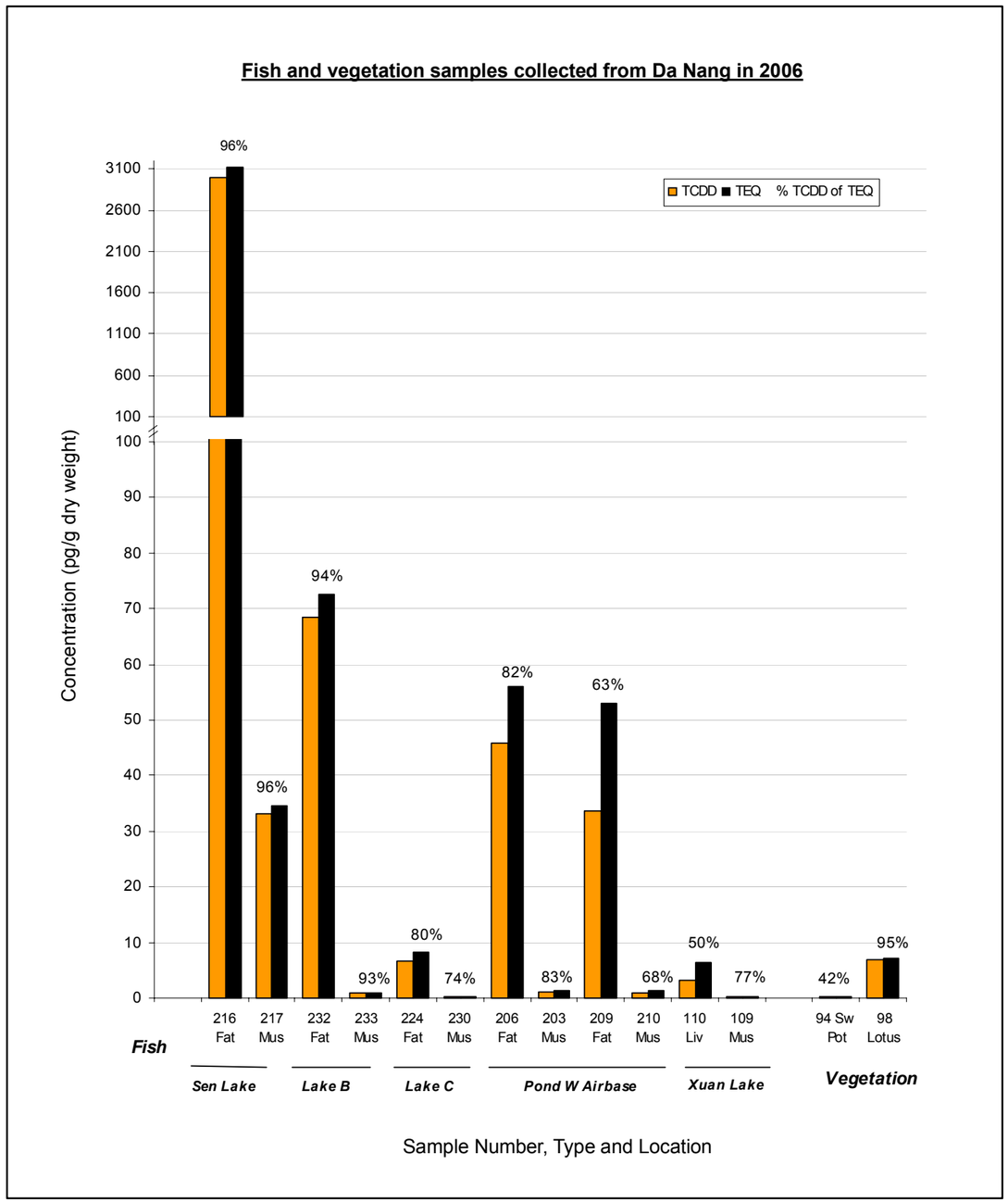
DIOXIN VPBCD 33

N

0 130 260 m

Scale 1:7,000

Data Source: QuickBird (April 21, 2002)
Projection: UTM Zone 49 North
Datum: WGS 84



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West Airbase Fishponds

TEQs were similar, and above acceptable consumption limits, in Tilapia fat (06VN206; 56.1 ppt) and catfish fat (06VN209; 53 ppt); lower TEQs were recorded in fish muscle samples (Tilapia 06VN203; 1.38 ppt; and catfish 06VN210; 1.39 ppt). These levels are comparable to those recorded at Lake B and are above acceptable consumption limits for fish fat.

Xuan Lake (Ho Xuan Ha)

TEQs for snakehead liver (06VN110; 6.37 ppt) and muscle (06VN109; 0.223 ppt) were low, and were comparable to those reported for Lake C.

PCBs in Fish Tissues

High PCB concentrations were recorded in Tilapia tissues sampled from Sen Lake (Table 3.13). Fat tissues (06VN216) were significantly higher than in muscle (06VN217), especially PCB-118 (79,700 ppt) and PCB180/193 (33,200 ppt). PCB levels in fish reflect the high levels of these compounds in Sen Lake sediments (06VN040), and suggest significant bioaccumulation of these compounds.

Table 3.13 Concentrations of polychlorinated biphenyls (PCBs) in fish tissues (pg/g [ppt] wet weight), Da Nang, Viet Nam, December 2006.

PCB/TEQ Values	06VN216 Sen Lake Nile Tilapia Fish Fat	06VN217 Sen Lake Nile Tilapia Fish Muscle
	pg/g (wet weight basis)	
CL4-PCB-77	3070	38.8
CL4-PCB-81	144	NDR 1.79
CL5-PCB-105	19200	261
CL5-PCB-114	947	13
CL5-PCB-118	79700	1090
CL5-PCB-123	1160	15.7
CL5-PCB-126	142	1.97
CL6-PCB-156/157	6270	87.7
CL6-PCB-167	3170	44
CL6-PCB-169	< 25.0	< 0.350
CL7-PCB-170	12400	194
CL7-PCB-180/193	33200	578
CL7-PCB-189	301	4.17
% Lipid	41.9	0.65
TEQ (WHO 1998) ND=0	28.2	0.389
TEQ (WHO 1998) ND=1/2DL	28.3	0.391
TEQ (WHO 2005) ND=0	17.9	0.246
TEQ (WHO 2005) ND=1/2DL	18.2	0.252

ND represented as "<" with detection limit.

NDR = Peak detected but did not meet quantification criteria.

3.5.2 Vegetation

- **Figure 3.7, Table 3.12**

Two vegetation samples were analyzed for dioxins and furans; both originated from the north end of the airbase, between Sen Lake and Lake B (Figure 3.7). TEQs for a sweet potato root (06VN094) and lotus stem (06VN098) were 0.332 ppt and 7.25 ppt, respectively. A TCDD peak was detected for the sweet potato sample, but did not meet quantification criteria; however, TCDD contributed 95% of the calculated TEQ for the lotus stem sample.

3.6 SUMMARY DISCUSSION — FISH AND VEGETATION

Sen Lake had the highest level of dioxin contamination in bottom sediments of all water bodies sampled, both inside and outside of Da Nang Airbase. Consequently, fish captured in Sen Lake also contained the highest level of TCDD recorded in biological tissues (fat 3,000 pg/g; muscle 33.2 pg/g; Table 3.12).

Health Canada has specific guidelines for consumable tissues. If, for example, fat/liver tissue exceeds a TEQ level of 30 pg/g, an assessment of consumption and probable restrictions on intake would be determined for the species of fish involved. If muscle tissue exceeds 15 pg/g TEQ, similar assessments/restrictions would be required.

Given the data presented above, Sen Lake, Lake B and West Airbase Fishponds should be assigned total fishing/consumption bans. Lake C and Xuan Lake do not appear to be highly contaminated; however, this may also be attributed to species differences. Tilapia were not captured/analyzed from Lake C or Xuan Ha Lake, buy may be present in these waterbodies.

Both sweet potato root and lotus stem exhibited low levels of dioxins. The levels detected in lotus stem may have resulted from residual sediment dioxin concentrations on the outer surface of the plant tissues, as a result of extracting the plants from contaminated Sen Lake. Exposure to contaminated sediments in Sen Lake should be avoided at all times, and therefore lotus stem/roots should not be harvested or consumed from this waterbody.

Data for foodstuffs collected throughout Viet Nam in the mid-1980s were summarized by Schecter *et al*. (1989, 1990), Quynh (1994) and Cau *et al*. (1994). The highest levels of TCDD reported from southern Viet Nam in these papers were for turtle ovaries (250 pg/g), turtle liver (88.0 pg/g), turtle gall bladder (39.0 pg/g) and snake (11.58 pg/g). Other TCDD values reported in these investigations were relatively low; many of them were lower than values determined in foodstuffs from the A Luoi District by Hatfield/10-80 (1998, 2000).

Dai *et al*. (1994b) and Cau *et al*. (1994) reported that by 1998, dioxins had decreased significantly in southern Viet Nam and levels in foodstuffs were considered comparable to those for other nations. However, both authors offered

the generalization that residual dioxin contamination nonetheless remained a threat to human health in Viet Nam. Our data confirm extremely elevated levels of TCDD for fish from Sen Lake, West Airbase fishponds, and potentially in other waterbodies in the vicinity of Da Nang Airbase; these fish are consumed by some local residents, which poses potential health concerns.

3.7 HUMAN BLOOD AND BREAST MILK — DIOXINS/FURANS AND PCBs

Dioxins and furans were analyzed from a total of 55 donors in Da Nang, including highly exposed groups working on and/or consuming fish collected from Sen Lake (n=11) and West Airbase fishponds (n=11). Comparative data for the general Da Nang population were obtained from a random sample of potentially exposed area residents in Thanh Khe District (n=16) and Hai Chau District (n=12; reference area residents). An additional five blood samples were analyzed from donors from Thanh Khe and Hai Chau Districts (individuals not randomly sampled). PCBs were also analyzed for a subsample of donors from all sites. All blood TCDD/TEQ data are provided on a lipid normalized basis.

Table 3.14 through Table 3.22 summarize dioxin/furan and PCB levels in human blood samples collected from various locations on and in the vicinity of the Da Nang Airbase. Samples collected from Hai Chau District are considered reference.

3.7.1 Sen Lake (A) Workers

- **Figure 3.8, Table 3.14**

Sen Lake Workers had the highest blood dioxin levels of all groups sampled. These individuals come into direct contact with Sen Lake through harvest and consumption of fish, lotus, and other biological materials originating on the Airbase, as well as from direct contact with soils and sediments. Most individuals sampled work on the Airbase during the peak lotus harvesting season, for two to three months in the spring of each year. However, at least two of the individuals sampled work regularly at the north end of the Airbase, harvesting fish and other vegetables from both Sen Lake and Lake B.

The highest TCDD level was recorded in a 42-year-old male who has lived on the base and consumed fish from the Sen lakes since 1990 (06VNB002). His TCDD level was 1,150 ppt (1,220 ppt TEQ; 94% TCDD), indicating Agent Orange as the source of the TCDD contamination. This is the highest level of dioxin ever recorded in an individual in Viet Nam to date. Immediate family members of this individual had the second and third highest TCDD levels of all people sampled (567 ppt and 430 ppt, respectively; both 86% TCDD in the TEQ); both these individuals work on the Sen Lake ecosystem at various times of the year, and regularly consume fish captured in the Airbase lakes.

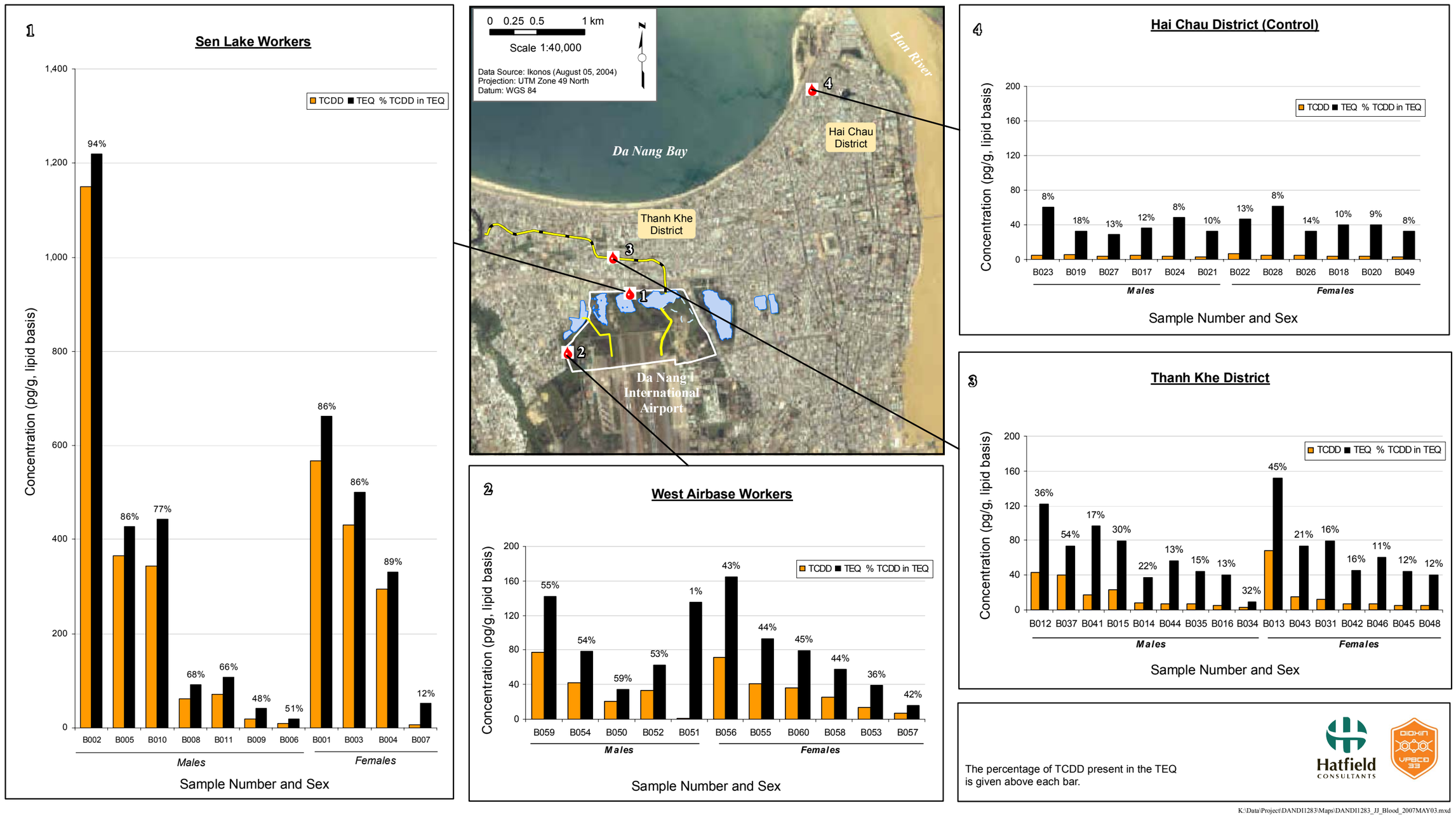
Table 3.14 Concentrations of polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) in human blood of Sen Lake Workers (pg/g [ppt], lipid basis), Da Nang, Viet Nam, December 2006.

Sample ID	Sex	Age	PCDD (pg/g lipid basis)						PCDF (pg/g lipid basis)						% Lipid	TEQ (WHO 1998) ND=1/2DL	TEQ (WHO 2005) ND=1/2DL	TCDD as % of TEQ (2005)
			2,3,7,8-TCDD	Total T4CDD	Total P5CDD	Total H6CDD	Total H7CDD	Total O8CDD	2,3,7,8-TCDF	Total T4CDF	Total P5CDF	Total H6CDF	Total H7CDF	Total O8CDF				
06VNB001	F	72	567	567	45.7	153	92.5	688	< 1.06	< 1.06	49.3	173	88.3	1.42	0.28	671	662	86
06VNB002	M	42	1150	1150	38.2	99.2	94.9	864	22.3	22.3	29.4	103	93.5	NDR 2.48	0.28	1230	1220	94
06VNB003	F	44	430	430	30.7	116	155	1120	10.4	10.4	33.4	159	82.2	3.01	0.37	506	501	86
06VNB004	F	17	294	294	17.6	58.7	50.9	425	7.4	7.4	15.7	71.2	74	3.7	0.23	334	331	89
06VNB005	M	54	366	366	23.8	63.3	108	550	37.7	37.7	34.5	147	129	6.06	0.22	433	427	86
06VNB006	M	28	9.42	9.42	< 1.09	17.4	42.4	267	2.17	2.17	11.6	31.1	42.4	4.71	0.28	20.1	18.4	51
06VNB007	F	52	6.36	6.36	16.2	66.4	94.7	601	NDR 1.27	< 1.27	21.6	145	101	NDR 9.22	0.31	56.4	52.2	12
06VNB008	M	20	62.1	62.1	11.1	34.1	47	725	NDR 3.95	< 1.44	16.5	77.2	101	NDR 6.82	0.28	94.2	91.1	68
06VNB009	M	24	19.7	19.7	< 1.97	30.6	59.7	486	NDR 4.44	< 1.97	19.7	96.1	81.8	NDR 4.93	0.21	44.8	40.9	48
06VNB010	M	22	343	343	39.8	170	103	1780	< 2.65	< 2.65	49.7	242	349	14.6	0.15	453	444	77
06VNB011	M	23	70.8	70.8	11.2	55.8	62.2	802	< 1.72	< 1.72	21	110	94.4	3.86	0.23	111	107	66

ND = Not detected; for "Total TEQ" calculations, if ND, 1/2 detection level was used.

NDR = Peak detected but did not meet quantification criteria; for 'Total TEQ' calculations, NDR was treated as ND.

Figure 3.8 TCDD and Total TEQ (pg/g [ppt], lipid basis) for individual human blood, Da Nang, Viet Nam, December 2006.



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Residents of Thanh Khe District, Da Nang

Photo: Thomas Boivin

Remaining Sen Lake Workers' TCDD blood levels ranged from a low of 6.36 ppt to a high of 366 ppt; percentage of TCDD to TEQ ranged from 12% to 89%, respectively. Other dioxin congeners were present in all blood samples from Sen Lake Workers, but TCDD was the primary contributor to the Total TEQ (with the exception of 06VNB007). Exposure to Agent Orange and the transport of TCDD through the food chain are the reasons for such high levels of contamination in these individuals.

3.7.2 West Airbase Workers

- **Figure 3.8, Table 3.15**

West Airbase Workers also had elevated TCDD levels, but these were lower than Sen Lake Workers. Maximum TCDD level was 76.2 ppt (142 ppt TEQ; 55% TCDD) and a minimum of <1.62 ppt (135 ppt TEQ; <1% TCDD). Other dioxin congeners were present in all blood samples from West Airbase Workers, particularly 08CDD, which contributed significantly to the Total TEQ. Consumption of fish from the West Airbase Ponds is the likely source of contamination recorded in these individuals.

3.7.3 Thanh Khe District

- **Figure 3.8, Table 3.16**

Dioxins and furans were recorded in all individuals sampled from Thanh Khe District, but at lower levels than recorded from Sen Lake Workers or West Airbase Workers. Blood TCDD levels in Thanh Khe District residents ranged from 4.8 ppt to 68.1 ppt (corresponding TEQs were 40.7 ppt and 152 ppt, respectively). The percentage of TCDD in the TEQ was relatively low (maximum 54%), indicating that sources other than Agent Orange may be influencing the total TEQ of individuals sampled.

Table 3.15 Concentrations of polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) in human blood of West Airbase Workers (pg/g [ppt], lipid basis), Da Nang, Viet Nam, December 2006.

Sample ID	Sex	Age	PCDD (pg/g lipid basis)						PCDF (pg/g lipid basis)						% Lipid	TEQ (WHO 1998) ND=1/2DL	TEQ (WHO 2005) ND=1/2DL	TCDD as % of TEQ (2005)
			2,3,7,8-TCDD	Total T4CDD	Total P5CDD	Total H6CDD	Total H7CDD	Total O8CDD	2,3,7,8-TCDF	Total T4CDF	Total P5CDF	Total H6CDF	Total H7CDF	Total O8CDF				
06VNB050	M	39	20.3	20.3	6.17	28.4	62.8	379	2.42	2.42	11.5	12.3	17.6	NDR 2.42	0.45	36.6	34.7	59
06VNB051	M	39	< 1.62	357	75.9	265	174	1620	NDR 6.09	< 1.62	56.4	139	89.2	14.2	0.24	144	135	-
06VNB052	M	29	33.4	33.4	12.3	43.4	76	339	2.3	2.3	25.3	42.6	27.6	< 1.92	0.26	67.9	62.9	53
06VNB053	F	23	14	14	12.8	44	44	383	< 2.00	< 2.00	13.2	30.4	26	2	0.26	41.8	39.3	36
06VNB054	M	27	41.8	41.8	14.3	58.8	67.3	538	4.64	4.64	34.1	47.2	47.2	5.03	0.26	84.2	78	54
06VNB055	F	24	41.1	41.1	30.1	89.7	76.1	535	1.88	1.88	24.5	49.4	43.3	4.14	0.26	98	93.6	44
06VNB056	F	52	71.4	71.4	56.7	176	108	676	3.12	3.12	43	57.1	20.3	1.25	0.33	173	165	43
06VNB057	F	35	6.71	6.71	3.52	15.7	49.9	299	1.92	1.92	6.07	13.7	15	NDR 1.60	0.31	17.1	15.9	42
06VNB058	F	35	25.5	25.5	14.3	55.8	127	911	2.44	2.44	18.5	59	55.5	8.03	0.29	60.1	57.5	44
06VNB059	M	42	77.7	77.7	31.2	123	161	1160	5.47	5.47	36.6	75.5	52	4.92	0.19	150	142	55
06VNB060	F	34	36	36	23.2	79.5	89.8	608	2.48	2.48	21.1	42.2	24	2.48	0.24	83.5	79.3	45

ND = Not detected; for "Total TEQ" calculations, if ND, 1/2 detection level was used.

NDR = Peak detected but did not meet quantification criteria; for 'Total TEQ' calculations, NDR was treated as ND.

Table 3.16 Concentrations of polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) in human blood from Thanh Khe District residents (random samples) (pg/g [ppt], lipid basis), Da Nang, Viet Nam, December 2006.

Sample ID	Sex	Age	PCDD (pg/g lipid basis)						PCDF (pg/g lipid basis)						% Lipid	TEQ (WHO 1998) ND=1/2DL	TEQ (WHO 2005) ND=1/2DL	TCDD as % of TEQ (2005)
			2,3,7,8-TCDD	Total T4CDD	Total P5CDD	Total H6CDD	Total H7CDD	Total O8CDD	2,3,7,8-TCDF	Total T4CDF	Total P5CDF	Total H6CDF	Total H7CDF	Total O8CDF				
06VNB012	M	58	43.7	43.7	25.1	145	163	1560	1.3	1.3	45.4	230	154	12.1	0.23	129	122	36
06VNB013	F	57	68.1	68.1	< 2.79	171	226	1890	< 2.79	< 2.79	53.6	439	281	11.2	0.18	163	152	45
06VNB014	M	57	8.24	8.24	9.33	43.4	60.9	543	< 1.65	< 1.65	16.5	92.2	107	NDR 2.75	0.19	40.5	37.6	22
06VNB015	M	26	23.6	23.6	17.9	101	71.5	1000	< 2.86	< 2.86	33.6	154	108	6.43	0.14	85.9	79.3	30
06VNB016	M	61	5.14	5.14	10.8	50.5	107	519	< 1.87	< 1.87	21.5	124	112	22	0.22	44.3	40.4	13
06VNB031	F	54	12.5	12.5	19.6	108	62.2	868	< 1.51	< 1.51	33.6	243	191	6.52	0.2	84.9	79.1	16
06VNB034	M	18	< 5.89	< 5.89	< 5.89	< 5.89	< 5.89	23	< 5.89	< 5.89	< 5.89	< 5.89	< 5.89	< 5.89	0.17	9.96	9.31	-
06VNB035	M	32	6.68	6.68	12.4	57.3	72	759	1.91	1.91	24.3	113	126	NDR 6.68	0.21	48.8	44.6	15
06VNB037	M	30	40	40	11.8	60	56	692	< 2.14	< 2.14	20.3	78.2	59.6	NDR 4.28	0.28	77.3	73.4	54
06VNB041	M	52	16.6	16.6	30.2	109	84.6	730	< 5.04	< 5.04	44.8	223	138	11.6	0.2	106	96.8	17
06VNB042	F	43	6.99	11	11.7	59.9	108	609	2	2	25	120	108	9.99	0.31	49.2	44.9	16
06VNB043	F	57	15.1	15.1	15.5	93.4	111	831	1.72	1.72	34	219	134	3.78	0.29	78.9	73.4	21
06VNB044	M	33	7.13	7.13	12.8	70.5	126	664	2.25	2.25	33.4	182	172	6	0.27	61.1	56.1	13
06VNB045	F	21	5.46	5.46	10.4	53	86.8	520	< 1.64	< 1.64	24	141	181	7.1	0.19	48.1	44.2	12
06VNB046	F	35	6.6	6.6	12	78.6	115	684	1.8	< 1.80	27.6	226	279	7.2	0.17	65.1	60.4	11
06VNB048	F	23	4.8	4.8	9.99	43.6	81.1	536	< 1.60	< 1.60	16	143	171	9.59	0.26	43.8	40.7	12

ND = Not detected; for "Total TEQ" calculations, if ND, 1/2 detection level was used.

NDR = Peak detected but did not meet quantification criteria; for 'Total TEQ' calculations, NDR was treated as ND.

Drainage from Da Nang Airbase does enter Thanh Khe District and may affect dioxin accumulations in local inhabitants, but not to the level recorded in people more directly associated with the Airbase.

3.7.4 Hai Chau District

- **Figure 3.8, Table 3.17**

The reference area, Hai Chau District, exhibited the lowest TCDD and TEQ levels of the four study areas (TCDD ranged from 2.77 ppt to 6.15 ppt; TEQs ranged from 28.7 to 61.1 ppt). Other dioxin congeners, particularly O8CDD, contributed significantly to the TEQ in all samples, suggesting other possible sources of contamination in these individuals. The maximum contribution of TCDD in the TEQ was 18%. These data indicate that the influence of contamination on the Da Nang Airbase is localized, and appears not to extend to Hai Chau.

3.7.5 Other Donors (Thanh Khe and Hai Chau Districts)

- **Figure 3.8, Table 3.18**

Dioxin levels in other donors (not randomly sampled) from Thanh Khe District were elevated, ranging from 8.4 ppt to 44.2 ppt. The highest TEQ level was 115 ppt (42.8 ppt TCDD). For all donors sampled, other dioxin congeners were recorded in their blood samples, particularly 08CDD.

Agricultural Fields, Thanh Khe District, Da Nang

Photo: Thomas Boivin

Table 3.17 Concentrations of polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) in human blood from Hai Chau District residents (random samples) (pg/g [ppt], lipid basis), Da Nang, Viet Nam, December 2006.

Sample ID	Sex	Age	PCDD (pg/g lipid basis)						PCDF (pg/g lipid basis)						% Lipid	TEQ (WHO 1998) ND=1/2DL	TEQ (WHO 2005) ND=1/2DL	TCDD as % of TEQ (2005)
			2,3,7,8-TCDD	Total T4CDD	Total P5CDD	Total H6CDD	Total H7CDD	Total O8CDD	2,3,7,8-TCDF	Total T4CDF	Total P5CDF	Total H6CDF	Total H7CDF	Total O8CDF				
06VNB017	M	47	< 8.54	< 8.54	< 8.54	39	62.5	499	< 8.54	< 8.54	25.6	124	127	13.3	0.19	41.5	36.4	-
06VNB018	F	42	3.93	3.93	10.4	45.7	71.1	446	0.924	0.924	24.9	135	109	3.93	0.43	43.6	39.9	10
06VNB019	M	36	5.92	5.92	10.5	41.4	42.8	298	2.73	2.73	19.1	54.7	31.9	NDR 3.64	0.22	36.8	33	18
06VNB020	F	36	3.5	3.5	< 1.50	53	174	1040	1.5	1.5	20	216	236	16.5	0.2	44.2	40.4	9
06VNB021	M	54	< 6.37	< 6.37	8.58	30.8	42.9	NR	< 4.51	< 4.51	20.7	70.8	50.1	NR	0.14	37.2	33	-
06VNB022	F	55	6.15	6.15	15	49.2	95	484	< 3.84	< 3.84	27.3	96.9	75.3	16.5	0.26	51.7	46.3	13
06VNB023	M	57	4.97	4.97	17.8	83.8	61.4	621	< 1.42	< 1.42	32.7	190	98.3	2.49	0.28	66.7	60.9	8
06VNB024	M	22	3.76	3.76	13.8	52	62.7	586	< 3.13	< 3.13	28.8	152	117	NDR 3.13	0.16	53.2	48.1	8
06VNB026	F	49	4.36	4.36	9.27	43.9	69.3	472	0.818	0.818	19.1	81.3	56.5	5.73	0.37	35.4	32.3	13
06VNB027	M	58	< 7.38	< 7.38	< 7.38	29.1	54.6	764	< 7.38	< 7.38	18.4	95.5	80	NDR 10.7	0.27	32.3	28.7	-
06VNB028	F	54	4.89	4.89	14.3	73	102	689	1.13	1.13	32.7	239	172	1.88	0.27	66.3	61.1	8
06VNB049	F	20	2.77	2.77	8.72	35.7	51.9	281	< 1.58	< 1.58	18.2	111	69.7	3.17	0.26	35.9	32.6	8

NR = not reported.

ND = Not detected; for "Total TEQ" calculations, if ND, 1/2 detection level was used.

NDR = Peak detected but did not meet quantification criteria; for 'Total TEQ' calculations, NDR was treated as ND.

Table 3.18 Concentrations of polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) in human blood sampled from other donors (non-random) in Thanh Khe and Hai Chau Districts (pg/g [ppt], lipid basis), Da Nang, Viet Nam, December 2006.

Sample ID	Sex	Age	PCDD (pg/g lipid basis)						PCDF (pg/g lipid basis)						% Lipid	TEQ (WHO 1998) ND=1/2DL	TEQ (WHO 2005) ND=1/2DL	TCDD as % of TEQ (2005)
			2,3,7,8-TCDD	Total T4CDD	Total P5CDD	Total H6CDD	Total H7CDD	Total O8CDD	2,3,7,8-TCDF	Total T4CDF	Total P5CDF	Total H6CDF	Total H7CDF	Total O8CDF				
Thanh Khe District																		
06VNB036	F	51	20.8	20.8	25.2	106	118	560	2	2	48	246	135	9.6	0.25	104	96.2	22
06VNB038	F	19	8.4	8.4	12.8	56.9	77.4	515	1.46	1.46	21.9	119	104	5.11	0.27	50.3	46.6	18
06VNB039	M	28	15.3	15.3	14.9	76.1	101	599	NDR 1.80	< 1.80	33.8	144	148	9.91	0.23	69	63.4	24
06VNB040	M	52	42.8	42.8	24.4	109	108	776	1.6	1.6	50.4	211	98.8	6.8	0.25	123	115	37
Hai Chau District																		
06VNB061	F	44	44.2	44.2	17.8	59.7	118	568	NDR 2.01	< 0.860	18.9	33.6	22.4	3.15	0.35	80.8	77.7	57

ND = Not detected; for "Total TEQ" calculations, if ND, 1/2 detection level was used.

NDR = Peak detected but did not meet quantification criteria; for 'Total TEQ' calculations, NDR was treated as ND.

3.7.6 PCBs

- **Table 3.19**

A total of 18 individuals were analyzed for blood PCB levels. On average, the West Airbase Workers had the highest levels of PCB of the four sampling groups. The associated TEQs of the West Airbase Workers were also the highest amongst all blood donors.

PCB-180/193 was the most prevalent of all the individual PCBs detected. CDC (2005) reports that when considering all age groups, both sexes and ethnicity as a 'total' in the United States, the geometric mean for PCB-180 was 19.2 ppb, or 19,200 ppt. Only one female (06VNB049) was below this level for PCB-180 (18,800 ppt).

When considering the dioxin-like PCBs (81, 105, 118, 126, 156/157, 167, 169, and 189), the resulting TEQs indicate that the West Airbase Workers population had the highest levels. There appears to be a greater incidence of exposure to PCBs in these workers than in other groups sampled. The reason for such variations are not known, but may be related to fish consumption patterns.

3.7.7 Breast Milk Dioxins and PCBs

- Table 3.20, Table 3.21

One breast milk sample analyzed (06VN201M) contained elevated levels of dioxins and PCBs, which exceeded World Health Organization and Canadian standards. The TCDD concentration was 6.76 ppt, 16% of the TEQ (42.4 ppt) was attributed to TCDD. A range of PCBs were also detected in the sample (except PCB-81, and PCB-169). A number of dioxin and PCB congeners contributed to the total TEQ, and suggest significant contamination in the sample analyzed.

Photo: Thomas Boivin

Table 3.19 Concentrations of polychlorinated biphenyls (PCBs) in whole human blood (pg/g, lipid basis), Da Nang, Viet Nam, December 2006.

Sample ID	Sex	Age	Sample Size	Units	CL4-PCB-77	CL4-PCB-81	CL5-PCB-105	CL5-PCB-114	CL5-PCB-118	CL5-PCB-123	CL5-PCB-126	CL6-PCB-156/157	CL6-PCB-167	CL6-PCB-169	CL7-PCB-170	CL7-PCB-180/193	CL7-PCB-189	% Lipid	TEQ (WHO 1998) ND=1/2DL	TEQ (WHO 2005) ND=1/2DL
Sen Lake Workers																				
06VNB001	F	72	0.170 g (lipid)	pg/g (lipid weight basis)	23.7	14.9	9,220	4,710	54,200	603	87.9	50,700	9,780	< 258	68,400	196,000	3,180	0.28	44.6	16.6
06VNB002	M	42	0.170 g (lipid)	pg/g (lipid weight basis)	46.7	NDR 25.1	11,800	2,450	52,100	602	116	39,000	7,470	< 368	77,200	209,000	3,290	0.28	80.8	37.6
06VNB004	F	17	0.130 g (lipid)	pg/g (lipid weight basis)	16.2	< 6.06	2,570	980	12,200	132	19.4	11,700	1,990	< 58.3	16,200	44,500	675	0.23	10.2	3.72
06VNB011	M	23	0.130 g (lipid)	pg/g (lipid weight basis)	17.2	< 9.01	3,000	669	11,100	108	27.5	16,900	2,370	< 414	136,000	643,000	3,660	0.23	15.4	10.1
Average					***26.0***	***13.4***	***6,648***	***2,202***	***32,400***	***361***	***62.7***	***29,575***	***5,403***	***-***	***74,450***	***273,125***	***2701***	***0.26***	***37.8***	***17.0***
West Airbase Workers																				
06VNB052	M	29	0.110 g (lipid)	pg/g (lipid weight basis)	41.4	31.8	16,700	1,610	47,600	836	468.0	23,300	13,700	< 1950	340,000	1,660,000	7290	0.26	76.4	79.4
06VNB053	F	23	0.140 g (lipid)	pg/g (lipid weight basis)	18.0	16	6,920	1,040	22,500	365	177.0	13,000	5,680	< 544	141,000	656,000	3010	0.26	30.8	27.4
06VNB056	F	52	0.150 g (lipid)	pg/g (lipid weight basis)	38.0	42.4	21,600	3,740	68,300	1040	624.0	36,500	13,600	< 2000	321,000	1,460,000	6610	0.33	102.0	97.0
06VNB059	M	42	0.110 g (lipid)	pg/g (lipid weight basis)	60.2	28.4	35,600	3,470	115,000	1940	493.0	41,500	19,700	< 2350	395,000	1,740,000	9240	0.19	279.0	212.0
Average					***39.4***	***29.7***	***20,205***	***2,465***	***63,350***	***1045***	***441***	***28,575***	***13,170***	***-***	***299,250***	***1,379,000***	***6538***	***0.26***	***122***	***104***
Thanh Khe District																				
06VNB014	M	57	0.110 g (lipid)	pg/g (lipid weight basis)	NDR 13.2	< 5.11	1,090	365	4,180	60	30.2	5,410	950	< 76.9	18,900	72,500	999	0.19	6.9	4.6
06VNB015	M	26	0.140 g (lipid)	pg/g (lipid weight basis)	23.6	< 7.22	3170	1120	12300	142	56.5	14200	2390	< 113	30100	100000	1430	0.14	15.6	8.4
06VNB031	F	54	0.120 g (lipid)	pg/g (lipid weight basis)	16.6	5.0	2,460	768	9,590	117	43.7	9,640	2,070	< 120	19,700	65,200	1050	0.20	11.5	6.9
06VNB043	F	57	0.170 g (lipid)	pg/g (lipid weight basis)	15.8	6.2	3,880	670	14,600	240	122.0	6,010	2,360	< 81.7	14,500	48,400	735	0.29	17.9	14.3
06VNB045	F	21	0.110 g (lipid)	pg/g (lipid weight basis)	17.5	< 6.44	2,000	442	7,100	111	47.5	4,590	1,240	< 66.1	10,500	33,500	573	0.19	8.6	6.2
Average					***18.4***	***5.6***	***2,520***	***673***	***9,554***	***134.0***	***60.0***	***7,970***	***1,802***	***-***	***18,740***	***63,920***	***957***	***0.20***	***12.10***	***8.09***
Hai Chau District																				
06VNB021	M	54	0.110 g (lipid)	pg/g (lipid weight basis)	30.8	< 20.3	2,140	525	8,160	120	66.5	7,440	1,480	< 183	21,200	76,500	1320	0.14	12.7	10.0
06VNB023	M	57	0.140 g (lipid)	pg/g (lipid weight basis)	11.7	< 4.33	3,130	888	14,400	244	102.0	11,800	3,130	< 174	33,400	130,000	1790	0.28	19.4	13.9
06VNB024	M	22	0.120 g (lipid)	pg/g (lipid weight basis)	21.3	< 11.2	1,790	565	6,580	91	42.6	6,640	1,280	< 94.0	14,300	47,900	771	0.16	9.3	6.2
06VNB028	F	54	0.160 g (lipid)	pg/g (lipid weight basis)	17.3	< 6.47	3,670	504	13,500	221	79.8	4,330	1,730	< 70.0	12,100	44,000	553	0.27	12.6	9.8
06VNB049	F	20	0.170 g (lipid)	pg/g (lipid weight basis)	13.5	< 6.46	1,070	269	4,240	78	36.4	2,560	685	< 40.8	5,590	18,800	294	0.26	5.8	4.5
Average					***18.9***	***6.5***	***2,360***	***550***	***9,376***	***151***	***65.5***	***6,554***	***1,661***	***-***	***17,318***	***63,440***	***946***	***0.22***	***12.0***	***8.88***

ND = Not detected; for "Total TEQ" calculations, if ND, 1/2 detection level was used.
NDR = Peak detected but did not meet quantification criteria; for 'Total TEQ' calculations, NDR was treated as ND.

Table 3.20 Concentrations of polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) in human breast milk from Thanh Khe District (pg/g [ppt], lipid basis), Da Nang, Viet Nam, December 2006.

Sample ID	Sex	Age	PCDD (pg/g lipid basis)						PCDF (pg/g lipid basis)						% Lipid	TEQ (WHO 1998) ND=1/2DL	TEQ (WHO 2005) ND=1/2DL	TCDD as % of TEQ (2005)
			2,3,7,8-TCDD	Total T4CDD	Total P5CDD	Total H6CDD	Total H7CDD	Total O8CDD	2,3,7,8-TCDF	Total T4CDF	Total P5CDF	Total H6CDF	Total H7CDF	Total O8CDF				
06VN201M	F	30	6.76	6.76	15	46.3	27	145	0.895	0.895	23.9	82.4	23.7	NDR 1.88	3.24	47.2	42.4	16

ND = Not detected; for "Total TEQ" calculations, if ND, 1/2 detection level was used.

NDR = Peak detected but did not meet quantification criteria; for 'Total TEQ' calculations, NDR was treated as ND.

Table 3.21 Concentrations of polychlorinated biphenyls (PCBs) in human breast milk (pg/g, lipid basis), Da Nang, Viet Nam, December 2006.

Sample ID	Sex	Age	CL4-PCB-77	CL4-PCB-81	CL5-PCB-105	CL5-PCB-114	CL5-PCB-118	CL5-PCB-123	CL5-PCB-126	CL6-PCB-156/157	CL6-PCB-167	CL6-PCB-169	CL7-PCB-170	CL7-PCB-180/193	CL7-PCB-189	% Lipid	TEQ (WHO 1998) ND=1/2DL	TEQ (WHO 2005) ND=1/2DL
06VN201M	F	30	8.64	<3.05	6,270	957	20,400	300	61.1	7,690	1,750	<78.1	13,900	40,700	580	3.24	13.6	8.42

ND = Not detected indicated by "<" and detection limit value. For "Total TEQ" calculations, if ND, 1/2 detection level was used.

3.8 SUMMARY DISCUSSION HUMAN BLOOD AND BREAST MILK

- **Table 3.22**

ATSDR (1998) has reported that 3 to 7 pg/g is the typical range of the TCDD congener in the general population of industrialized countries. They also indicate that TCDD in human blood rarely exceeds 10 pg/g, and that, typically, lower levels of this contaminant are recorded in less industrialized countries (such as Viet Nam).

Blood dioxin and furan levels are above the ATSDR (1998) typical range in Sen Lake Workers, West Airbase Workers, and in Thanh Khe District individuals sampled in Da Nang in this study. Reference area blood samples from Hai Chau were within the typical TCDD range expected in industrialized nations. Blood dioxin levels generally decrease with distance from the base: there was a general decline in TCDD concentration from Sen Lake Workers to West Airbase Workers, to Thanh Khe District residents and finally Hai Chau District residents (Table 3.22). All Sen Lake Workers but one (10 of 11) exceeded the maximum value of the ATSDR (1998) range (i.e., 7 pg/g TCDD); this was the case for all but two West Airbase Workers (9 of 11), and nine of 16 Thanh Khe residents. All Hai Chau residents sampled (n=12) were below the ATSDR (1998) range. (Note that all four of the non-randomly sampled individuals from Thanh Khe District, and the one from Hai Chau District, also exceeded the standard).

As presented in Table 3.22, median values for TCDD in Sen Lake male workers was 70.8 ppt (91.1 ppt TEQ); for females, the level was much higher (362 ppt TCDD; 466 ppt TEQ). These values are several times higher than the ATSDR (1998) typical range. Median TCDD values were considerably lower for West Airbase Workers, and were similar for both males and females (33.4 ppt and 30.8 ppt, respectively). Thanh Khe median TCDD levels were slightly above or equal to the maximum ATSDR (1998) standard (8.24 ppt for males; 6.99 ppt for females). For the Hai Chau District reference area, median TCDD values for males and females were below the ATSDR (1998) range (4.02 ppt and 4.15 ppt, respectively).

The relatively high % TCDD contribution to TEQ for Sen Lake Workers, in particular, indicates a direct relationship with historical presence of Agent Orange during the US-Viet Nam conflict, and Ranch Hand operations on Da Nang Airbase. The previous maximum TCDD level recorded in human blood in Viet Nam was 413 ppt, as presented by Schecter *et al.* (2002) from Bien Hoa. The blood TCDD level of 1,150 ppt presented in this study is now the highest recorded in Viet Nam (Table 3.15). The movement of dioxin from the highly contaminated lands adjacent to Sen Lake, and ultimately into humans (via ingestion of contaminated fish and direct contact with soils and sediments), is without doubt, and is directly linked to historical Agent Orange use at the Airbase.

Table 3.22 Summary statistics of TCDD, OCDD, TCDF, OCDF and TEQ concentrations in human blood (pg/g [ppt], lipid basis), Da Nang, Viet Nam, December 2006.

Sex	Number	Statistic	2,3,7,8-TCDD	Total O8CDD	2,3,7,8-TCDF	Total O8CDF	TEQ (WHO 2005) ND=1/2DL
Sen Lake Workers							
Males	7	Mean	289	782	9.8	5.2	288
		Geometric Mean	102	675	3.6	4.0	123
		Median	70.8	725	2.2	3.9	91.1
Females	4	Mean	324	709	4.74	3.19	412
		Geometric Mean	146	666	2.26	2.92	288
		Median	362	645	4.02	3.36	466
West Base Workers							
Males	5	Mean	35	807	3.58	5.26	90.5
		Geometric Mean	17.8	665	3.36	3.33	79.9
		Median	33.4	538	3.05	4.92	78.0
Females	6	Mean	32.5	569	2.14	3.12	75.1
		Geometric Mean	25.2	533	2.02	2.34	59.4
		Median	30.8	572	2.18	2.24	68.4
Thanh Khe District							
Males	9	Mean	17.1	721	1.73	7.55	62.2
		Geometric Mean	11.7	516	1.59	5.33	51.2
		Median	8.24	692	1.83	6.00	56.1
Females	7	Mean	17.1	848	1.33	7.91	70.7
		Geometric Mean	10.7	768	1.23	7.51	63.8
		Median	6.99	684	1.40	7.20	60.4
Hai Chau District							
Males	6	Mean	4.30	554	2.54	4.92	40.0
		Geometric Mean	4.21	529	2.18	3.48	38.6
		Median	4.02	586	2.49	2.49	34.7
Females	6	Mean	4.27	569	1.18	7.95	42.1
		Geometric Mean	4.13	523	1.12	5.76	41.1
		Median	4.15	478	1.03	4.83	40.2

Other researchers have reported pooled blood TCDD levels from Viet Nam south of the former demilitarized zone; TCDD levels ranged from 1.0 ppt lipid (Tay Ninh Province) to 33 ppt lipid (Can Tho Province), as reported in reviews by Dai *et al*. (1994a, 1995), Schecter *et al*. (1992), and Schecter (1994). The blood levels of TCDD reported for northern Viet Nam were <2.4 ppt lipid (Ha Noi), and 2.9 ppt lipid (Thanh Hoa Province). Northern Viet Nam was not sprayed with Agent Orange. The levels of TCDD that Hatfield/10-80 (1998, 2000) recorded in blood from people in A Luoi District in Thua Thien Hue Province, particularly in the A So commune, were comparable to the highest reported by other scientists (45.9 ppt TEQ; 41 ppt TCDD; 89.3% TCDD). A high level of 271 ppt was reported for TCDD in blood by Schecter *et al*. (2001). This was for an individual living near the former US airbase at Bien Hoa, where a major spill of 7,500 US gallons of Agent Orange had been reported for March 1970.

Breast milk dioxin and PCB levels recorded from one donor in this study were elevated, and were above WHO acceptable standards. The relatively low percent contribution of TCDD to the Total TEQ (16%) in the milk sample analyzed indicates other sources of contamination in addition to Agent Orange. Dwernychuk et al. (2002) recorded similarly high TCDD levels in mothers' milk from A So commune in A Luoi District, Viet Nam (19.0 pg/g lipid, 18.0 pg/g lipid, and 16.0 pg/g lipid). The total TEQ for the Da Nang breast milk sample analyzed in this study (42.4 ppt) exceeded levels recorded in A Luoi District by Dwernychuk et al. (2002).

The revised Tolerable Daily Intake (TDI) value set by the World Health Organization (WHO/EURO, 1998a,b), 1-4 pg/g I-TEQ/kg bw/d, were greatly exceeded for the one sample analyzed in this study. The WHO TDI calculation for the Da Nang milk sample suggests a release to her infant of 192.3 pg I-TEQ/kg bw/d. This level is considerably higher than the maximum recorded in the A Luoi District (138.0 pg I-TEQ/kg bw/d) by Dwernychuk *et el*. (2002).

Although it is not possible to draw firm conclusions from one sample, the results suggest that further investigation of breast milk contamination in the Da Nang area is warranted.

Local Fisherman and Lotus on Sen Lake, Viet Nam

Photo: Lady Borton

3.9 QA/QC

3.9.1 Environmental Samples

- **Table 3.23**

AXYS performed a number of duplicate and replicate dioxin and furan analyses as part of the QA/QC for this project (Table 3.23). In all cases, soil, sediment and fish tissue duplicate samples were in close agreement, and were within acceptable levels of variability.

3.9.2 Rinseate Water

- **Table 3.23**

Two samples were analyzed from rinseate water used to clean sampling equipment used in this study (Table 3.23). One sample, collected at the start of the sampling program (06VN001W) did not have detectable levels of dioxins and furans. The second sample, collected during sampling at the former Storage Area (06VN075W), had a TCDD level of 167 ppt; this high value is the result of extreme TCDD contamination present in the soils (maximum TCDD level of 106,000 ppt; Table 3.1) and therefore represents 0.16% of the contamination found at this site. There are concerns regarding possible cross-contamination of samples, but the error margin reported is well within acceptable limits.

The sampling protocols implemented in this study included collection of samples from perimeter and suspected low contaminated sites first, followed by the suspected hot spots at the former Mixing and Loading Area and former Storage Area. Hence, cross-contamination of samples is not believed to be of major concern in this study.

Table 3.23 QA/QC analyses for dioxin and furan analyses, Da Nang, Viet Nam, December 2006.

Sample ID	Location	PCDD (pg/g dry weight)						PCDF (pg/g dry weight)						TEQ (WHO 1998) ND=1/2DL	TEQ (WHO 2005) ND=1/2DL	% Moisture
		2,3,7,8-TCDD	Total T4CDD	Total P5CDD	Total H6CDD	Total H7CDD	Total O8CDD	2,3,7,8-TCDF	Total T4CDF	Total P5CDF	Total H6CDF	Total H7CDF	Total O8CDF			
Soil/Sediment																
06VN004	Btwn Storage and Sen Lake	219	230	23.5	110	598	6240	7.52	43	67.3	65.9	85.2	52.6	231	232	22.6
06VN004 (D)	Lab Duplicate	200	206	16.3	70.2	321	5170	6.29	34.2	55.9	43.9	59.4	42.5	209	209	24.2
06VN042	Staff Res.	1700	1890	458	1510	7720	41900	92.7	512	710	923	1040	634	1830	1830	17.4
06VN042 (D)	Lab Duplicate	1670	1850	436	1410	7620	37600	95.7	525	733	931	958	484	1800	1800	18
06VN070	Former Storage Area	3350	3960	1250	2370	2700	24200	252	1280	951	209	111	77.4	3520	3520	6.66
06VN070 (D)	Lab Duplicate	3540	4210	1440	2560	3130	24100	268	1420	1050	229	130	79.7	3730	3730	6.35
Tissues																**% Lipid**
06VN233	Fish Muscle	0.898	0.898	< 0.0501	< 0.0501	0.072	0.167	0.349	0.349	0.067	< 0.0501	< 0.0501	< 0.0501	0.98	0.967	0.72
06VN233 (D)	Lab Duplicate	0.929	0.929	< 0.0502	< 0.0502	0.08	0.2	0.336	0.336	< 0.0502	< 0.0502	< 0.0502	< 0.0502	1.02	1.02	0.68
Rinseate from Ekman grab																
06VN001	Pre-program	< 0.602	< 0.602	< 0.602	< 0.602	2.59	14.3	0.829	0.829	0.611	< 0.602	1.05	NDR 0.778	1.19	1.07	
06VN075	Post Soil #75	167	176	9.4	11.4	16.4	34.3	4.98	17.1	13.7	1.78	1.31	1.64	168	168	

4.0 CONCLUSIONS AND PROPOSED MITIGATION MEASURES

4.1 CONCLUSIONS

The impact of exposure to Agent Orange and other herbicides on human health remains a contentious issue. However, dioxin (particularly 2,3,7,8-tetrachlorodibenzo-p-dioxin; also referred to as 2,3,7,8-TCDD or TCDD), a known component of the Agent Orange mixture, is known to cause an increased risk of cancers, immunodeficiencies, reproductive and developmental changes, nervous system and other health problems. Countries around the world have implemented strict guidelines and criteria for the control and release of dioxins into the environment, in order to protect human health. Dioxins in soil can pose a lingering threat to human health; Paustenbach *et al.* (1992) has indicated that the half-life of dioxins in subsurface soils can extend to 100 years.

TCDD is lipid soluble and accumulates in organs with a high lipid or fat content (e.g., body fat, liver, mother's milk). Human exposure can occur through ingestion, absorption through the skin, or inhalation of dioxin-contaminated materials. Once in the human body, the half-life is estimated at approximately 7 to 11 years.

Protection of the human food supply from contamination by toxins, including dioxins, is of paramount concern throughout the developed world. A "standards/guideline" approach to human health protection has been taken to address the dioxin issue in many western jurisdictions. Numerical standards and guidelines addressing TCDD contamination have been established by many reputable organizations and scientists (e.g., WHO/EURO 1988, 1989, 1991, 1998a, 1998b, 2001, Agency for Toxic Substances and Disease Registry 1997, 1998; International Agency for Research on Cancer [a division of the World Health Organization] 1997). When these contamination guidelines are exceeded in soils or human food, mitigation action is recommended and/or enforced.

Photo: Thomas Boivin

Hatfield/Office 33 believe a similar "standards-based" approach should be taken in Viet Nam. However, western standards are likely not conservative enough, given that most rural people in Viet Nam (particularly ethnic minority groups), live in close contact with the soil (i.e., dirt floor housing, children playing in and ingesting contaminated soil), and depend on locally produced food sources (e.g., fish/ducks). Vietanamese and international scientists should jointly develop acceptable dioxin standards suitable to the Vietnamese situation.

Agent Orange has been described as the last remaining vestige of the war to be resolved between the US and Viet Nam. Since the US-Viet Nam war, Vietnamese living in the vicinity of key Ranch Hand sites (Bien Hoa, Da Nang, Phu Cat and others) have been exposed to contaminated soils, sediments and foods; these areas are referred to as dioxin 'hot spots' (Dwernychuk *et al*. 2002). Due to the chemical stability of dioxins, contaminated lands have the potential to expose the general population to dioxin for many decades, well beyond the initial aerial applications and spillages that occurred during the wartime Ranch Hand operation.

The presence of dioxin in the environment in and around former US military sites in Viet Nam is a direct result of storage and use of herbicides by the US and Army of the Republic of Viet Nam (ARVN) forces, and spillage which occurred from improper disposal of empty herbicide barrels. Despite the fact that dioxins are known to be a significant environmental hazard, to date there have not been adequate measures taken to properly assess the extent and impact of contamination around known hot spots in Viet Nam. Protection of human health in the vicinity of these dioxin hot spots is of key concern.

Key findings of the Da Nang Dioxin Assessment and Mitigation Project are as follows:

- Agent Orange and other herbicides were stored in large quantities at Da Nang Airbase during the US-Viet Nam war; more than 100,000 45-gallon (208-litre) barrels of herbicide were used on the Da Nang Airbase. These herbicides were loaded primarily onto C-123 aircraft for aerial spraying in central Viet Nam and Lao PDR; herbicides were also dispensed by truck, backpack spray devices and helicopter. Significant spillage occurred from improper handling and disposal of herbicides; this is well documented in US military records from the war period.

- Significant quantities of TCDD, a contaminant in Agent Orange, were detected in this study in samples analyzed from the Da Nang Airbase in December 2006. To this day, dioxin continues to enter the aquatic ecosystem, the general environment, the food chain and the human population living in close proximity to the contaminated site on the Da Nang Airbase. Dioxin levels recorded in this study exceeded all international standards and guidelines for these toxic chemicals.

- There is no doubt that historical use of the Da Nang Airbase by the US military and their Operation Ranch Hand has resulted in significant dioxin contamination in the environment and human population of Da Nang. Contamination was widespread during the US-Viet Nam war period, particularly in waterbodies and agricultural areas north of the Airbase.

- Chemical analyses performed in this study confirm that the main source of dioxin contamination at Da Nang Airbase was Agent Orange and other dioxin-contaminated herbicides. TCDD contributed to over 90% of the TEQ (i.e., total sample toxicity) in samples collected from the former Agent Orange Mixing and Loading Area, former Storage Area and Sen Lake, all of which are located on Da Nang Airbase. Samples collected downstream of the Airbase in Da Nang City contained lower levels of Agent Orange dioxin. Other contaminants (including polychlorinated biphenyls [PCBs], organochlorine pesticides and hydrocarbons) were also shown to be present in the environment, both inside and outside the perimeter of Da Nang Airbase. These contaminants, including PCBs, are entering the food chain and human population

- The maximum soil TEQ concentration recorded in this study was 365,000 ppt, from samples collected from the former Mixing and Loading Area. This is 365 times the globally acceptable maximum standard of 1,000 ppt (ATSDR 1997). Over 99% of the TEQ in the sample was TCDD (361,000 ppt). This dioxin level represents extremely high contamination, and confirms Da Nang Airbase as a significant 'hot spot'.

Drainage Canal at Northwest Corner of Former Storage Area, looking South, Da Nang Airbase

Photo: Thomas Boivin

- Soil dioxin levels recorded in this study are the second highest reported in Viet Nam to date (the highest being >1 million ppt TEQ in soils at Bien Hoa Airbase by Schecter *et al*. [2001], although the exact geographical position, origin, and method of extraction of this Bien Hoa Airbase soil sample is unknown, and has never been reported). Soil dioxin levels from this study confirm contamination data previously obtained by the Vietnamese Government and US EPA (unpublished data).

- The present study (and previous work by Hatfield/10-80 Division of the Ministry of Health [1998, 2000, 2003, 2005]) has verified that the highest concentrations of Agent Orange dioxin in soils/sediments in Viet Nam are found in the top 10 cm layer; some contamination is found at deeper strata (e.g., >30 cm), but only in limited areas on the former Mixing and Loading Area and former Storage Area at Da Nang Airbase.

- A range of organochlorine pesticides were detected in the four soil and one sediment sample analyzed, indicating widespread contamination of pesticides throughout the study area. Highest concentrations were generally found in soil from the former Storage Area (06VN075) and in sediment from Sen Lake (06VN040). Levels of some pesticides exceeded Canadian Guidelines for either soils or sediment, where such guidelines existed.

- Dioxin and other contaminants from the former Mixing and Loading Area and the former Storage Area is adsorbed onto particulate matter and is transported via rainwater to downstream waterbodies, including Sen Lake. Fish and other aquatic animals (such as frogs, snails, ducks, etc.) continue to be contaminated to this day. The human population of Da Nang is therefore exposed to dioxin from contaminated food, and likely also absorbs dioxin through the skin as a result of direct exposure to contaminated soils and sediments (and possibly contaminated dust).

- The movement of dioxin from the contaminated Da Nang Airbase lands, into Sen Lake, and ultimately into humans (via ingestion of contaminated fish and direct contact with soils and sediments) is without doubt, and is directly linked to historical Agent Orange use at the Airbase. The resulting high dioxin levels in the environment and food chain pose an unacceptable health risk to exposed populations.

- Dioxin-contaminated sediments (and likely fish and other aquatic organisms) have migrated out of the Airbase through the city drainage system into neighboring wetland and agricultural areas for decades. Run-off from the dioxin hot spots on Da Nang Airbase drains from Sen Lake through a large underground culvert serving as a general storm sewer, and ultimately empties into the Phu Loc River and Da Nang Bay. Tests for dioxin at the culvert's outflow into the Phu Loc River in 2005 indicated low levels of dioxin (6.46 ppt TCDD; 11.9 ppt TEQ;

Hatfield/10-80 2005). Therefore, except during massive floods, the major run-off from the Da Nang Airbase hot spots appears to settle in Sen Lake, and likely does not adversely impact the environment outside the northern end of the Airbase.

- Maximum TCDD levels recorded in fish fat samples in this study were 3,000 ppt, which is 100 times the acceptable level established by Health Canada. Fish contaminated with dioxins (and PCBs) are consumed by fishermen (and likely some members of the general public) at considerable distances from the point of herbicide release to the environment; there is a direct connection between Sen Lake and areas outside the Airbase through the local drainage system.

- Blood dioxin levels recorded in this study (n=55 patients sampled) for some Da Nang residents were the highest reported for Viet Nam to date, and exceed all international standards for these chemicals. Those individuals who work on the Da Nang Airbase in Sen Lake (harvesting fish and lotus) and in the surrounding gardens (which are often flooded) were found to have dioxin concentrations in their blood more than 100 times globally acceptable levels. The highest TCDD level was recorded in a 42-year-old male who has lived and consumed fish from the Sen Lakes since 1990. His TCDD level was 1,150 ppt TCDD (1,220 ppt TEQ; 94% TCDD), indicating Agent Orange as the source of the TCDD contamination. Two other individuals who were fishing and farming inside the Da Nang Airbase perimeter had >500 ppt TEQ. A number of other contaminants, including PCBs, were also recorded in blood samples analyzed.

- One breast milk sample analyzed contained elevated levels of dioxins and PCBs, which exceeded World Health Organization and Canadian standards. Mothers who become contaminated with dioxin have the potential to transport the contaminant to their milk glands, and ultimately to their children. Breast-feeding essentially 'off loads' some of a mother's dioxin to her children, thus contaminating her child. Additional study of potential dioxin impacts on women of reproductive age and their children is required to determine the extent of the problem at Da Nang.

- People most affected by direct exposure to dioxins from the Da Nang hot spot are members of an extended family fishing and harvesting lotus from Sen Lake and gardening along its banks. Those living near the West Airbase fishponds are also potentially highly exposed. In terms of current high dioxin exposure, approximately 50 people involved in harvesting fish and aquatic organisms from Airbase lakes (and their families) are likely most directly affected by dioxin contamination. Others in the general population are potentially also affected, through consumption of contaminated fish, other aquatic animals and vegetables originating from the contaminated lakes on Da Nang Airbase. At present, it is believed

that only a small proportion of the general population of Da Nang City is adversely affected. Others may also be affected by eating fish and other aquatic animals harvested from the Airbase lakes, although exact numbers are presently unknown. Exact numbers of highly exposed people needs to be verified and monitored.

- Results from this Da Nang study support those from previous Hatfield/10-80 Division studies (1998, 2000, 2003, 2005, Dwernychuk *et al*. 2002), namely that dioxins are transported from soils to aquatic sediments to fish and other aquatic organism tissues, and ultimately into humans, as shown by blood and breast milk analyses. The high levels of TCDD contributed almost all of the total toxicity of the samples analyzed, indicating that Agent Orange was the principal source of this dioxin congener. Immediate action is therefore necessary at Da Nang and other former Ranch Hand sites to prevent further human health risks from exposure to dioxins.

Water Treatment Ponds at Former Storage Area, Da Nang Airbase

Photo: Thomas Boivin

It is important to distinguish between historical and current dioxin contamination at Da Nang. Equally, it is important to realize that contamination has likely been ongoing for decades. For example, during the U.S.-Viet Nam War, empty herbicide barrels were sold to residents of Da Nang (for use as water containers and for other domestic purposes), and these barrels are known to have contained residual dioxin contamination. Use of these barrels by residents resulted in widespread death of vegetation outside the Da Nang Airbase during the war. Wind-blown dioxin molecules attached to soil particles may also have traveled out of the immediate areas of the Airbase following loading of herbicide onto C-123 aircraft, from the former Storage Area, and from local spray application. Erosion due to rains also transported the contaminant to other areas

of the Airbase or other water bodies outside the Airbase. Fish in lakes and wetlands on Da Nang Airbase and in perimeter waterbodies accumulated high levels of contamination in their bodies, and ultimately entered the human food chain through bioaccumulation.

Therefore, dioxin residues from Da Nang Airbase are not restricted to a finite location on the Airbase itself. Some dioxin-contaminated residues have a high potential to be transported out of the immediate area of release, and into the human food chain in Da Nang City. Results from this study strongly indicate that exposure of Da Nang residents to dioxins originating from the Airbase is ongoing.

It is logical to assume that people on Da Nang Airbase and in Da Nang City who handled the herbicides during the US-Viet Nam war introduced dioxin into their bodies. The main exposure routes would have been: direct physical contact with the herbicides themselves or contaminated soils; breathing spray mist and/or contaminated dust; and/or ingestion of contaminated food items from the Sen Lakes and from other waterbodies downstream of the dioxin hot spots on the Airbase. There could also have been other sources of contamination, such as from the discarded herbicide barrels. People who have been living on or near the Sen Lake ecosystem are likely the ones most at risk, although some people living distant from the Airbase could also have been exposed through consumption of foods produced on the Airbase, and marketed off the base.

There are a number of factors which influence historical and present-day exposure to dioxins at Da Nang, including:

- The concentration of dioxin in the Agent Orange formulations, which was known to vary considerably between batches produced. One herbicide (Agent Purple) had significantly higher levels of dioxin;
- Concentration of dioxin residue present in the environment after spraying/spillage occurred;
- Other dioxin sources, such as incineration, which contribute to the total dioxin loading in the environment;
- The quantity of dioxin-contaminated materials (soils, particulates or food items) ingested; and
- Total exposure time (days, months, years, decades).

Guidelines have been set in western countries that limit dioxins in consumable food items, atmospheric emissions, etc. Health Canada is presently reviewing their guidelines for consumable biological tissues in the context of the new World Health Organization guidelines, which are very restrictive. Because of uncertainty between exposure and health effects, the US Department of Veterans Affairs has adopted the following approach to compensation of their Viet Nam

veterans - in an Agent Orange-based claim by a Viet Nam veteran for service-connected benefits, Veterans Affairs (VA) requires:

1. A medical diagnosis of a disease which VA recognizes as being associated with Agent Orange;

2. Competent evidence of service in Viet Nam; and

3. Competent medical evidence that the disease began within the deadline (if any).

See: http://www.vba.va.gov/bln/21/benefits/herbicide/AOno3.htm.

The health conditions recognized by the US Veterans Affairs are (http://www.vba.va.gov/bln/ 21/benefits/herbicide/#bm04):

1. Chloracne or other acneform disease consistent with chloracne. (Must occur within one year of exposure to Agent Orange).

2. Chronic lymphocytic leukemia.

3. Diabetes mellitus, Type II.

4. Hodgkin's disease.

5. Multiple myeloma.

6. Non-Hodgkin's lymphoma.

7. Acute and subacute peripheral neuropathy. (For purposes of this section, the term acute and subacute peripheral neuropathy means temporary peripheral neuropathy that appears within weeks or months of exposure to an herbicide agent and resolves within two years of the date of onset).

8. Porphyria cutanea tarda. (Must occur within one year of exposure to Agent Orange).

9. Prostate cancer.

10. Respiratory cancers (cancer of the lung, bronchus, larynx, or trachea).

11. Soft-tissue sarcoma (other than osteosarcoma, chondrosarcoma, Kaposi's sarcoma, or mesothelioma).

12. Spina Bifida in the veterans' children.

Determining health affects related to Agent Orange dioxin exposure is a contentious issue, as evidenced by court cases launched by US, Korean, Australian, New Zealand, Canadian and Vietnamese veterans, and by concerns expressed by Vietnamese in general. The health impacts of dioxin exposure can take decades to manifest and are highly variable between individuals. Proving

exposure, and eliminating other possible causes of cancers or other health effects from a person's diagnosis, remains a challenge.

It is clear that certain health effects are linked to Agent Orange exposure, and that the precautionary principle should apply when dealing with dioxin contamination in the environment and human food chain. This is particularly true at Da Nang Airbase, where concentrations of dioxins in excess of 300,000 ppt have been recorded in soils, and where levels greater than 3,000 ppt are known to occur in fish tissues taken from Sen Lake. Blood dioxin levels in people known to consume fish and other aquatic organisms from the Airbase were the highest dioxin level recorded in Viet Nam to date. Protection of the local residents known to work on the Airbase lakes harvesting fish and other aquatic organisms is therefore paramount, and mitigation measures need to be adopted immediately at Da Nang Airbase.

More than 40 years have elapsed since Agent Orange was introduced to the environment of Viet Nam, and the resultant chemical contamination continues to affect a number of residents of Da Nang City to this day. Similar situations can be expected at other major Ranch Hand sites in Viet Nam, in particular, Bien Hoa. Time is of the essence to move forward with this issue, to protect Vietnamese living in the vicinity of such hot spots from further contamination and associated health impacts. These circumstances pose a significant public health threat, particularly when considering elevated dioxin levels in relation to global guidelines for protection of the environment and human health.

New Construction near Xuan Lake, outside Da Nang Airbase

Photo: Thomas Boivin

4.2 PROPOSED MITIGATION MEASURES

Given the high levels of dioxin on Da Nang Airbase and in the human population recorded in this study, the following mitigation measures should be implemented immediately. Physical remediation measures are being dealt with separately, and therefore the activities listed below focus on human health protection, livelihoods, and socio-economic considerations.

1. Further research, health studies, community education programs and exposure studies are required at Da Nang to verify the extent of the exposure, and to protect populations from further dioxin contamination. Similar studies should be conducted at other dioxin hot spots in Viet Nam, in particular Bien Hoa. This is consistent with the recommendations of ATSDR (1997) for areas where soil levels are ≥1,000 ppt TEQ.

2. Fishing activities and lotus harvesting on all natural waterbodies on Da Nang Airbase (Sen Lake, Lake B, and Lake C) should be terminated immediately. Fishponds on the West Airbase should no longer be used, and no further excavation of fishponds should be permitted on the Da Nang Airbase. Cultivation of vegetables should be prohibited on the Airbase. Fish consumption in Xuan Lake and March 29 Lake (waterbodies adjacent to the Da Nang Airbase, and connected by drainage canals) should also be prohibited as a precautionary measure.

3. A secure, more permanent fence around the perimeter of the Airbase, particularly at the northern border, is required to prevent access. Some sections of the current brick fence are in disrepair, and therefore the general public can easily enter the Airbase (Figure 4.1).

4. Individuals sampled for blood and breast milk in this study should be provided with a report on the results of dioxin analyses performed (all donors requested that their results be reported to them). These consultations should be one-on-one, and be conducted by qualified medical professionals. Educational materials related to preventing further exposure to dioxins and furans should be provided (similar to those prepared by Hatfield/10-80 [2000]).

5. Alternate livelihoods need to be developed for those individuals who currently earn their living from harvesting fish, lotus and other aquatic organisms and vegetables from Da Nang Airbase. These need to be developed in consultation with Vietnamese authorities to ensure that individuals are able to maintain similar standards of living, and that their new livelihoods do not result in increased risk of exposure to dioxin or other hazardous chemicals on Da Nang Airbase. Consideration should be given to relocating individuals currently residing on or near the West Airbase fishponds, the Viet Nam Airlines residence northeast of the former Storage Area, and other areas near identified hot spots.

Figure 4.1 Da Nang Airbase perimeter wall, showing current condition.

6. Detailed human health assessments should be considered in selected areas of Da Nang City, to assess the extent of past exposure to herbicides, and to ensure no long-term effects of exposure occurs. Individuals who presently work or worked in the past on the Airbase may be particularly vulnerable to dioxin contamination from direct or indirect exposure to the former MLA, former SA, and the Sen Lakes (A, B and possibly C). Military personnel who resided in barracks adjacent to the former Mixing and Loading Area, and those who have harvested and/or consumed fish and lotus from Sen Lakes and West Airbase ponds should be considered for further investigations of possible health consequences of high exposure to dioxins at the Airbase. Further study of breast milk dioxin levels in the Da Nang population should be undertaken.

7. Engineered solutions for hot spots identified at the former Mixing and Loading Area and former Storage Area need to be refined and implemented as soon as possible to prevent further transport of contaminated soil and sediment into the general environment at Da Nang. Funding for undertaking these activities needs to be secured immediately.

8. Long-term monitoring of the environment and human population of Da Nang City is recommended, including Thanh Khe District and possibly other Districts adjacent to the Airbase. It will be important to annually monitor soil, sediment and food items for dioxin contamination; monitoring should also be conducted during and after physical remediation measures are implemented, for a period of at least five to seven years after completion (at a minimum, until dioxins are not detected for a three-year continuous period in environmental samples). Results of monitoring should be provided to local residents.

9. A systematic review should be undertaken at Bien Hoa, Phu Cat and other Ranch Hand sites in southern Viet Nam, where Agent Orange was used on site. In addition, a full investigation needs to be carried out of ARVN bases where Agent Orange spray planes and helicopters were loaded and serviced. TCDD measurements should be made in these areas if evidence suggests contamination. Soils, food chain elements and the human population should be assessed during such investigations. We suspect that, as seen at Da Nang Airbase and in A So (in the A Luoi District of Thua-Thien Hue Province), some former firebases, airbases and other former US and South Vietnamese military facilities may have significant levels of TCDD in their subsurface soils. Crash sites and load-jettison sites of Agent Orange spray planes should also be investigated.

10. Detailed impact mitigation plans for Da Nang Airbase must be implemented immediately, as well as in other areas where dioxin contamination exceeds international guidelines for protection of human health, including Bien Hoa, Phu Cat and other hot spots listed in Hatfield/10-80 (2005).

Proposed mitigation measures are summarized in Table 4.1 below.

Table 4.1 Summary of proposed mitigation strategies to reduce exposure of the human population to dioxin contamination from historical use of Agent Orange on the Da Nang Airbase.

Location	Recommended Mitigation Strategy
Sen Lake, Lake B, Lake C, West Airbase Fishponds, Xuan Lake and March 29 Lake	Institute an immediate ban on fishing, aquaculture, and consumption of aquatic organisms harvested. Ban the harvest and consumption of lotus and other vegetables raised in soils/sediments from Da Nang Airbase aquatic ecosystems. Ban fishing in waterbodies on the perimeter of the Airbase (Xuan Lake and March 29 Lake).
Da Nang Airbase perimeter	Install a new 'secure', permanent fence around the perimeter of the Airbase to prevent public access.
Da Nang City	One-on-one consultations should be held with all individuals who provided blood/milk samples under the current study. Educational materials related to preventing further exposure to dioxins and furans should be provided (similar to those prepared by Hatfield/10-80 [2000]).
Sen Lake Workers, West Airbase Fishpond Workers, Airbase Workers potentially exposed to contaminated soils and sediments	Development of alternate livelihoods for individuals currently earning their living from harvesting fish, lotus and other aquatic organisms and vegetables from Da Nang Airbase. These strategies require development by Vietnamese authorities in a manner that is appropriate to local culture and regulations.
Long-term monitoring	Monitoring of dioxin contamination in soils, sediments, food and residents should be implemented on an annual basis for a period of five to seven years, at a minimum, to verify effectiveness of mitigation measures. Further sampling and health studies may be required to verify the extent of contamination and exposure. Results of these studies should be used to develop and implement strategies to minimize or avoid exposure to dioxins. Detailed assessment and monitoring should be undertaken at Bien Hoa, Phu Cat, and other identified hot spots.
Former Mixing and Loading Area, former Storage Area, Drainage Canals: Clean up and/or ecologically isolate Airbase hot spots	Appropriate engineered solutions require refining and rapid implementation to prevent further spread of dioxin-contaminated soils and sediments into Sen Lake, and, ultimately, into the human population of Da Nang. Funding for undertaking these activities, and removing dioxin residues from the local ecosystem, needs to be secured as soon as possible.

Recreational Fishing at Xuan Lake

Photo: Lady Borton

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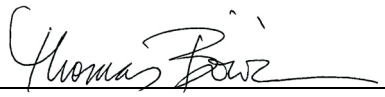
6.0 CLOSURE

We trust the above information meets your requirements. If you have any questions or comments, please contact the undersigned.

HATFIELD CONSULTANTS:

Approved by:  April 30, 2006

Thomas Boivin, President and Partner — Date

Approved by:  April 30, 2006

Grant Bruce, Vice-President and Partner — Date

APPENDICES

Appendix A1

Memoranda Regarding Herbicide Damage in Da Nang

Item ID Number	00210
Author	Moran, John
Corporate Author	
Report/Article Title	Memorandum: Herbicide Damage to Vegetable Plots Vicinity Da Nang Air Base, from John Moran to 7th Air Force, TACC, ATT: Ltc. Robert McCollester, October 31, 1968
Journal/Book Title	
Year	0000
Month/Day	
Color	[ ]
Number of Images	7
Descripton Notes	Includes Trip Report - Da Nang - October 25-26, 1968, From Barry R. Flamm

Tab A 11-5

Chemical Operations Division

MACJ3-09 31 October 1968

MEMORANDUM FOR: 7TH AIR FORCE, TACC
ATTN: LTC ROBERT McCOLLESTER

SUBJECT: Herbicide Damage to Vegetable Plots Vicinity Da Nang Air Base

1. Discussion:

A. On 18 October 1968 Mr. E. M. Stickney, CORDS Agricultural Advisor, I CTZ, Da Nang called Colonel John Moran, Chief Chemical Operations Division, Headquarters, MACV, to discuss possible herbicide damage to vegetables in the vicinity of Da Nang Air Base. It was Mr. Stickney's opinion that the damage had been caused by leaks from Ranch Hand herbicide aircraft which habitially fly over this area as they depart from and return to Da Nang Air Base. Colonel Moran agreed to send a representative from MACV COC-7 and an agriculture representative from USAID to investigate the damage.

B. On 25 October 1968 Mr. Barry Flamm of USAID and Major Hidalgo of COC-7 went to Da Nang to conduct the investigation. Mr. Stickney, Mr. Flamm and Major Hidalgo visited Detachment 1, 12th SOS at Da Nang on 25 October and discussed the problem with the Detachment Commandor, LTC Larsen. LTC Larsen pointed out the flight patterns used by Ranch Hand aircraft for take offs and landings. This is shown on the attached map. The flight patterns shown are those used the greatest percentage of the time; however, on occasion the patterns are reversed if the wind is from the north.

C. There are no herbicide targets in the vicinity of Da Nang (the nearest is approximately 20 km away); therefore, any damage from aircraft would necessarily be from herbicide leakage during departure from and return to the airbase. LTC Larsen stated that a strenuous effort is made by his maintenance personnel to prevent leakage. This includes inspection and replacement of faulty nozzle valves prior to each mission. In spite of these precautions leakage does occur on occasion.

D. Upon completion of the interview with LTC Larsen, Mr. Stickney, Mr. Flamm, Major Hidalgo and CPT Watts of Ranch Hands visited the Hoa Vang District to observe first hand the effects on a demonstration

MACJ3-09 File Copy 401-01 D

vegetable plot. (Note: This was the area of heaviest damage and is located directly south of the airbase) According to Mr. Stickney, the area had previously contained a variety of healthy young vegetable plants (tomatoes, chinese cabbage, ect.). On or about 28 September, the plants began to show signs of damage, and at the time of the inspection all the plants were dead. Some trees in the area, notably jak and palm, also showed signs of damage. There was no discernible pattern to damage such as a discrete swath, but rather the damage seemed to cover the entire area. CPT Watts noted that the damage in this particular area could have been due to aircraft leakage especially on those infrequent occasions when the aircraft make their final approach over Hoa Vang. It is highly unlikely that leakage would occur on take off or at any time prior to actual spraying in the target area. When leakage does occur it is due to faulty value operation after the spray mission.

9 E. On 26 October Mr. Stickney, Mr. Flamm and Major Hidalgo visited other areas where damage had occurred. The damage was not nearly as bad in these areas. Also, it is significant to note that most of these areas lie outside of the flight pattern of the herbicide aircraft. In addition, vegetables are being grown in East Da Nang (area shown in brown on map) where there has been no damage, yet Ranch Hand aircraft habitually overfly this area. Another factor which quite possibly is contributing to the vegetable damage is the disposition of empty herbicide drums. Numerous drums were noted throughout the areas of light damage north and west of the airbase. Although supposedly empty, these drums could contain small amounts of herbicide which when vaporized would be sufficient to cause damage to the highly susceptible vegetable plants. These drums were noted in the hamlets being used for trash containers and water barrels. Since the herbicide is controlled by ARVN, they also control the disposition of empty drums. During the inspection Mr. Flamm found limited evidence of natural crop damage due to insects and plant diseases.

2. Conclusions:

A. It is possible that some of the vegetable damage in the vicinity of Da Nang Air Base was caused by herbicide leakage from Ranch Hand aircraft, especially in the Hoa Vang demonstration plot.

B. Damage in other areas was not directly traceable to aircraft leakage, and in fact, it is highly probable that any herbicide damage there was due to vapors from empty drums.

3. Recommendations:

A. That Ranch Hand continue to exercise close supervision over the maintenance of spray nozzle valves in order to prevent leakage.

MACJ3-09
SUBJECT: Herbicide Damage to Vegetation Plots Vicinity Da Nang Air Base

B. That in the future, demonstration vegetable plots not be located in proximity to the Ranch Hand flight pattern.

C. That a request be made to the ARVN depot at Da Nang to closely control the disposition of empty herbicide drums. (Note: Mr. Stickney said he would do this)

1 Incl
as
+ Mr B. Flamm's report

JOHN MORAN
Colonel, USA
Chief, Cml OPns Div

Copy furnished:
Mr. E. M. Stickney, CORDS, I CTZ
LTC P. Larsen, CO, Det 1, 12th SOS
Mr. Barry Flamm, USAID, Saigon

File

October 31, 1968

Barry R. Flamm, Chief
Forestry Branch

Trip Report - Danang - October 25-26, 1968

At the request of Col. John Moran, COC 7, and Mr. E.M. Stickney, Senior Ag. Advisor I-CTZ, I went to Danang with Major Pete Hidalgo, I-Corps Chemical Officer from COC 7, to examine possible accidental herbicide damage to vegetable crops.

Mr. Stickney reported herbicide damage to vegetable crops south of the Danang Air Base at Hoa-Vang and to the north and west of the base.

Major Hidalgo, Stickney and I visited Ranch Hand Detachment Headquarters to explain trip objective and to obtain information on the defoliation operation. We spoke to Ltc. Larsen, Detchment Commander and Captain Watts, Pilot, and learned the following:

1. Nearest targets have been at least 20 kilometers from Danang

2. The Danang Airport runways lie north and south. Generally take offs and landings are to the south. Approaches are made over the Danang river.

3. Spray equipment is inspected for leaks, etc. prior to take off.

4. Spring loaded valves on spray nozzels open under pressure and close automatically when pressure is cut off. Foriegn obstacles may prevent proper valve closure.

5. Ltc. Larsen stated that nozzels sometimes leaked on return flights.

Captain Watts accompanied Major Hidalgo, Mr. Stickney, Eddie Chin (Chinese - Agriculture Team Leader) and I for an examination of a vegetable demonstration plot at Hoa-Vang. According to Messrs Stickney and Chin, the Crops had been destroyed by herbicides. As the crops had been plowed under, they could not be examined. However, some penennial broad leaf plants showed typical effects of herbicides.

A C-130 passed almost directly over us while we were at the plot. Captain Watts said this would be the same pattern that Ranch Hand would fly under these wind conditions.

The objective of the demonstration program is to encourage farmers to produce vegetable crops. According to Mr. Chin, vegetable crops average 750,000 $VN/ha

as compared to an ave of 50,000 $VN/ha for rice. The Danang area could grow the vegetables for military and civilian use that is now principally imported from Dalat.

On October 26, we examined areas west and north of the Airport. The area north of the Airport showed little damage. An area west of the Airport still showed some effects from herbicides possibly about 30 days old. Manioc plants indicated there had been herbicide contact.

As herbicide damage west of the airport from leaky valves did not fit our other information, we searched for other explanations. We found scattered throughout this area and every where else, herbicide barrels being used for water containers animal troughs, trash, etc. This could be a serious source of contamination to the entire area.

Major Hidalgo informed us that the herbicide and the barrels were property of ARVN thus complicating corrective action.

Conclusions

Damage in the Hoa-Vang area is principally from occasional leaky values on spray planes returning from missions.

Herbicide chemical barrels are unquestionally a cause of much difficulty throughout the area.

Recommendations:

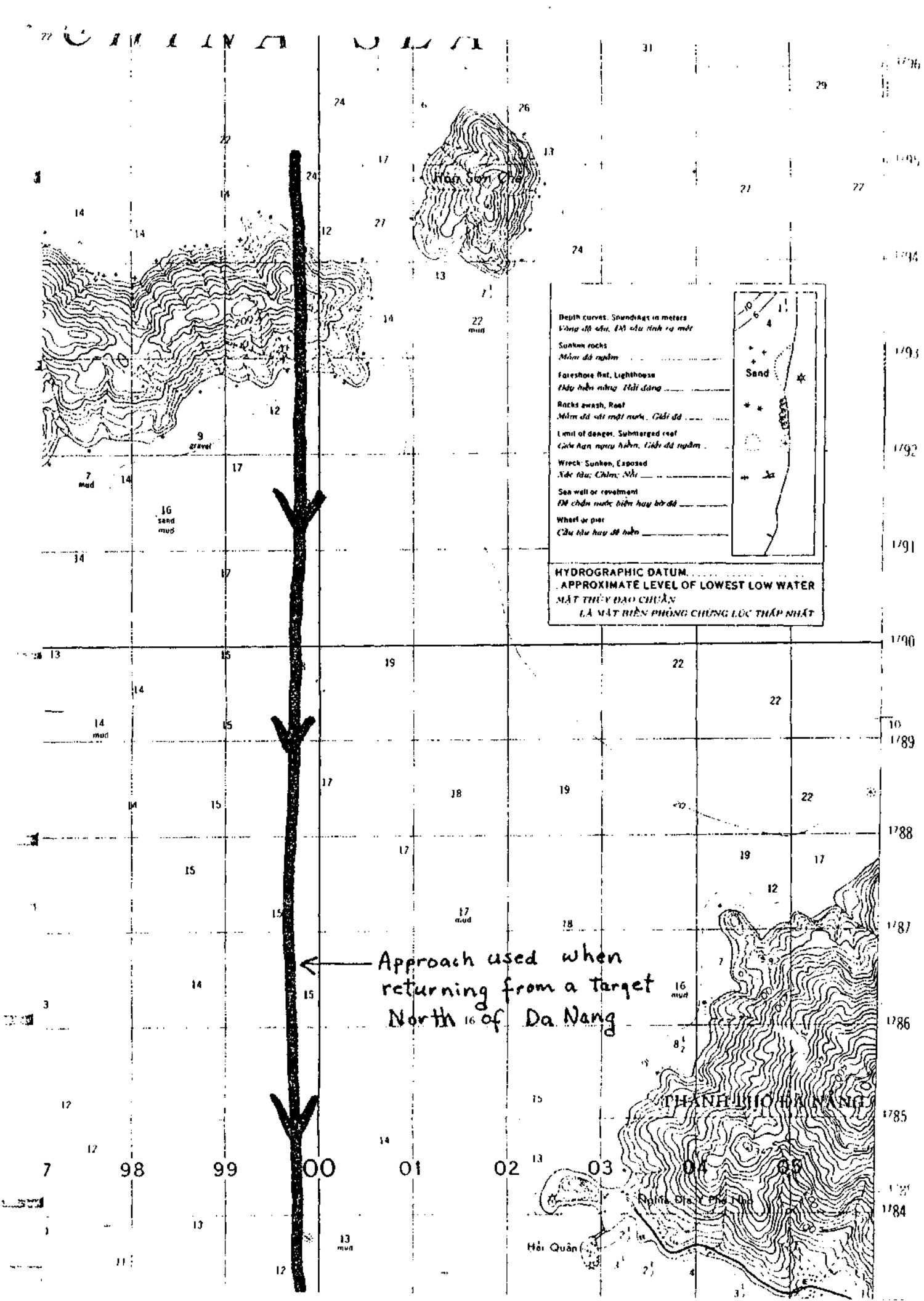
The group jointly arrived at the following recommendations:

1. Chemical barrels must be thouroughly cleaned before selling or giving to the local population. This to be taken up by Stickney with ARVN.

2. Agriculture personnel will work with Ranch Hand to determine critical areas. Relatively herbicide resistent crops will be recommended for planting in these areas. Demonstration plots will avoid these areas.

3. Ranch Hand will be provided a map showing important demonstration plots and crop areas to avoid.

4. Major Hidalgo will look into the spray equipment system to determine means to reduce leakage.


Hòn Sơn Chà
Depth curves. Soundings in meters
Sunken rocks
Foreshore flat, Lighthouse
Rocks awash, Reef
Limit of danger. Submerged reef
Wreck: Sunken, Exposed
Sea wall or revetment
Wharf or pier
Sand
HYDROGRAPHIC DATUM.
APPROXIMATE LEVEL OF LOWEST LOW WATER
MẶT THỦY ĐẠO CHUẨN
LÀ MẶT BIỂN PHỔNG CHUNG LÚC THẤP NHẤT
Approach used when returning from a target North of Da Nang
THÀNH PHỐ ĐÀ NẴNG
Hải Quân
98
99
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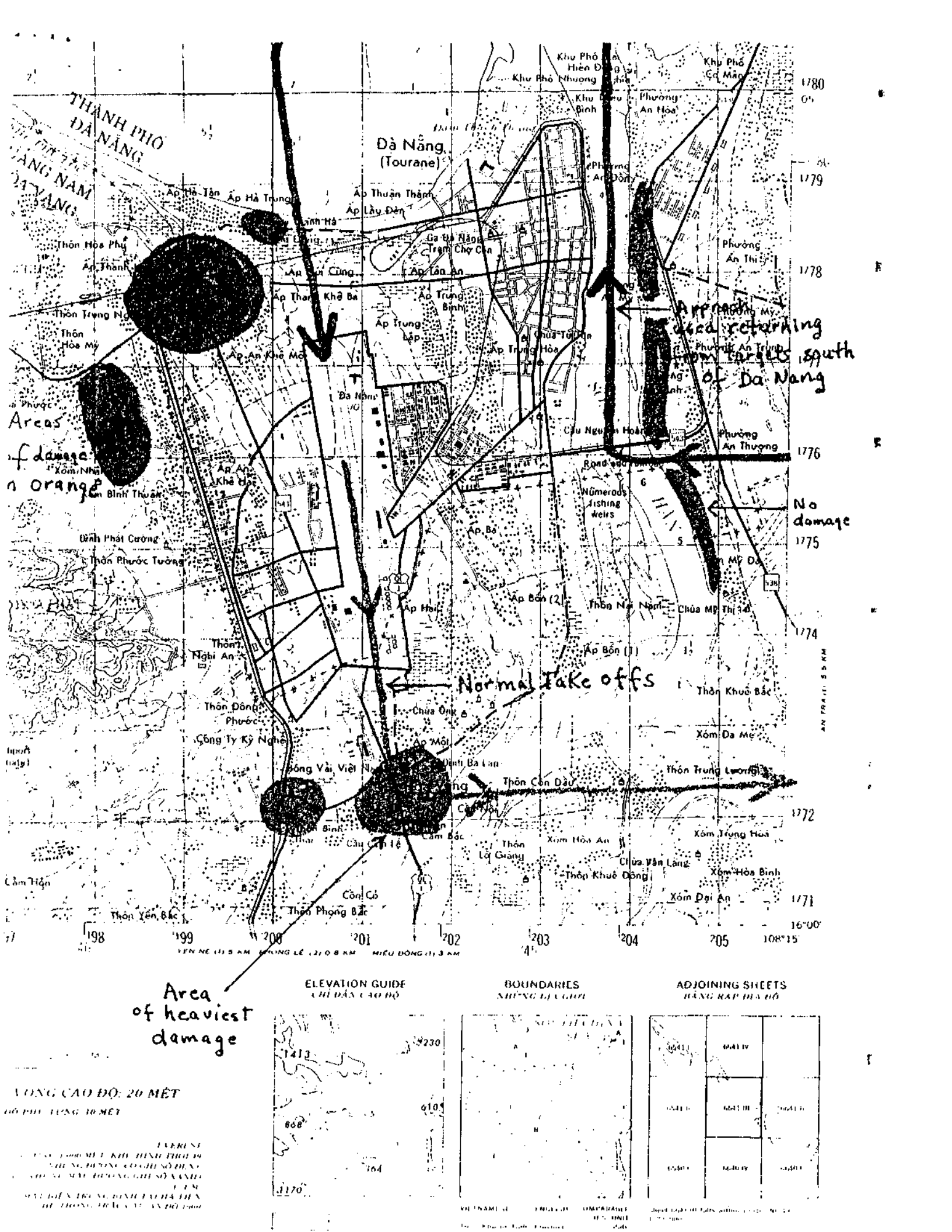
Dà Nẵng
(Tourane)
Areas of damage
n orange
Approach and returning from targets south of Da Nang
No damage
Normal Take offs
Area of heaviest damage
ELEVATION GUIDE
BOUNDARIES
ADJOINING SHEETS

Item ID Number	00211
Author	Kinne, Harold C.
Corporate Author	
Report/Article Title	Memorandum: Defoliant Damage in Da Nang, from Colonel Harold C. Kinne, Jr. to Brigadier General John G Wheelock III, March 29, 1969
Journal/Book Title	
Year	0000
Month/Day	
Color	☐
Number of Images	9
Description Notes	Includes two attachments: memorandum to Tran Dinh Tho from Kinne on Defoliant Damage in Da Nang, March 28, 1969; report by Jim Corey on defoliant damage, March 23, 1969

11-5

[redacted]

HEADQUARTERS
UNITED STATES MILITARY ASSISTANCE COMMAND VIETNAM
APO SAN FRANCISCO 96222
Chemical Operations Division

MACJ3-09 29 March 1969

MEMORANDUM FOR: BRIGADIER GENERAL JOHN G. WHEELOCK III
ACTING ACofS, J3

SUBJECT: Defoliant Damage in Da Nang

1. PURPOSE. To provide information on defoliant damage in Da Nang.

2. BACKGROUND. All herbicides used in SVN are purchased by the Air Force in CONUS and shipped to SVN in 55-gallon drums. Upon reaching the port, the herbicide becomes the property of ARVN. ARVN units are responsible for in-country herbicide supply to include the disposal of empty drums.

3. DISCUSSION.

a. The problem of defoliant damage in Da Nang first came to the attention of this office in October 1968. Mr. E. M. Stickney, the CORDS Agricultural Advisor for I CTZ, claimed that leakage from herbicide aircraft was causing extensive damage to vegetable plots in the Da Nang area. An investigation conducted by a representative of this office, Mr. Flemm of the USAID Forestry Section, and Mr. Stickney disclosed that the primary cause of damage was not leakage from aircraft, but rather, the spread of small amounts of herbicide throughout the area by means of empty herbicide drums. Mr. Stickney said that he would work through local GVN officials in an attempt to control the spread of these drums.

b. On 27 March a report was received from the Chief, CORDS/New Life Development/I CTZ again citing empty herbicide drums as the cause of extensive damage to shade trees in the city of Da Nang. The report also pointed out that the method used by ARVN personnel to transfer the herbicide from drums to large tanks results in a two to three gallon residue being left in each drum. These drums are then allegedly sold to local citizens for 200 piasters each. With the large number of drums

[redacted]

[redacted]

MACJ3-09 29 March 1969
SUBJECT: Defoliant Damage in Da Nang

being generated by Ranch Hand operations in Da Nang, a significant amount of herbicide is being wasted which in turn is causing damage to trees and crops.

c. I have forwarded a copy of this report along with a memorandum recommending corrective action to Colonel Tho, Chairman of the JGS 202 Committee (TAB A). Copies have also been furnished to the US Embassy and the 12th Special Operations Squadron (Ranch Hand). I will closely monitor corrective action taken by ARVN to deal with this problem.

4. RECOMMENDATION. None - Information only.

1 Incl
as

HAROLD C. KINNE, JR.
Colonel, USA
C, Cml Opns Div

Chemical Operations Division

MACJ3-09 28 March 1969

MEMORANDUM FOR: COLONEL TRAN DINH THO
CHAIRMAN, JGS 202 COMMITTEE

SUBJECT: Defoliant Damage in Da Nang

1. Attached is a copy of a report prepared by the Deputy Chief, CORDS/New Life Development/I CTZ, on the subject of defoliant damage in Da Nang. The report states that there has been considerable damage to shade trees in the city due to the disposition of herbicide drums by ARVN. The report also points out that a significant amount of herbicide is being wasted because the drums are not being emptied properly.

2. This report confirms a previous investigation made in October 1968 by representatives of my office and the USAID Forestry Section. During this investigation it was noted that empty herbicide drums were also the primary cause of damage to vegetable crops in the Da Nang area. A copy of the investigation report was recently furnished JGS/J3/Chemical Branch.

3. Obviously, corrective measures are required. I suggest that two separate approaches be investigated:

a. First, that a more effective means be developed to ensure that the drums are completely emptied when the herbicide is transferred. The present system appears to result in loss of approximately 5% through wastage and is certainly not an economical use of this expensive material.

b. Second, that some system be developed for cleaning the drums prior to disposal. A simple flushing system may be sufficient, or the material may require chemical or steam cleaning; this would have to be investigated.

[redacted]

MACJ3-09 28 March 1969
SUBJECT: Defoliant Damage in Da Nang

4. ARVN herbicide storage points are located at Bien Hoa, Phu Cat, Nha Trang, and Saigon in addition to Da Nang. Bien Hoa generates by far the largest number of empty herbicide drums. Results of any investigation should be applied to all herbicide storage and transfer areas since this problem may not be peculiar to Da Nang.

HAROLD C. KINNE, JR.
Colonel, USA
Chairman, 203 Committee

[redacted]

2465

UNITED STATES MARINE CORPS
HEADQUARTERS
III MARINE AMPHIBIOUS FORCE
MILITARY ASSISTANCE COMMAND, VIETNAM
FPO. SAN FRANCISCO 96602

IN REPLY REFER TO

29 Mar 1969

MEMORANDUM

From: Deputy for CORDS/III MAF

To: Assistant Chief of Staff, CORDS

Subject: Defolient Damage in Da Nang

1. Last time you were up here you indicated strong interest in our study of the inadvertent damage to the trees and greenery of Da Nang caused by the improper handling of the defolient chemicals. Attached herewith is our technical report.

2. .The report was inadvertently distributed before I had a chance to see it in final form but so far the reactions from our Vietnamese colleagues have been quite good. Both the Mayor and General Lam have told me that they intend to take the necessary action to stop the ARVN resale of the contaminated containers.

Alexander Firfer

Attachment

Noted by CHIEF OF STAFF
9 April 69

23 March 1969

To: See Distribution

From: LTC Jim Corey, Deputy Chief, CORDS/NLD/ICTZ

Thru: E. M. Urquhart, Chief, CORDS/NLD/ICTZ

Subject: Defoliant Damage in Da Nang City

1. References: (DFC/ADFC/ICTZ copy only)

Tab A - Map, Flight Patterns Ranch Hand
Tab B - Map, Tree Damage in Da Nang
(C) Tab C - Memo, for 7th USAF, TACC
Tab D - Memo for NLD from Agriculture
Tab E - Memo for NLD from III MAF
Tab F - Trip Report - Forestry Branch
Tab G - Memo, NLD to DFC
Tab H - Summary Comment - City Advisor

2. Statement of the Problem

a. A large number of beautiful shade trees along the streets in the city of Da Nang are dead or dying.

b. This damage appears to be entirely a result of defoliation chemicals.

c. To determine how the defoliant, which is damaging to the trees, is introduced into the city of Da Nang, and to recommend corrective measures.

3. Discussion

a. Investigation and competent technical and scientific analysis discloses that tree destruction in Da Nang is largely a result of defoliant chemicals. There is no evidence of insect infestation or fungal disease.

b. Defoliant chemicals come into contact with the trees in the following manner:

(1) possible leakage from spray aircraft (Ranch Hand)
(2) defoliant barrels introduced into the city of Da Nang

c. A recently conducted investigation indicates negligible leakage from Ranch Hand aircraft.

(1) Aircraft leakage is so minor it cannot be a contributing factor to the extensive damage throughout the city.

(2) Damage in the city does not parallel the rigid flight patterns of Ranch Hand (Tab A) compared to (Tab B).

(3) Automatic pressure dispensing and automatic valve shut-off controls preclude any more than a very slight residual leakage from a faulty valve. Such leakage occurs only immediately after the spray pattern run. Even so, valves are checked and replaced when necessary after every flight. Although not necessary, a reverse pressure device could be installed, which would absolutely eliminate even one drop of minor leakage (Tab C).

d. In every instance of tree and garden plot damage, empty defoliant barrels are either present in the area or have been transported along the route of the damage (Tab B).

(1) Defoliant mixtures are pumped from full barrels at the Ranch Hand site into large storage tank trailers, and then, from the trailers into aircraft. Each aircraft mission has a capacity of 1000 gallons releasable only under a pressure of about 85 lbs. per square inch (Tab D).

(2) The method of pumping defoliant from an upright full barrel through the bung hole via a metal alcove type siphon leaves a residue of two to three gallons of defoliant in each barrel. The bung is sometimes loosely, or generally not replaced, and the barrels are then loaded on a ARVN truck and delivered into the city of Da Nang (Tab E). Residue defoliant leaks from the barrels along the route, or is later emptied from the barrels in various locations throughout the city.

(3) Considering the cost of the defoliants quoted at more than $5.00 U.S. per gallon the loss of several gallons in each 55 gallon barrel is prohibitive, and, in addition, constitutes a serious hazard.

(4) Even when fully emptied, the fumes from the barrels are volatile enough to cause serious plant damage. Cleaning the barrels is impossible, since a burnout, or steam-flush through the small bung hole cannot be accomplished. The distinctive markings on the barrels are equivalent to POISON identification, with the intention that these containers be controlled and scrapped as not re-usable.

e. It is interesting to note that the same type defoliant operation is conducted out of the city of Nha Trang. The empty barrels are carefully controlled and discarded in a remote beach storage area, around which all foliage has ceased to grow. There is, as a result of this control, no defoliant damage in and around Nha Trang from either aircraft or barrels.

f. Vietnamese, informally interviewed at barrel locations in and around the city of Da Nang, indicate that the defoliant barrels are sold by ARVN for 300 piasters each, to be used by Da Nang citizens in whatever way they choose (Tab F).

4. Summary

a. The report by MLO/Agriculture, 27 February, (Tab G) citing defoliant barrels as causative is essentially correct, except that damage from aircraft leakage is not conclusive and probably not so.

b. This additional study as recommended by (Tab H) advisor to the Mayor of Da Nang is conclusive.

5. Conclusion

a. Damage from aircraft leakage is minimal and is a negligible factor in contributing to the loss of trees in Da Nang;.

b. Defoliant barrels are not being properly emptied with a loss of more than $10.00 U.S. per barrel. (MQ/MACV reports 6,000 gallons consumed in ICTZ on an average day).

c. Defoliant barrels with residual defoliants are being sold to the citizens of Da Nang and surrounding areas.

d. Residual defoliants leaking, and being drained out of supposedly empty barrels, are causing tree losses in Da Nang.

6. Recommendations

a. Refer the matter of defoliant waste through improper pumping and emptying procedures to the Joint Economic Office/USAID (via distribution of this report).

b. Direct this report (via distribution) to interested agencies to institute control of the empty barrels and to insure that they are all carefully accounted for and destroyed, sunk, or stored in a remote area.

c. Determine if the profits accumulated thus far from the sale of barrels can be directed to the costs of dead tree removal and the replanting of replacement trees in the city of Da Nang.

d. Initiate a program to immediately remove hazardous dead trees in Da Nang and replace them with defoliant resistance species. Eucalyptus appears to be the most resistent and may be suitable for replanting.

e. Funding for costs contingent to the removal of dead trees and their replacement should be borne by the organization, person or persons responsible for the damage incurred.

f. It is finally recommended that positive steps be taken by the GVN to prohibit the further introduction of defoliant barrels into the city of Da Nang.

7. Distribution

a. DTC/ADTC/ICTZ
b. Joint Staff, COSVN
c. III MAF, G-5
d. Quang Da Sector Commander
e. Mayor, City of Da Nang
f. CORDS, City Advisor, Da Nang
g. 7th Air Force, TACC
h. Chemical Operations Division, MACJ3-09
i. Forestry Branch/USAID
j. 511 Ordnance Depot, ARVN
k. Joint Economic Office/USAID

Item ID Number	00212
Author	Bills, Ray W.
Corporate Author	
Report/Article Title	Memorandum: Report of Investigation into Possible Herbicide Damage at Vietnamese Naval Compound at Da Nang, from Cpt. Ray W. Bills to III MAF Chemical Officer (Cpt. Lott), 26 September 1969
Journal/Book Title	
Year	0000
Month/Day	
Color	[ ]
Number of Images	6
Description Notes	Includes these attachments : Memorandum on Reported Herbicide Damage (very poor print quality); one page handwritten notes; map of Da Nang Combat Base; and one typed page on prohibiting movement of drums into Danang City.

Chemical Operations Division

MACJ3-09 26 September 1969

MEMORANDUM FOR: III MAF CHEMICAL OFFICER (CPT LOTT)

SUBJECT: Report of Investigation into Possible Herbicide Damage at Vietnamese Naval Compound at Da Nang

1. On 24 Sep 69 the III MAF Chemical Officer, CPT Lott, and CPT Bills from H2 MACV visited the Vietnamese Naval Compound at Da Nang to investigate possible herbicide damage. Personnel contacted were:

a. LCMDR James - US Advisor.

b. Mr. Xuan - Chief of Staff (VN).

c. LT Shirk - US Advisor.

2. All the Australian pine (casuarina) located on the compound appeared to be dead. Most of the broadleaf trees were either completely void of foliage or in various stages of loosing their leaves. Wherever it was possible to observe new growth, the growth showed the effects of herbicide. The broadleaf vine growing on the slopes around the hilltop housing compound also showed herbicide damage. The herbicide damage was limited to the Navy compound. Vegetation growing on low hills near the compound did not show herbicide damage.

3. While surveying the compound a total of eight ORANGE herbicide barrels were found. Four of these were located in the POL yard; two of them had a strong odor of herbicide. The remaining four barrels were located near a signal van and were filled with gasoline. The gasoline was used to operate a power generator. It was explained to LCMDR James and Mr. Xuan that the gasoline in the barrels may contain small quantities of herbicide, and when burned in the generator engine the exhaust produced will contain vaporized herbicide capable of effecting vegetation in the immediate area. It was also pointed out that vapors from residual herbicide left in empty barrels are a potential source of herbicide damage to nearby vegetation.

MACJ3-09 26 September 1969
SUBJECT: Report of Investigation into Possible Herbicide Damage at Vietnamese Naval Compound at Da Nang

4. LCMDR James and Mr. Xuan stated that the signal van and generator had been on the compound for approximately four months. The severe damage to the broadleaf trees surrounding the hilltop housing compound has occurred since the generator has been in operation.

5. It was recommended that all herbicide barrels be made unuseable and removed from the compound and a control system be established to prevent herbicide barrels from entering the compound in the future.

RAY W. BILLS
CPT, USA
Cml Opns Officer

Copy Furnished
LTC Simonson, MACJ3-053

11-5

[illegible]
III Marine Amphibious Force
Military Assistance Command, Vietnam
FPO San Francisco 96602

30 Sep 69

From: Commanding General
To: First Coastal Zone Advisor, Naval Advisory Group, MACV Naval Advisory Team 143, FPO San Francisco 96602

Subj: Reported Herbicide Damage

Ref: (a) Ltr, First Coastal Zone Advisor, dtd 16 Sep 69
(b) MACV msg 201124Z Jul 69

Encl: (1) Ltr, U. S. Military Assistance Command, Vietnam [illegible] of 25 Sep 69

1. On 18 September 1969, the Chemical Officer of this Headquarters visited Danang Naval Base to investigate the tree and vegetation damage reported by reference (a). The exact cause of this damage could not be ascertained. However, the damage definitely did not result from aerial chemical or herbicide operations since none have been conducted in the vicinity of the Naval Base.

2. In response to a request by this headquarters a plant pathologist from the Chemical Operations Division visited your base on 24 September. A gasoline generator, which is filled from 55-gallon used herbicide drums, was noted. It was learned from officers at the base that the generator was installed approximately four months ago and that the reported damage began appearing about three months ago. The damage is entirely localized at the base. These factors are significant.

3. Reference (b) states that damage to foliage can be caused by [illegible] (diesel) fuel from herbicide drums. It is probable that the cause of damage is the volatilization of herbicide in the generator. It is recommended that all herbicide barrels be removed from the Naval Base and that precautionary measures be taken to preclude their ingress in the future.

R. L. [illegible]
By Direction

Copy furnished:
[illegible]

(Encl (1))

66-70

11,000,000 = 200,000 Drums
30

~~60,000~~ 7,000 = ~~72,000~~ 180,000 gallons

Mar 67 - 68
Supply Clerk.
Cam Ranh Bay.
Dec. 67 - Mar 68.

mg
ng/m^3

Mar 69 · 70 150

May 68 - Mar 69
→ HQ DANANG

22 Sept 1 Jun 68
Aviation
Multi-Eng.
DANANG.

May 71 - Nov 72
37th Signal
Long Beach / i

71 - 72 MAC TERMINAL

10 JUN 69 - 20 NOV 70
Salvage Specialist
DA NANG.

NOV 67 - NOV 68
Transport NOV - JUL
JUL - AUG
Cargo Handler

10 Mar 67 - Mar 68

Jun 70 - May 71

JAN 69.
'69 · Barge OSAGE Ship Fire

Civil Affairs
Intell
OCT 70 - FEB 71

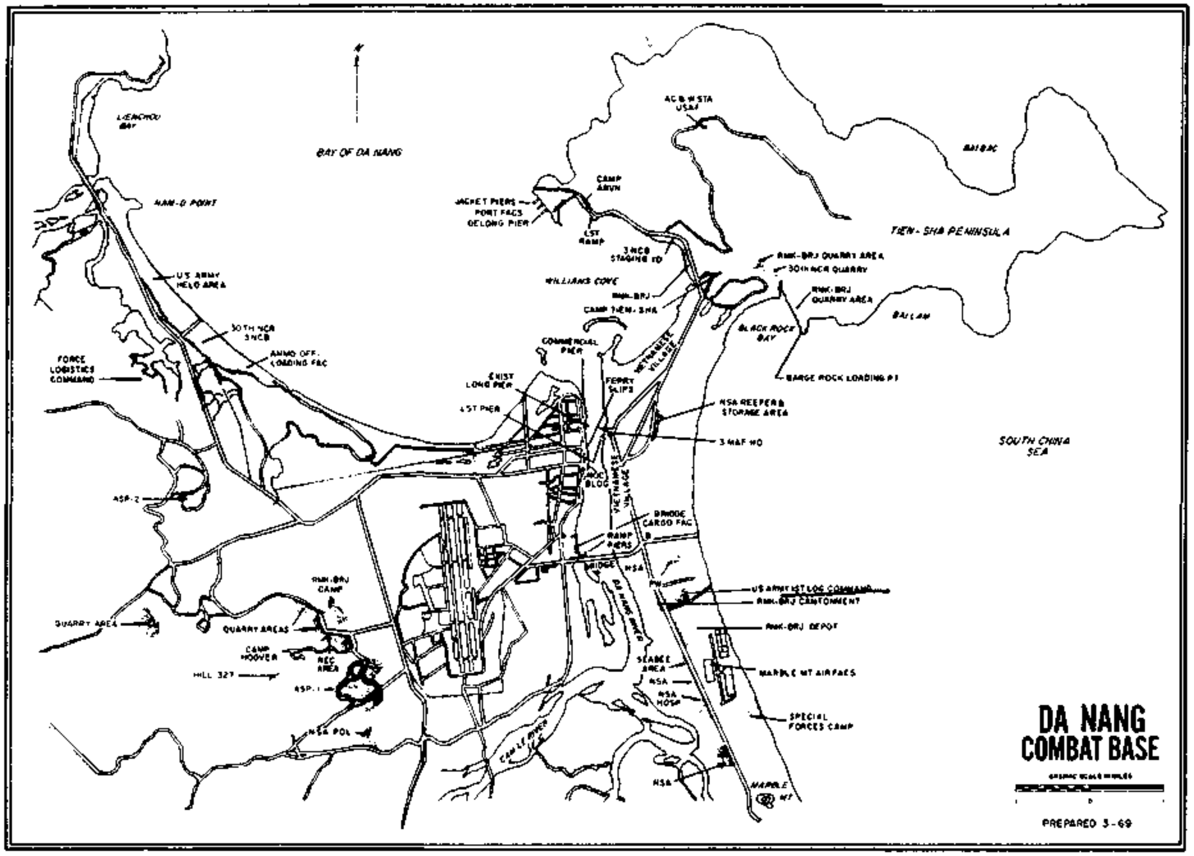
BAY OF DA NANG
NAM-O POINT
U.S. ARMY HELO AREA
30TH NCR 3NCB
AMMO OFF. LOADING FAC
FORCE LOGISTICS COMMAND
ASP-2
CAMP ARVN
JACKET PIERS
PORT FACS
DELONG PIER
LST RAMP
3NCB STAGING YD
WILLIAMS COVE
CAMP TIEN-SHA
COMMERCIAL PIER
LONG PIER
LST PIER
FERRY SLIPS
VIETNAMESE VILLAGE
AC & W STA USAF
TIEN-SHA PENINSULA
30TH NCR QUARRY
BLACK ROCK BAY
NSA REEFER & STORAGE AREA
3 MAF HQ
SOUTH CHINA SEA
BLDG
RAMP PIERS
BRIDGE
NSA
CAMP
QUARRY AREA
QUARRY AREAS
CAMP HOOVER
REC AREA
HILL 327
ASP-1
NSA POL
CAM LE RIVER
DA NANG RIVER
SEABEE AREA
NSA HOSP
SPECIAL FORCES CAMP
MARBLE MT
DA NANG COMBAT BASE
PREPARED 3-69

FIGURE 6

Orange

Materials coded RED and BLUE are specific for defoliation of broad leaf plants. The material coded white is used for crop destruction and only a small quantity is used. Drums coded white are not considered hazardous to most plants in the city.

1. The defoliant arrives in Danang and is turned over to the 511 Ordinance Depot, ARVN. This Unit is responsible for moving the material to Danang Air Base.

2. The contents of the drums are transferred to underground tanks at the Air Base. The physical transfer is done by the 202 Handling and Loading Platoon, I Corps Hq., Danang.

3. We believe that the damage caused by residual material in the used drums can be minimized if the drums are burned out before they are brought into town.

We recommend action be initiated which will result in a prohibition against movement of these drums into Danang city and surrounding rural areas unless they have been properly cleaned.

We have personally recommended to the Chemical Warfare Officer, MACV/ICTZ that a flushing system be installed on the aircraft which are used to apply defoliants in the ICTZ. This will minimize damage to vegetable producing areas around and in Danang City.

73A1590/2

Folder: Defoliation File (70)

Appendix A2

Dioxin and Furan Data from AXYS Analytical Services, Samples Collected December 2006

A2.1
Soil and Sediment

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN001
Sample Collection:
05-Dec-2006 09:45

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-1
Matrix:	SOLID	**Sample Size:**	9.94 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	21-Jan-2007 **Time:** 12:52:06	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_032 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_032 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	11.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		9.66	0.0503	0.78	1.001
1,2,3,7,8-PECDD [3]		1.75	0.0503	0.61	1.000
1,2,3,4,7,8-HXCDD		1.95	0.0503	1.31	1.000
1,2,3,6,7,8-HXCDD		4.70	0.0503	1.26	1.000
1,2,3,7,8,9-HXCDD		4.79	0.0503	1.23	1.010
1,2,3,4,6,7,8-HPCDD		142	0.205	1.04	1.000
OCDD	OLR				
2,3,7,8-TCDF		2.19	0.0603	0.80	1.002
1,2,3,7,8-PECDF		0.760	0.0503	1.58	1.001
2,3,4,7,8-PECDF		1.17	0.0503	1.45	1.000
1,2,3,4,7,8-HXCDF		1.84	0.0503	1.27	1.000
1,2,3,6,7,8-HXCDF		1.28	0.0503	1.19	1.000
1,2,3,7,8,9-HXCDF	NDR	0.097	0.0503	0.89	1.000
2,3,4,6,7,8-HXCDF		1.52	0.0503	1.27	1.000
1,2,3,4,6,7,8-HPCDF		17.3	0.0503	1.01	1.000
1,2,3,4,7,8,9-HPCDF		0.971	0.0503	0.98	1.000
OCDF		48.4	0.0503	0.89	1.002
TOTAL TETRA-DIOXINS		13.1	0.0503		
TOTAL PENTA-DIOXINS		11.6	0.0503		
TOTAL HEXA-DIOXINS		50.7	0.0503		
TOTAL HEPTA-DIOXINS		389	0.205		
TOTAL TETRA-FURANS		10.7	0.0603		
TOTAL PENTA-FURANS		16.9	0.0503		
TOTAL HEXA-FURANS		25.2	0.0503		
TOTAL HEPTA-FURANS		49.3	0.0503		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-1_Form1A_SJ630057.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN001
Sample Collection:
05-Dec-2006 09:45

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-1 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.94 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	05-Feb-2007 **Time:** 23:54:57	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_055 S: 5**
Dilution Factor:	5	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_055 S: 1
		% Moisture:	11.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	4460	1.48	0.90	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN001
Sample Collection:
05-Dec-2006 09:45

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-1
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.94 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	13-Jan-2007
Analysis Date:	21-Jan-2007 **Time:** 12:52:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_032 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_032 S: 1
		% Moisture:	11.2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1530	76.3	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	2210	111	0.62	1.383
13C-1,2,3,4,7,8-HXCDD		2000	1600	79.9	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1610	80.7	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1720	86.0	1.06	1.095
13C-OCDD		4000	3640	91.1	0.91	1.180
13C-2,3,7,8-TCDF		2000	1460	73.2	0.79	0.967
13C-1,2,3,7,8-PECDF		2000	1910	95.4	1.56	1.283
13C-2,3,4,7,8-PECDF		2000	1990	99.3	1.56	1.352
13C-1,2,3,4,7,8-HXCDF		2000	1640	81.8	0.52	0.953
13C-1,2,3,6,7,8-HXCDF		2000	1660	83.0	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1710	85.3	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1650	82.6	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1720	86.0	0.45	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1760	88.0	0.46	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	151	75.5		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-1_Form2_SJ630057.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN001
Sample Collection:
05-Dec-2006 09:45

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-1 W
Matrix:	SOLID	**Sample Size:**	9.94 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	05-Feb-2007 **Time:** 23:54:57	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX72_055 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	5	**Cal. Ver. Data Filename:**	DX72_055 S: 1
Concentration Units:	pg absolute	**% Moisture:**	11.2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	3440	85.9	0.91	1.179
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN001
Sample Collection:
05-Dec-2006 09:45

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-1
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.94 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 11:30:49	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_015 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_015 S: 2
		% Moisture:	11.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	NDR	1.31	0.0503	0.58	1.001

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN001

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	05-Dec-2006 09:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	9.94 g (dry)	**Lab Sample I.D.:**	L9585-1
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_015 S: 5** **DX72_032 S: 6** **DX72_055 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		9.66	0.0503	1	9.66e+00	9.66e+00	
1,2,3,7,8-PECDD		1.75	0.0503	1	1.75e+00	1.75e+00	
1,2,3,4,7,8-HXCDD		1.95	0.0503	0.1	1.95e-01	1.95e-01	
1,2,3,6,7,8-HXCDD		4.70	0.0503	0.1	4.70e-01	4.70e-01	
1,2,3,7,8,9-HXCDD		4.79	0.0503	0.1	4.79e-01	4.79e-01	
1,2,3,4,6,7,8-HPCDD		142	0.205	0.01	1.42e+00	1.42e+00	
OCDD		4460	1.48	0.0001	4.46e-01	4.46e-01	
2,3,7,8-TCDF	ND		0.0503	0.1	0.00e+00	2.52e-03	
1,2,3,7,8-PECDF		0.760	0.0503	0.05	3.80e-02	3.80e-02	
2,3,4,7,8-PECDF		1.17	0.0503	0.5	5.85e-01	5.85e-01	
1,2,3,4,7,8-HXCDF		1.84	0.0503	0.1	1.84e-01	1.84e-01	
1,2,3,6,7,8-HXCDF		1.28	0.0503	0.1	1.28e-01	1.28e-01	
1,2,3,7,8,9-HXCDF	ND		0.0503	0.1	0.00e+00	2.52e-03	
2,3,4,6,7,8-HXCDF		1.52	0.0503	0.1	1.52e-01	1.52e-01	
1,2,3,4,6,7,8-HPCDF		17.3	0.0503	0.01	1.73e-01	1.73e-01	
1,2,3,4,7,8,9-HPCDF		0.971	0.0503	0.01	9.71e-03	9.71e-03	
OCDF		48.4	0.0503	0.0001	4.84e-03	4.84e-03	
			TOTAL TEQ		15.7	15.7	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		9.66	0.0503	1	9.66e+00	9.66e+00	
1,2,3,7,8-PECDD		1.75	0.0503	1	1.75e+00	1.75e+00	
1,2,3,4,7,8-HXCDD		1.95	0.0503	0.1	1.95e-01	1.95e-01	
1,2,3,6,7,8-HXCDD		4.70	0.0503	0.1	4.70e-01	4.70e-01	
1,2,3,7,8,9-HXCDD		4.79	0.0503	0.1	4.79e-01	4.79e-01	
1,2,3,4,6,7,8-HPCDD		142	0.205	0.01	1.42e+00	1.42e+00	
OCDD		4460	1.48	0.0003	1.34e+00	1.34e+00	
2,3,7,8-TCDF	ND		0.0503	0.1	0.00e+00	2.52e-03	
1,2,3,7,8-PECDF		0.760	0.0503	0.03	2.28e-02	2.28e-02	
2,3,4,7,8-PECDF		1.17	0.0503	0.3	3.51e-01	3.51e-01	
1,2,3,4,7,8-HXCDF		1.84	0.0503	0.1	1.84e-01	1.84e-01	
1,2,3,6,7,8-HXCDF		1.28	0.0503	0.1	1.28e-01	1.28e-01	
1,2,3,7,8,9-HXCDF	ND		0.0503	0.1	0.00e+00	2.52e-03	
2,3,4,6,7,8-HXCDF		1.52	0.0503	0.1	1.52e-01	1.52e-01	
1,2,3,4,6,7,8-HPCDF		17.3	0.0503	0.01	1.73e-01	1.73e-01	
1,2,3,4,7,8,9-HPCDF		0.971	0.0503	0.01	9.71e-03	9.71e-03	
OCDF		48.4	0.0503	0.0003	1.45e-02	1.45e-02	
			TOTAL TEQ		16.3	16.4	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-1_TEQ_SJ630057.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN003
Sample Collection:
05-Dec-2006 14:20

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-3
Matrix:	SOLID	**Sample Size:**	10.2 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	21-Jan-2007 **Time:** 13:46:44	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_032 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_032 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	11.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		6.44	0.0490	0.79	1.001
1,2,3,7,8-PECDD [3]		2.03	0.0490	0.66	1.001
1,2,3,4,7,8-HXCDD		2.09	0.0517	1.39	1.000
1,2,3,6,7,8-HXCDD		5.29	0.0517	1.21	1.000
1,2,3,7,8,9-HXCDD		5.30	0.0517	1.18	1.010
1,2,3,4,6,7,8-HPCDD		117	0.165	1.05	1.000
OCDD		1970	0.0887	0.90	1.000
2,3,7,8-TCDF		1.81	0.0490	0.75	1.001
1,2,3,7,8-PECDF		0.502	0.0490	1.70	1.000
2,3,4,7,8-PECDF		0.675	0.0490	1.60	1.000
1,2,3,4,7,8-HXCDF		1.48	0.0490	1.18	1.000
1,2,3,6,7,8-HXCDF		0.919	0.0490	1.19	1.000
1,2,3,7,8,9-HXCDF	NDR	0.080	0.0490	1.55	1.000
2,3,4,6,7,8-HXCDF		0.824	0.0490	1.26	1.000
1,2,3,4,6,7,8-HPCDF		11.3	0.0490	1.04	1.000
1,2,3,4,7,8,9-HPCDF		0.731	0.0490	1.16	1.000
OCDF		21.9	0.0490	0.92	1.002
TOTAL TETRA-DIOXINS		11.6	0.0490		
TOTAL PENTA-DIOXINS		15.8	0.0490		
TOTAL HEXA-DIOXINS		55.5	0.0517		
TOTAL HEPTA-DIOXINS		263	0.165		
TOTAL TETRA-FURANS		9.26	0.0490		
TOTAL PENTA-FURANS		12.7	0.0490		
TOTAL HEXA-FURANS		19.7	0.0490		
TOTAL HEPTA-FURANS		27.8	0.0490		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN003
Sample Collection:
05-Dec-2006 14:20

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-3
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.2 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	13-Jan-2007
Analysis Date:	21-Jan-2007 **Time:** 13:46:44	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_032 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_032 S: 1
		% Moisture:	11.8

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1100	55.1	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1480	74.1	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		2000	1100	54.8	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1130	56.7	1.27	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1180	59.2	1.06	1.095
13C-OCDD		4000	2330	58.3	0.89	1.180
13C-2,3,7,8-TCDF		2000	1050	52.5	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1340	66.8	1.54	1.284
13C-2,3,4,7,8-PECDF		2000	1400	70.0	1.56	1.352
13C-1,2,3,4,7,8-HXCDF		2000	1130	56.4	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1160	57.8	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1200	60.1	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1140	56.9	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1180	59.0	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1210	60.5	0.45	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	112	55.9		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN003
Sample Collection:
05-Dec-2006 14:20

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-3
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.2 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 12:06:28	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_015 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_015 S: 2
		% Moisture:	11.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	NDR	1.15	0.0557	1.06	1.001

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:43:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB225_L9585-3_Form1A_SJ630218.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN003

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	05-Dec-2006 14:20
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.2 g (dry)	**Lab Sample I.D.:**	L9585-3
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_015 S: 6** **DX72_032 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.44	0.0490	1	6.44e+00	6.44e+00	
1,2,3,7,8-PECDD		2.03	0.0490	1	2.03e+00	2.03e+00	
1,2,3,4,7,8-HXCDD		2.09	0.0517	0.1	2.09e-01	2.09e-01	
1,2,3,6,7,8-HXCDD		5.29	0.0517	0.1	5.29e-01	5.29e-01	
1,2,3,7,8,9-HXCDD		5.30	0.0517	0.1	5.30e-01	5.30e-01	
1,2,3,4,6,7,8-HPCDD		117	0.165	0.01	1.17e+00	1.17e+00	
OCDD		1970	0.0887	0.0001	1.97e-01	1.97e-01	
2,3,7,8-TCDF	ND		0.0557	0.1	0.00e+00	2.79e-03	
1,2,3,7,8-PECDF		0.502	0.0490	0.05	2.51e-02	2.51e-02	
2,3,4,7,8-PECDF		0.675	0.0490	0.5	3.38e-01	3.38e-01	
1,2,3,4,7,8-HXCDF		1.48	0.0490	0.1	1.48e-01	1.48e-01	
1,2,3,6,7,8-HXCDF		0.919	0.0490	0.1	9.19e-02	9.19e-02	
1,2,3,7,8,9-HXCDF	ND		0.0490	0.1	0.00e+00	2.45e-03	
2,3,4,6,7,8-HXCDF		0.824	0.0490	0.1	8.24e-02	8.24e-02	
1,2,3,4,6,7,8-HPCDF		11.3	0.0490	0.01	1.13e-01	1.13e-01	
1,2,3,4,7,8,9-HPCDF		0.731	0.0490	0.01	7.31e-03	7.31e-03	
OCDF		21.9	0.0490	0.0001	2.19e-03	2.19e-03	
			TOTAL TEQ		11.9	11.9	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.44	0.0490	1	6.44e+00	6.44e+00	
1,2,3,7,8-PECDD		2.03	0.0490	1	2.03e+00	2.03e+00	
1,2,3,4,7,8-HXCDD		2.09	0.0517	0.1	2.09e-01	2.09e-01	
1,2,3,6,7,8-HXCDD		5.29	0.0517	0.1	5.29e-01	5.29e-01	
1,2,3,7,8,9-HXCDD		5.30	0.0517	0.1	5.30e-01	5.30e-01	
1,2,3,4,6,7,8-HPCDD		117	0.165	0.01	1.17e+00	1.17e+00	
OCDD		1970	0.0887	0.0003	5.91e-01	5.91e-01	
2,3,7,8-TCDF	ND		0.0557	0.1	0.00e+00	2.79e-03	
1,2,3,7,8-PECDF		0.502	0.0490	0.03	1.51e-02	1.51e-02	
2,3,4,7,8-PECDF		0.675	0.0490	0.3	2.03e-01	2.03e-01	
1,2,3,4,7,8-HXCDF		1.48	0.0490	0.1	1.48e-01	1.48e-01	
1,2,3,6,7,8-HXCDF		0.919	0.0490	0.1	9.19e-02	9.19e-02	
1,2,3,7,8,9-HXCDF	ND		0.0490	0.1	0.00e+00	2.45e-03	
2,3,4,6,7,8-HXCDF		0.824	0.0490	0.1	8.24e-02	8.24e-02	
1,2,3,4,6,7,8-HPCDF		11.3	0.0490	0.01	1.13e-01	1.13e-01	
1,2,3,4,7,8,9-HPCDF		0.731	0.0490	0.01	7.31e-03	7.31e-03	
OCDF		21.9	0.0490	0.0003	6.57e-03	6.57e-03	
			TOTAL TEQ		12.2	12.2	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-3_TEQ_SJ630058.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN004
Sample Collection:
05-Dec-2006 16:30

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-4 (A)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	13-Jan-2007
Analysis Date:	21-Jan-2007 **Time:** 14:41:22	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_032 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_032 S: 1
		% Moisture:	22.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		219	0.0474	0.78	1.001
1,2,3,7,8-PECDD [3]		2.69	0.0474	0.59	1.000
1,2,3,4,7,8-HXCDD		3.18	0.287	1.17	1.000
1,2,3,6,7,8-HXCDD		11.3	0.287	1.19	1.000
1,2,3,7,8,9-HXCDD		9.90	0.287	1.19	1.010
1,2,3,4,6,7,8-HPCDD		292	0.398	1.04	1.000
OCDD	OLR				
2,3,7,8-TCDF		7.52	0.189	0.81	1.001
1,2,3,7,8-PECDF		1.78	0.0604	1.42	1.001
2,3,4,7,8-PECDF		2.57	0.0604	1.50	1.000
1,2,3,4,7,8-HXCDF		7.70	0.353	1.23	1.000
1,2,3,6,7,8-HXCDF		2.84	0.353	1.18	1.000
1,2,3,7,8,9-HXCDF	ND		0.353		
2,3,4,6,7,8-HXCDF		2.29	0.353	1.31	1.000
1,2,3,4,6,7,8-HPCDF		30.8	0.0884	1.07	1.000
1,2,3,4,7,8,9-HPCDF		2.16	0.0884	1.01	1.000
OCDF		52.6	0.159	0.89	1.002
TOTAL TETRA-DIOXINS		230	0.0474		
TOTAL PENTA-DIOXINS		23.5	0.0474		
TOTAL HEXA-DIOXINS		110	0.287		
TOTAL HEPTA-DIOXINS		598	0.398		
TOTAL TETRA-FURANS		43.0	0.189		
TOTAL PENTA-FURANS		67.3	0.0604		
TOTAL HEXA-FURANS		65.9	0.353		
TOTAL HEPTA-FURANS		85.2	0.0884		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-4_Form1A_SJ630059.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN004
Sample Collection:
05-Dec-2006 16:30

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-4 (A)
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	21-Jan-2007 **Time:** 14:41:22	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_032 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_032 S: 1
Concentration Units:	pg absolute	**% Moisture:**	22.6

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1180	58.9	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1530	76.3	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		2000	1120	56.0	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1160	58.1	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1220	61.2	1.05	1.095
13C-OCDD		4000	2470	61.8	0.90	1.180
13C-2,3,7,8-TCDF		2000	1090	54.6	0.79	0.967
13C-1,2,3,7,8-PECDF		2000	1360	68.2	1.57	1.282
13C-2,3,4,7,8-PECDF		2000	1410	70.7	1.56	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1160	58.2	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1190	59.6	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1200	60.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1160	58.2	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1200	60.1	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1220	60.9	0.45	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	126	63.0		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-4_Form2_SJ630059.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN004
Sample Collection:
05-Dec-2006 16:30

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-4 W (A)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	06-Feb-2007 **Time:** 00:49:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_055 S: 6**
Dilution Factor:	5	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_055 S: 1
		% Moisture:	22.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	6240	1.99	0.90	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-4_Form1A_SJ634191.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN004
Sample Collection:
05-Dec-2006 16:30

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-4 W (A)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	06-Feb-2007 **Time:** 00:49:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_055 S: 6**
Dilution Factor:	5	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_055 S: 1
		% Moisture:	22.6

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	2460	61.4	0.89	1.178
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-4_Form2_SJ634191.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN004
Sample Collection:
05-Dec-2006 16:30

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-4 (A)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 12:42:07	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_015 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_015 S: 2
		% Moisture:	22.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		5.36	0.0859	0.79	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:43:18; Application: XMLTransformer-1.7.29; Report Filename: 1613_DIOXINS_1613DB225_L9585-4_Form1A_SJ630219.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN004

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	05-Dec-2006 16:30
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.6 g (dry)	**Lab Sample I.D.:**	L9585-4 (A)
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_015 S: 7** **DX72_032 S: 8** **DX72_055 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		219	0.0474	1	2.19e+02	2.19e+02	
1,2,3,7,8-PECDD		2.69	0.0474	1	2.69e+00	2.69e+00	
1,2,3,4,7,8-HXCDD		3.18	0.287	0.1	3.18e-01	3.18e-01	
1,2,3,6,7,8-HXCDD		11.3	0.287	0.1	1.13e+00	1.13e+00	
1,2,3,7,8,9-HXCDD		9.90	0.287	0.1	9.90e-01	9.90e-01	
1,2,3,4,6,7,8-HPCDD		292	0.398	0.01	2.92e+00	2.92e+00	
OCDD		6240	1.99	0.0001	6.24e-01	6.24e-01	
2,3,7,8-TCDF		5.36	0.0859	0.1	5.36e-01	5.36e-01	
1,2,3,7,8-PECDF		1.78	0.0604	0.05	8.90e-02	8.90e-02	
2,3,4,7,8-PECDF		2.57	0.0604	0.5	1.29e+00	1.29e+00	
1,2,3,4,7,8-HXCDF		7.70	0.353	0.1	7.70e-01	7.70e-01	
1,2,3,6,7,8-HXCDF		2.84	0.353	0.1	2.84e-01	2.84e-01	
1,2,3,7,8,9-HXCDF	ND		0.353	0.1	0.00e+00	1.77e-02	
2,3,4,6,7,8-HXCDF		2.29	0.353	0.1	2.29e-01	2.29e-01	
1,2,3,4,6,7,8-HPCDF		30.8	0.0884	0.01	3.08e-01	3.08e-01	
1,2,3,4,7,8,9-HPCDF		2.16	0.0884	0.01	2.16e-02	2.16e-02	
OCDF		52.6	0.159	0.0001	5.26e-03	5.26e-03	
			TOTAL TEQ		231	231	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		219	0.0474	1	2.19e+02	2.19e+02	
1,2,3,7,8-PECDD		2.69	0.0474	1	2.69e+00	2.69e+00	
1,2,3,4,7,8-HXCDD		3.18	0.287	0.1	3.18e-01	3.18e-01	
1,2,3,6,7,8-HXCDD		11.3	0.287	0.1	1.13e+00	1.13e+00	
1,2,3,7,8,9-HXCDD		9.90	0.287	0.1	9.90e-01	9.90e-01	
1,2,3,4,6,7,8-HPCDD		292	0.398	0.01	2.92e+00	2.92e+00	
OCDD		6240	1.99	0.0003	1.87e+00	1.87e+00	
2,3,7,8-TCDF		5.36	0.0859	0.1	5.36e-01	5.36e-01	
1,2,3,7,8-PECDF		1.78	0.0604	0.03	5.34e-02	5.34e-02	
2,3,4,7,8-PECDF		2.57	0.0604	0.3	7.71e-01	7.71e-01	
1,2,3,4,7,8-HXCDF		7.70	0.353	0.1	7.70e-01	7.70e-01	
1,2,3,6,7,8-HXCDF		2.84	0.353	0.1	2.84e-01	2.84e-01	
1,2,3,7,8,9-HXCDF	ND		0.353	0.1	0.00e+00	1.77e-02	
2,3,4,6,7,8-HXCDF		2.29	0.353	0.1	2.29e-01	2.29e-01	
1,2,3,4,6,7,8-HPCDF		30.8	0.0884	0.01	3.08e-01	3.08e-01	
1,2,3,4,7,8,9-HPCDF		2.16	0.0884	0.01	2.16e-02	2.16e-02	
OCDF		52.6	0.159	0.0003	1.58e-02	1.58e-02	
			TOTAL TEQ		232	232	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-4_TEQ_SJ630059.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN004 (Duplicate)
Sample Collection:
05-Dec-2006 16:30

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	WG21005-103 (DUP L9585-4)
Matrix:	SOLID	**Sample Size:**	9.93 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	21-Jan-2007 **Time:** 15:35:55	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_032 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_032 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	24.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		200	0.0504	0.78	1.001
1,2,3,7,8-PECDD [3]		2.28	0.0504	0.61	1.000
1,2,3,4,7,8-HXCDD		1.81	0.220	1.10	1.000
1,2,3,6,7,8-HXCDD		7.61	0.220	1.27	1.000
1,2,3,7,8,9-HXCDD		5.37	0.220	1.18	1.010
1,2,3,4,6,7,8-HPCDD		159	0.232	1.04	1.000
OCDD	OLR				
2,3,7,8-TCDF		6.29	0.142	0.76	1.001
1,2,3,7,8-PECDF		1.49	0.0590	1.48	1.001
2,3,4,7,8-PECDF		2.15	0.0590	1.59	1.000
1,2,3,4,7,8-HXCDF		5.63	0.0504	1.27	1.000
1,2,3,6,7,8-HXCDF		2.15	0.0504	1.28	1.000
1,2,3,7,8,9-HXCDF	NDR	0.146	0.0504	1.55	1.000
2,3,4,6,7,8-HXCDF		2.01	0.0504	1.37	1.000
1,2,3,4,6,7,8-HPCDF		22.8	0.0745	1.04	1.000
1,2,3,4,7,8,9-HPCDF		1.96	0.0745	0.95	1.000
OCDF		42.5	0.0504	0.89	1.002
TOTAL TETRA-DIOXINS		206	0.0504		
TOTAL PENTA-DIOXINS		16.3	0.0504		
TOTAL HEXA-DIOXINS		70.2	0.220		
TOTAL HEPTA-DIOXINS		321	0.232		
TOTAL TETRA-FURANS		34.2	0.142		
TOTAL PENTA-FURANS		55.9	0.0590		
TOTAL HEXA-FURANS		43.9	0.0504		
TOTAL HEPTA-FURANS		59.4	0.0745		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21005-103_Form1A_SJ630060.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN004 (Duplicate)
Sample Collection:
05-Dec-2006 16:30

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	WG21005-103 (DUP L9585-4)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.93 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	13-Jan-2007
Analysis Date:	21-Jan-2007 **Time:** 15:35:55	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_032 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_032 S: 1
		% Moisture:	24.2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1420	70.9	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1990	99.7	0.62	1.383
13C-1,2,3,4,7,8-HXCDD		2000	1420	71.0	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1440	71.9	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1570	78.5	1.05	1.095
13C-OCDD		4000	3210	80.3	0.90	1.180
13C-2,3,7,8-TCDF		2000	1330	66.6	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1700	85.2	1.57	1.283
13C-2,3,4,7,8-PECDF		2000	1810	90.7	1.57	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1490	74.4	0.52	0.953
13C-1,2,3,6,7,8-HXCDF		2000	1490	74.3	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1540	77.1	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1470	73.6	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1510	75.7	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1590	79.7	0.46	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	146	73.1		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21005-103_Form2_SJ630060.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN004 (Duplicate)
Sample Collection:
05-Dec-2006 16:30

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	WG21005-103 W (DUP L9585-4)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.93 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	06-Feb-2007 **Time:** 01:44:09	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_055 S: 7**
Dilution Factor:	5	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_055 S: 1
		% Moisture:	24.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	5170	0.709	0.89	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21005-103_Form1A_SJ634192.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN004 (Duplicate)
Sample Collection:
05-Dec-2006 16:30

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	WG21005-103 W (DUP L9585-4)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.93 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	06-Feb-2007 **Time:** 01:44:09	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_055 S: 7**
Dilution Factor:	5	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_055 S: 1
		% Moisture:	24.2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	3110	77.6	0.91	1.179
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN004 (Duplicate)
Sample Collection:
05-Dec-2006 16:30

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	WG21005-103 (DUP L9585-4)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.93 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 13:17:46	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_015 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_015 S: 2
		% Moisture:	24.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		4.69	0.0521	0.76	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:43:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB225_WG21005-103_Form1A_SJ630220.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN004 (Duplicate)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	05-Dec-2006 16:30
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	9.93 g (dry)	**Lab Sample I.D.:**	WG21005-103 (DUP L9585-4)
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_015 S: 8** **DX72_032 S: 9** **DX72_055 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		200	0.0504	1	2.00e+02	2.00e+02	
1,2,3,7,8-PECDD		2.28	0.0504	1	2.28e+00	2.28e+00	
1,2,3,4,7,8-HXCDD		1.81	0.220	0.1	1.81e-01	1.81e-01	
1,2,3,6,7,8-HXCDD		7.61	0.220	0.1	7.61e-01	7.61e-01	
1,2,3,7,8,9-HXCDD		5.37	0.220	0.1	5.37e-01	5.37e-01	
1,2,3,4,6,7,8-HPCDD		159	0.232	0.01	1.59e+00	1.59e+00	
OCDD		5170	0.709	0.0001	5.17e-01	5.17e-01	
2,3,7,8-TCDF		4.69	0.0521	0.1	4.69e-01	4.69e-01	
1,2,3,7,8-PECDF		1.49	0.0590	0.05	7.45e-02	7.45e-02	
2,3,4,7,8-PECDF		2.15	0.0590	0.5	1.08e+00	1.08e+00	
1,2,3,4,7,8-HXCDF		5.63	0.0504	0.1	5.63e-01	5.63e-01	
1,2,3,6,7,8-HXCDF		2.15	0.0504	0.1	2.15e-01	2.15e-01	
1,2,3,7,8,9-HXCDF	ND		0.0504	0.1	0.00e+00	2.52e-03	
2,3,4,6,7,8-HXCDF		2.01	0.0504	0.1	2.01e-01	2.01e-01	
1,2,3,4,6,7,8-HPCDF		22.8	0.0745	0.01	2.28e-01	2.28e-01	
1,2,3,4,7,8,9-HPCDF		1.96	0.0745	0.01	1.96e-02	1.96e-02	
OCDF		42.5	0.0504	0.0001	4.25e-03	4.25e-03	
			TOTAL TEQ		209	209	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		200	0.0504	1	2.00e+02	2.00e+02	
1,2,3,7,8-PECDD		2.28	0.0504	1	2.28e+00	2.28e+00	
1,2,3,4,7,8-HXCDD		1.81	0.220	0.1	1.81e-01	1.81e-01	
1,2,3,6,7,8-HXCDD		7.61	0.220	0.1	7.61e-01	7.61e-01	
1,2,3,7,8,9-HXCDD		5.37	0.220	0.1	5.37e-01	5.37e-01	
1,2,3,4,6,7,8-HPCDD		159	0.232	0.01	1.59e+00	1.59e+00	
OCDD		5170	0.709	0.0003	1.55e+00	1.55e+00	
2,3,7,8-TCDF		4.69	0.0521	0.1	4.69e-01	4.69e-01	
1,2,3,7,8-PECDF		1.49	0.0590	0.03	4.47e-02	4.47e-02	
2,3,4,7,8-PECDF		2.15	0.0590	0.3	6.45e-01	6.45e-01	
1,2,3,4,7,8-HXCDF		5.63	0.0504	0.1	5.63e-01	5.63e-01	
1,2,3,6,7,8-HXCDF		2.15	0.0504	0.1	2.15e-01	2.15e-01	
1,2,3,7,8,9-HXCDF	ND		0.0504	0.1	0.00e+00	2.52e-03	
2,3,4,6,7,8-HXCDF		2.01	0.0504	0.1	2.01e-01	2.01e-01	
1,2,3,4,6,7,8-HPCDF		22.8	0.0745	0.01	2.28e-01	2.28e-01	
1,2,3,4,7,8,9-HPCDF		1.96	0.0745	0.01	1.96e-02	1.96e-02	
OCDF		42.5	0.0504	0.0003	1.28e-02	1.28e-02	
			TOTAL TEQ		209	209	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21005-103_TEQ_SJ630060.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS REPORT
RELATIVE PERCENT DIFFERENCE

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No. DANDI 1283

Contract No.: 2607

Client ID: 06VN004

Concentration Units: pg/g (dry weight basis)

COMPOUND	L9585-4 (A)		WG21005-103		MEAN	RELATIVE PERCENT DIFFERENCE
	LAB FLAG [1]	CONC. FOUND	LAB FLAG [1]	CONC. FOUND		
2,3,7,8-TCDD		219		200	210	9.35
1,2,3,7,8-PECDD		2.69		2.28	2.49	16.5
1,2,3,4,7,8-HXCDD		3.18		1.81	2.50	54.6
1,2,3,6,7,8-HXCDD		11.3		7.61	9.45	39.1
1,2,3,7,8,9-HXCDD		9.90		5.37	7.64	59.3
1,2,3,4,6,7,8-HPCDD		292		159	226	59.2
OCDD	D	6240	D	5170	5700	18.9
2,3,7,8-TCDF		5.36		4.69	5.02	13.4
1,2,3,7,8-PECDF		1.78		1.49	1.64	17.6
2,3,4,7,8-PECDF		2.57		2.15	2.36	18.1
1,2,3,4,7,8-HXCDF		7.70		5.63	6.67	31.1
1,2,3,6,7,8-HXCDF		2.84		2.15	2.49	27.8
1,2,3,7,8,9-HXCDF	ND		NDR	0.146		
2,3,4,6,7,8-HXCDF		2.29		2.01	2.15	13.1
1,2,3,4,6,7,8-HPCDF		30.8		22.8	26.8	30.0
1,2,3,4,7,8,9-HPCDF		2.16		1.96	2.06	9.86
OCDF		52.6		42.5	47.6	21.3

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; D = dilution data.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: RPD.xsl; Created: 09-Feb-2007 14:45:12; Application: XMLTransformer-1.7.29;
Report Filename: RPD_DIOXINS_1613-RPD_WG21005-103_L9585-4_.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN006
Sample Collection:
05-Dec-2006 15:05

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-6
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.89 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	13-Jan-2007
Analysis Date:	21-Jan-2007 **Time:** 16:30:28	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_032 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_032 S: 1
		% Moisture:	23.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		14.0	0.0506	0.78	1.001
1,2,3,7,8-PECDD [3]		0.730	0.0506	0.65	1.000
1,2,3,4,7,8-HXCDD		1.34	0.316	1.21	1.000
1,2,3,6,7,8-HXCDD		2.26	0.316	1.13	1.000
1,2,3,7,8,9-HXCDD		2.97	0.316	1.35	1.010
1,2,3,4,6,7,8-HPCDD	X				
OCDD	OLR				
2,3,7,8-TCDF		0.434	0.0506	0.82	1.001
1,2,3,7,8-PECDF		0.129	0.0506	1.73	1.000
2,3,4,7,8-PECDF		0.142	0.0506	1.56	1.001
1,2,3,4,7,8-HXCDF		0.176	0.0506	1.30	1.000
1,2,3,6,7,8-HXCDF		0.167	0.0506	1.25	1.000
1,2,3,7,8,9-HXCDF	ND		0.0506		
2,3,4,6,7,8-HXCDF		0.128	0.0506	1.07	1.000
1,2,3,4,6,7,8-HPCDF		1.07	0.0506	1.06	1.000
1,2,3,4,7,8,9-HPCDF		0.094	0.0506	0.96	1.000
OCDF		12.3	0.0506	0.98	1.001
TOTAL TETRA-DIOXINS		14.9	0.0506		
TOTAL PENTA-DIOXINS		3.77	0.0506		
TOTAL HEXA-DIOXINS		35.5	0.316		
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS		2.66	0.0506		
TOTAL PENTA-FURANS		5.81	0.0506		
TOTAL HEXA-FURANS		2.63	0.0506		
TOTAL HEPTA-FURANS		2.06	0.0506		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; X = result reported separately; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN006
Sample Collection:
05-Dec-2006 15:05

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-6
Matrix:	SOLID	**Sample Size:**	9.89 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	21-Jan-2007 **Time:** 16:30:28	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_032 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_032 S: 1
Concentration Units:	pg absolute	**% Moisture:**	23.8

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1250	62.6	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1760	88.2	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		2000	1160	58.1	1.36	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1350	67.4	1.18	0.990
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD		4000	3580	89.5	0.91	1.180
13C-2,3,7,8-TCDF		2000	1190	59.6	0.80	0.967
13C-1,2,3,7,8-PECDF		2000	1530	76.6	1.54	1.284
13C-2,3,4,7,8-PECDF		2000	1630	81.5	1.57	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1280	64.2	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1350	67.3	0.53	0.957
13C-1,2,3,7,8,9-HXCDF		2000	1390	69.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1320	66.2	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1390	69.3	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1450	72.4	0.46	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	123	61.6		1.014

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN006
Sample Collection:
05-Dec-2006 15:05

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-6 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.89 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	06-Feb-2007 **Time:** 05:22:42	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	300	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_055 S: 11**
Dilution Factor:	15	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_055 S: 1
		% Moisture:	23.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	D	181	1.38	1.06	1.000
OCDD	D	28900	1.15	0.90	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	D	410	1.38		
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-6_Form1A_SJ634196.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN006
Sample Collection:
05-Dec-2006 15:05

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-6 W
Matrix:	SOLID	**Sample Size:**	9.89 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2007 **Time:** 05:22:42	**GC Column ID:**	DB5
Extract Volume (uL):	300	**Sample Data Filename:**	**DX72_055 S: 11**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	15	**Cal. Ver. Data Filename:**	DX72_055 S: 1
Concentration Units:	pg absolute	**% Moisture:**	23.8

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	D	2000	1460	73.2	1.05	1.094
13C-OCDD	D	4000	3050	76.1	0.92	1.178
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-6_Form2_SJ634196.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN006
Sample Collection:
05-Dec-2006 15:05

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-6
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.98 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 13:53:25	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_015 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_015 S: 2
		% Moisture:	23.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.349	0.0529	0.73	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:43:18; Application: XMLTransformer-1.7.29; Report Filename: 1613_DIOXINS_1613DB225_L9585-6_Form1A_SJ630221.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN006

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	05-Dec-2006 15:05
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	9.89 g (dry)	**Lab Sample I.D.:**	L9585-6
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_015 S: 9** **DX72_032 S: 10** **DX72_055 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		14.0	0.0506	1	1.40e+01	1.40e+01	
1,2,3,7,8-PECDD		0.730	0.0506	1	7.30e-01	7.30e-01	
1,2,3,4,7,8-HXCDD		1.34	0.316	0.1	1.34e-01	1.34e-01	
1,2,3,6,7,8-HXCDD		2.26	0.316	0.1	2.26e-01	2.26e-01	
1,2,3,7,8,9-HXCDD		2.97	0.316	0.1	2.97e-01	2.97e-01	
1,2,3,4,6,7,8-HPCDD		181	1.38	0.01	1.81e+00	1.81e+00	
OCDD		28900	1.15	0.0001	2.89e+00	2.89e+00	
2,3,7,8-TCDF		0.349	0.0529	0.1	3.49e-02	3.49e-02	
1,2,3,7,8-PECDF		0.129	0.0506	0.05	6.45e-03	6.45e-03	
2,3,4,7,8-PECDF		0.142	0.0506	0.5	7.10e-02	7.10e-02	
1,2,3,4,7,8-HXCDF		0.176	0.0506	0.1	1.76e-02	1.76e-02	
1,2,3,6,7,8-HXCDF		0.167	0.0506	0.1	1.67e-02	1.67e-02	
1,2,3,7,8,9-HXCDF	ND		0.0506	0.1	0.00e+00	2.53e-03	
2,3,4,6,7,8-HXCDF		0.128	0.0506	0.1	1.28e-02	1.28e-02	
1,2,3,4,6,7,8-HPCDF		1.07	0.0506	0.01	1.07e-02	1.07e-02	
1,2,3,4,7,8,9-HPCDF		0.094	0.0506	0.01	9.40e-04	9.40e-04	
OCDF		12.3	0.0506	0.0001	1.23e-03	1.23e-03	
			TOTAL TEQ		20.3	20.3	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		14.0	0.0506	1	1.40e+01	1.40e+01	
1,2,3,7,8-PECDD		0.730	0.0506	1	7.30e-01	7.30e-01	
1,2,3,4,7,8-HXCDD		1.34	0.316	0.1	1.34e-01	1.34e-01	
1,2,3,6,7,8-HXCDD		2.26	0.316	0.1	2.26e-01	2.26e-01	
1,2,3,7,8,9-HXCDD		2.97	0.316	0.1	2.97e-01	2.97e-01	
1,2,3,4,6,7,8-HPCDD		181	1.38	0.01	1.81e+00	1.81e+00	
OCDD		28900	1.15	0.0003	8.67e+00	8.67e+00	
2,3,7,8-TCDF		0.349	0.0529	0.1	3.49e-02	3.49e-02	
1,2,3,7,8-PECDF		0.129	0.0506	0.03	3.87e-03	3.87e-03	
2,3,4,7,8-PECDF		0.142	0.0506	0.3	4.26e-02	4.26e-02	
1,2,3,4,7,8-HXCDF		0.176	0.0506	0.1	1.76e-02	1.76e-02	
1,2,3,6,7,8-HXCDF		0.167	0.0506	0.1	1.67e-02	1.67e-02	
1,2,3,7,8,9-HXCDF	ND		0.0506	0.1	0.00e+00	2.53e-03	
2,3,4,6,7,8-HXCDF		0.128	0.0506	0.1	1.28e-02	1.28e-02	
1,2,3,4,6,7,8-HPCDF		1.07	0.0506	0.01	1.07e-02	1.07e-02	
1,2,3,4,7,8,9-HPCDF		0.094	0.0506	0.01	9.40e-04	9.40e-04	
OCDF		12.3	0.0506	0.0003	3.69e-03	3.69e-03	
			TOTAL TEQ		26.0	26.0	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-6_TEQ_SJ630061.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN010
Sample Collection:
06-Dec-2006 10:10

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-10
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	13-Jan-2007
Analysis Date:	21-Jan-2007 **Time:** 17:25:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_032 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_032 S: 1
		% Moisture:	19.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		25.4	0.0473	0.77	1.001
1,2,3,7,8-PECDD [3]		3.49	0.140	0.60	1.000
1,2,3,4,7,8-HXCDD		4.44	0.286	1.21	1.000
1,2,3,6,7,8-HXCDD		27.3	0.286	1.24	1.000
1,2,3,7,8,9-HXCDD		13.3	0.286	1.22	1.010
1,2,3,4,6,7,8-HPCDD		734	0.440	1.05	1.000
OCDD	OLR				
2,3,7,8-TCDF		2.67	0.140	0.82	1.001
1,2,3,7,8-PECDF		2.83	0.115	1.54	1.001
2,3,4,7,8-PECDF		5.48	0.115	1.59	1.000
1,2,3,4,7,8-HXCDF		16.3	0.0889	1.23	1.000
1,2,3,6,7,8-HXCDF		5.99	0.0889	1.25	1.000
1,2,3,7,8,9-HXCDF	NDR	0.424	0.0889	1.55	1.000
2,3,4,6,7,8-HXCDF		4.94	0.0889	1.17	1.000
1,2,3,4,6,7,8-HPCDF		81.6	0.107	1.04	1.000
1,2,3,4,7,8,9-HPCDF		3.68	0.107	1.06	1.000
OCDF		115	0.0675	0.89	1.002
TOTAL TETRA-DIOXINS		36.0	0.0473		
TOTAL PENTA-DIOXINS		25.2	0.140		
TOTAL HEXA-DIOXINS		166	0.286		
TOTAL HEPTA-DIOXINS		1360	0.440		
TOTAL TETRA-FURANS		17.3	0.140		
TOTAL PENTA-FURANS		67.2	0.115		
TOTAL HEXA-FURANS		185	0.0889		
TOTAL HEPTA-FURANS		224	0.107		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-10_Form1A_SJ630062.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN010
Sample Collection:
06-Dec-2006 10:10

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-10
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	13-Jan-2007
Analysis Date:	21-Jan-2007 **Time:** 17:25:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_032 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_032 S: 1
		% Moisture:	19.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	940	47.0	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1300	64.8	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		2000	836	41.8	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		2000	948	47.4	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1100	54.9	1.06	1.095
13C-OCDD		4000	2270	56.6	0.90	1.180
13C-2,3,7,8-TCDF		2000	898	44.9	0.79	0.967
13C-1,2,3,7,8-PECDF		2000	1140	57.0	1.57	1.283
13C-2,3,4,7,8-PECDF		2000	1210	60.5	1.57	1.352
13C-1,2,3,4,7,8-HXCDF		2000	915	45.8	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	952	47.6	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	985	49.3	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	926	46.3	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1010	50.6	0.45	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1110	55.6	0.45	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	95.7	47.8		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-10_Form2_SJ630062.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN010
Sample Collection:
06-Dec-2006 10:10

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-10 W
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2007 **Time:** 03:33:25	**GC Column ID:**	DB5
Extract Volume (uL):	200	**Sample Data Filename:**	**DX72_055 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	10	**Cal. Ver. Data Filename:**	DX72_055 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	19.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	9640	1.24	0.90	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN010
Sample Collection:
06-Dec-2006 10:10

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-10 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	06-Feb-2007 **Time:** 03:33:25	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	200	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_055 S: 9**
Dilution Factor:	10	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_055 S: 1
		% Moisture:	19.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	2760	69.1	0.92	1.178
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29; Report Filename: 1613_DIOXINS_1613DB5_L9585-10_Form2_SJ634194.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN010
Sample Collection:
06-Dec-2006 10:10

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-10
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 14:29:03	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_015 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_015 S: 2
		% Moisture:	19.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1.95	0.0772	0.76	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:43:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB225_L9585-10_Form1A_SJ630222.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN010

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	06-Dec-2006 10:10
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.6 g (dry)	**Lab Sample I.D.:**	L9585-10
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_015 S: 10** **DX72_032 S: 11** **DX72_055 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		25.4	0.0473	1	2.54e+01	2.54e+01	
1,2,3,7,8-PECDD		3.49	0.140	1	3.49e+00	3.49e+00	
1,2,3,4,7,8-HXCDD		4.44	0.286	0.1	4.44e-01	4.44e-01	
1,2,3,6,7,8-HXCDD		27.3	0.286	0.1	2.73e+00	2.73e+00	
1,2,3,7,8,9-HXCDD		13.3	0.286	0.1	1.33e+00	1.33e+00	
1,2,3,4,6,7,8-HPCDD		734	0.440	0.01	7.34e+00	7.34e+00	
OCDD		9640	1.24	0.0001	9.64e-01	9.64e-01	
2,3,7,8-TCDF		1.95	0.0772	0.1	1.95e-01	1.95e-01	
1,2,3,7,8-PECDF		2.83	0.115	0.05	1.42e-01	1.42e-01	
2,3,4,7,8-PECDF		5.48	0.115	0.5	2.74e+00	2.74e+00	
1,2,3,4,7,8-HXCDF		16.3	0.0889	0.1	1.63e+00	1.63e+00	
1,2,3,6,7,8-HXCDF		5.99	0.0889	0.1	5.99e-01	5.99e-01	
1,2,3,7,8,9-HXCDF	ND		0.0889	0.1	0.00e+00	4.45e-03	
2,3,4,6,7,8-HXCDF		4.94	0.0889	0.1	4.94e-01	4.94e-01	
1,2,3,4,6,7,8-HPCDF		81.6	0.107	0.01	8.16e-01	8.16e-01	
1,2,3,4,7,8,9-HPCDF		3.68	0.107	0.01	3.68e-02	3.68e-02	
OCDF		115	0.0675	0.0001	1.15e-02	1.15e-02	
			TOTAL TEQ		48.4	48.4	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		25.4	0.0473	1	2.54e+01	2.54e+01	
1,2,3,7,8-PECDD		3.49	0.140	1	3.49e+00	3.49e+00	
1,2,3,4,7,8-HXCDD		4.44	0.286	0.1	4.44e-01	4.44e-01	
1,2,3,6,7,8-HXCDD		27.3	0.286	0.1	2.73e+00	2.73e+00	
1,2,3,7,8,9-HXCDD		13.3	0.286	0.1	1.33e+00	1.33e+00	
1,2,3,4,6,7,8-HPCDD		734	0.440	0.01	7.34e+00	7.34e+00	
OCDD		9640	1.24	0.0003	2.89e+00	2.89e+00	
2,3,7,8-TCDF		1.95	0.0772	0.1	1.95e-01	1.95e-01	
1,2,3,7,8-PECDF		2.83	0.115	0.03	8.49e-02	8.49e-02	
2,3,4,7,8-PECDF		5.48	0.115	0.3	1.64e+00	1.64e+00	
1,2,3,4,7,8-HXCDF		16.3	0.0889	0.1	1.63e+00	1.63e+00	
1,2,3,6,7,8-HXCDF		5.99	0.0889	0.1	5.99e-01	5.99e-01	
1,2,3,7,8,9-HXCDF	ND		0.0889	0.1	0.00e+00	4.45e-03	
2,3,4,6,7,8-HXCDF		4.94	0.0889	0.1	4.94e-01	4.94e-01	
1,2,3,4,6,7,8-HPCDF		81.6	0.107	0.01	8.16e-01	8.16e-01	
1,2,3,4,7,8,9-HPCDF		3.68	0.107	0.01	3.68e-02	3.68e-02	
OCDF		115	0.0675	0.0003	3.45e-02	3.45e-02	
			TOTAL TEQ		49.2	49.2	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-10_TEQ_SJ630062.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN013
Sample Collection:
06-Dec-2006 13:35

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-13
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	13-Jan-2007
Analysis Date:	21-Jan-2007 **Time:** 18:19:35	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_032 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_032 S: 1
		% Moisture:	16.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		53.1	0.0481	0.79	1.001
1,2,3,7,8-PECDD [3]		3.05	0.0481	0.60	1.001
1,2,3,4,7,8-HXCDD		4.46	0.144	1.25	1.000
1,2,3,6,7,8-HXCDD		16.3	0.144	1.26	1.001
1,2,3,7,8,9-HXCDD		11.7	0.144	1.22	1.010
1,2,3,4,6,7,8-HPCDD		338	0.571	1.04	1.000
OCDD	OLR				
2,3,7,8-TCDF		2.17	0.0500	0.79	1.002
1,2,3,7,8-PECDF		1.30	0.0481	1.60	1.000
2,3,4,7,8-PECDF		2.62	0.0481	1.52	1.000
1,2,3,4,7,8-HXCDF		7.20	0.0605	1.24	1.000
1,2,3,6,7,8-HXCDF		2.83	0.0605	1.27	1.000
1,2,3,7,8,9-HXCDF	NDR	0.186	0.0605	1.75	1.000
2,3,4,6,7,8-HXCDF		2.36	0.0605	1.27	1.000
1,2,3,4,6,7,8-HPCDF		29.0	0.0673	1.04	1.000
1,2,3,4,7,8,9-HPCDF		1.35	0.0673	1.01	1.000
OCDF		21.1	0.0481	0.90	1.002
TOTAL TETRA-DIOXINS		58.9	0.0481		
TOTAL PENTA-DIOXINS		21.0	0.0481		
TOTAL HEXA-DIOXINS		117	0.144		
TOTAL HEPTA-DIOXINS		697	0.571		
TOTAL TETRA-FURANS		11.7	0.0500		
TOTAL PENTA-FURANS		31.3	0.0481		
TOTAL HEXA-FURANS		71.1	0.0605		
TOTAL HEPTA-FURANS		65.7	0.0673		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-13_Form1A_SJ630063.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN013
Sample Collection:
06-Dec-2006 13:35

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-13
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	21-Jan-2007 **Time:** 18:19:35	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_032 S: 12**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_032 S: 1
Concentration Units:	pg absolute	**% Moisture:**	16.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1330	66.6	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1880	93.9	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		2000	1230	61.6	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1390	69.6	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1520	76.2	1.05	1.095
13C-OCDD		4000	3380	84.5	0.90	1.180
13C-2,3,7,8-TCDF		2000	1260	63.0	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1610	80.3	1.56	1.284
13C-2,3,4,7,8-PECDF		2000	1730	86.4	1.56	1.352
13C-1,2,3,4,7,8-HXCDF		2000	1350	67.7	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1410	70.5	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1450	72.6	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1390	69.6	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1460	73.0	0.45	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1520	76.2	0.46	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	141	70.3		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-13_Form2_SJ630063.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN013
Sample Collection:
06-Dec-2006 13:35

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-13 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	06-Feb-2007 **Time:** 02:38:48	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	200	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_055 S: 8**
Dilution Factor:	10	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_055 S: 1
		% Moisture:	16.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	9760	0.650	0.90	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN013
Sample Collection:
06-Dec-2006 13:35

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-13 W
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2007 **Time:** 02:38:48	**GC Column ID:**	DB5
Extract Volume (uL):	200	**Sample Data Filename:**	**DX72_055 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	10	**Cal. Ver. Data Filename:**	DX72_055 S: 1
Concentration Units:	pg absolute	**% Moisture:**	16.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	2880	72.0	0.90	1.178
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29; Report Filename: 1613_DIOXINS_1613DB5_L9585-13_Form2_SJ634193.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN013
Sample Collection:
06-Dec-2006 13:35

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-13
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 15:04:43	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_015 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_015 S: 2
		% Moisture:	16.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.925	0.0481	0.87	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:43:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB225_L9585-13_Form1A_SJ630223.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN013

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	06-Dec-2006 13:35
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.4 g (dry)	**Lab Sample I.D.:**	L9585-13
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_015 S: 11** **DX72_032 S: 12** **DX72_055 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		53.1	0.0481	1	5.31e+01	5.31e+01	
1,2,3,7,8-PECDD		3.05	0.0481	1	3.05e+00	3.05e+00	
1,2,3,4,7,8-HXCDD		4.46	0.144	0.1	4.46e-01	4.46e-01	
1,2,3,6,7,8-HXCDD		16.3	0.144	0.1	1.63e+00	1.63e+00	
1,2,3,7,8,9-HXCDD		11.7	0.144	0.1	1.17e+00	1.17e+00	
1,2,3,4,6,7,8-HPCDD		338	0.571	0.01	3.38e+00	3.38e+00	
OCDD		9760	0.650	0.0001	9.76e-01	9.76e-01	
2,3,7,8-TCDF		0.925	0.0481	0.1	9.25e-02	9.25e-02	
1,2,3,7,8-PECDF		1.30	0.0481	0.05	6.50e-02	6.50e-02	
2,3,4,7,8-PECDF		2.62	0.0481	0.5	1.31e+00	1.31e+00	
1,2,3,4,7,8-HXCDF		7.20	0.0605	0.1	7.20e-01	7.20e-01	
1,2,3,6,7,8-HXCDF		2.83	0.0605	0.1	2.83e-01	2.83e-01	
1,2,3,7,8,9-HXCDF	ND		0.0605	0.1	0.00e+00	3.03e-03	
2,3,4,6,7,8-HXCDF		2.36	0.0605	0.1	2.36e-01	2.36e-01	
1,2,3,4,6,7,8-HPCDF		29.0	0.0673	0.01	2.90e-01	2.90e-01	
1,2,3,4,7,8,9-HPCDF		1.35	0.0673	0.01	1.35e-02	1.35e-02	
OCDF		21.1	0.0481	0.0001	2.11e-03	2.11e-03	
			TOTAL TEQ		66.8	66.8	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		53.1	0.0481	1	5.31e+01	5.31e+01	
1,2,3,7,8-PECDD		3.05	0.0481	1	3.05e+00	3.05e+00	
1,2,3,4,7,8-HXCDD		4.46	0.144	0.1	4.46e-01	4.46e-01	
1,2,3,6,7,8-HXCDD		16.3	0.144	0.1	1.63e+00	1.63e+00	
1,2,3,7,8,9-HXCDD		11.7	0.144	0.1	1.17e+00	1.17e+00	
1,2,3,4,6,7,8-HPCDD		338	0.571	0.01	3.38e+00	3.38e+00	
OCDD		9760	0.650	0.0003	2.93e+00	2.93e+00	
2,3,7,8-TCDF		0.925	0.0481	0.1	9.25e-02	9.25e-02	
1,2,3,7,8-PECDF		1.30	0.0481	0.03	3.90e-02	3.90e-02	
2,3,4,7,8-PECDF		2.62	0.0481	0.3	7.86e-01	7.86e-01	
1,2,3,4,7,8-HXCDF		7.20	0.0605	0.1	7.20e-01	7.20e-01	
1,2,3,6,7,8-HXCDF		2.83	0.0605	0.1	2.83e-01	2.83e-01	
1,2,3,7,8,9-HXCDF	ND		0.0605	0.1	0.00e+00	3.03e-03	
2,3,4,6,7,8-HXCDF		2.36	0.0605	0.1	2.36e-01	2.36e-01	
1,2,3,4,6,7,8-HPCDF		29.0	0.0673	0.01	2.90e-01	2.90e-01	
1,2,3,4,7,8,9-HPCDF		1.35	0.0673	0.01	1.35e-02	1.35e-02	
OCDF		21.1	0.0481	0.0003	6.33e-03	6.33e-03	
			TOTAL TEQ		68.2	68.2	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-13_TEQ_SJ630063.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN014
Sample Collection:
06-Dec-2006 14:20

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-14
Matrix:	SOLID	**Sample Size:**	9.39 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	21-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Jan-2007 **Time:** 11:39:32	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_034 S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_034 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	28.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		12.5	0.0532	0.78	1.001
1,2,3,7,8-PECDD [3]		1.58	0.0532	0.66	1.000
1,2,3,4,7,8-HXCDD		1.95	0.0819	1.18	1.000
1,2,3,6,7,8-HXCDD		4.26	0.0819	1.24	1.000
1,2,3,7,8,9-HXCDD		4.97	0.0819	1.20	1.010
1,2,3,4,6,7,8-HPCDD		100	0.160	1.05	1.000
OCDD		1580	2.11	0.90	1.000
2,3,7,8-TCDF		4.05	0.125	0.79	1.002
1,2,3,7,8-PECDF		1.18	0.0642	1.58	1.000
2,3,4,7,8-PECDF		1.48	0.0642	1.50	1.000
1,2,3,4,7,8-HXCDF		2.60	0.0532	1.26	1.000
1,2,3,6,7,8-HXCDF		1.45	0.0532	1.13	1.000
1,2,3,7,8,9-HXCDF		0.160	0.0532	1.39	1.000
2,3,4,6,7,8-HXCDF		1.56	0.0532	1.26	1.000
1,2,3,4,6,7,8-HPCDF		11.2	0.0532	1.04	1.000
1,2,3,4,7,8,9-HPCDF		1.03	0.0532	0.91	1.000
OCDF		13.0	0.0532	0.92	1.002
TOTAL TETRA-DIOXINS		20.7	0.0532		
TOTAL PENTA-DIOXINS		14.2	0.0532		
TOTAL HEXA-DIOXINS		51.1	0.0819		
TOTAL HEPTA-DIOXINS		262	0.160		
TOTAL TETRA-FURANS		22.2	0.125		
TOTAL PENTA-FURANS		20.8	0.0642		
TOTAL HEXA-FURANS		21.2	0.0532		
TOTAL HEPTA-FURANS		25.1	0.0532		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-14_Form1A_SJ630067.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN014
Sample Collection:
06-Dec-2006 14:20

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-14
Matrix:	SOLID	**Sample Size:**	9.39 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	21-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Jan-2007 **Time:** 11:39:32	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_034 S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_034 S: 1
Concentration Units:	pg absolute	**% Moisture:**	28.5

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1120	56.1	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1250	62.3	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1170	58.4	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1240	62.1	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1160	58.1	1.04	1.095
13C-OCDD		4000	2330	58.3	0.91	1.179
13C-2,3,7,8-TCDF		2000	1060	52.9	0.80	0.967
13C-1,2,3,7,8-PECDF		2000	1130	56.4	1.58	1.283
13C-2,3,4,7,8-PECDF		2000	1120	56.2	1.57	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1180	59.0	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1230	61.4	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1190	59.7	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1170	58.7	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1160	58.1	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1150	57.7	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	117	58.3		1.015

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-14_Form2_SJ630067.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN014
Sample Collection:
06-Dec-2006 14:20

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-14
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.39 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 15:40:21	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_015 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_015 S: 2
		% Moisture:	28.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1.82	0.0532	0.84	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:43:18; Application: XMLTransformer-1.7.29; Report Filename: 1613_DIOXINS_1613DB225_L9585-14_Form1A_SJ630224.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN014

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	06-Dec-2006 14:20
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	9.39 g (dry)	**Lab Sample I.D.:**	L9585-14
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_015 S: 12** **DX72_034 S: 3**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		12.5	0.0532	1	1.25e+01	1.25e+01	
1,2,3,7,8-PECDD		1.58	0.0532	1	1.58e+00	1.58e+00	
1,2,3,4,7,8-HXCDD		1.95	0.0819	0.1	1.95e-01	1.95e-01	
1,2,3,6,7,8-HXCDD		4.26	0.0819	0.1	4.26e-01	4.26e-01	
1,2,3,7,8,9-HXCDD		4.97	0.0819	0.1	4.97e-01	4.97e-01	
1,2,3,4,6,7,8-HPCDD		100	0.160	0.01	1.00e+00	1.00e+00	
OCDD		1580	2.11	0.0001	1.58e-01	1.58e-01	
2,3,7,8-TCDF		1.82	0.0532	0.1	1.82e-01	1.82e-01	
1,2,3,7,8-PECDF		1.18	0.0642	0.05	5.90e-02	5.90e-02	
2,3,4,7,8-PECDF		1.48	0.0642	0.5	7.40e-01	7.40e-01	
1,2,3,4,7,8-HXCDF		2.60	0.0532	0.1	2.60e-01	2.60e-01	
1,2,3,6,7,8-HXCDF		1.45	0.0532	0.1	1.45e-01	1.45e-01	
1,2,3,7,8,9-HXCDF		0.160	0.0532	0.1	1.60e-02	1.60e-02	
2,3,4,6,7,8-HXCDF		1.56	0.0532	0.1	1.56e-01	1.56e-01	
1,2,3,4,6,7,8-HPCDF		11.2	0.0532	0.01	1.12e-01	1.12e-01	
1,2,3,4,7,8,9-HPCDF		1.03	0.0532	0.01	1.03e-02	1.03e-02	
OCDF		13.0	0.0532	0.0001	1.30e-03	1.30e-03	
			TOTAL TEQ		18.0	18.0	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		12.5	0.0532	1	1.25e+01	1.25e+01	
1,2,3,7,8-PECDD		1.58	0.0532	1	1.58e+00	1.58e+00	
1,2,3,4,7,8-HXCDD		1.95	0.0819	0.1	1.95e-01	1.95e-01	
1,2,3,6,7,8-HXCDD		4.26	0.0819	0.1	4.26e-01	4.26e-01	
1,2,3,7,8,9-HXCDD		4.97	0.0819	0.1	4.97e-01	4.97e-01	
1,2,3,4,6,7,8-HPCDD		100	0.160	0.01	1.00e+00	1.00e+00	
OCDD		1580	2.11	0.0003	4.74e-01	4.74e-01	
2,3,7,8-TCDF		1.82	0.0532	0.1	1.82e-01	1.82e-01	
1,2,3,7,8-PECDF		1.18	0.0642	0.03	3.54e-02	3.54e-02	
2,3,4,7,8-PECDF		1.48	0.0642	0.3	4.44e-01	4.44e-01	
1,2,3,4,7,8-HXCDF		2.60	0.0532	0.1	2.60e-01	2.60e-01	
1,2,3,6,7,8-HXCDF		1.45	0.0532	0.1	1.45e-01	1.45e-01	
1,2,3,7,8,9-HXCDF		0.160	0.0532	0.1	1.60e-02	1.60e-02	
2,3,4,6,7,8-HXCDF		1.56	0.0532	0.1	1.56e-01	1.56e-01	
1,2,3,4,6,7,8-HPCDF		11.2	0.0532	0.01	1.12e-01	1.12e-01	
1,2,3,4,7,8,9-HPCDF		1.03	0.0532	0.01	1.03e-02	1.03e-02	
OCDF		13.0	0.0532	0.0003	3.90e-03	3.90e-03	
			TOTAL TEQ		18.0	18.0	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN015
Sample Collection:
06-Dec-2006 14:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-15
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.1 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	21-Jan-2007
Analysis Date:	22-Jan-2007 **Time:** 12:34:05	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_034 S: 4**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_034 S: 1
		% Moisture:	13.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		1.72	0.0495	0.74	1.001
1,2,3,7,8-PECDD [3]		0.714	0.0495	0.64	1.000
1,2,3,4,7,8-HXCDD		0.989	0.0495	1.17	1.000
1,2,3,6,7,8-HXCDD		2.12	0.0495	1.20	1.000
1,2,3,7,8,9-HXCDD		2.57	0.0495	1.28	1.010
1,2,3,4,6,7,8-HPCDD		51.7	0.105	1.05	1.000
OCDD		1260	0.283	0.90	1.000
2,3,7,8-TCDF		1.31	0.0495	0.78	1.002
1,2,3,7,8-PECDF		0.390	0.0495	1.76	1.001
2,3,4,7,8-PECDF		0.511	0.0495	1.51	1.000
1,2,3,4,7,8-HXCDF		0.747	0.0495	1.15	1.000
1,2,3,6,7,8-HXCDF		0.451	0.0495	1.34	1.000
1,2,3,7,8,9-HXCDF	ND		0.0495		
2,3,4,6,7,8-HXCDF		0.476	0.0495	1.37	1.000
1,2,3,4,6,7,8-HPCDF		4.32	0.0495	1.01	1.000
1,2,3,4,7,8,9-HPCDF		0.308	0.0495	1.00	1.000
OCDF		7.35	0.0495	0.90	1.002
TOTAL TETRA-DIOXINS		4.65	0.0495		
TOTAL PENTA-DIOXINS		7.12	0.0495		
TOTAL HEXA-DIOXINS		26.8	0.0495		
TOTAL HEPTA-DIOXINS		133	0.105		
TOTAL TETRA-FURANS		7.51	0.0495		
TOTAL PENTA-FURANS		6.14	0.0495		
TOTAL HEXA-FURANS		6.33	0.0495		
TOTAL HEPTA-FURANS		9.52	0.0495		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-15_Form1A_SJ630068.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN015
Sample Collection:
06-Dec-2006 14:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-15
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	21-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Jan-2007 **Time:** 12:34:05	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_034 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_034 S: 1
Concentration Units:	pg absolute	**% Moisture:**	13.6

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1600	79.8	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1700	85.0	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1680	84.1	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1690	84.5	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1680	83.8	1.05	1.095
13C-OCDD		4000	3510	87.7	0.90	1.179
13C-2,3,7,8-TCDF		2000	1550	77.6	0.79	0.967
13C-1,2,3,7,8-PECDF		2000	1610	80.6	1.57	1.283
13C-2,3,4,7,8-PECDF		2000	1590	79.6	1.56	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1670	83.4	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1680	84.1	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1640	81.8	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1630	81.7	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1630	81.6	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1650	82.3	0.45	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	161	80.7		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-15_Form2_SJ630068.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN015
Sample Collection:
06-Dec-2006 14:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-15
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.1 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 16:15:59	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_015 S: 13**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_015 S: 2
		% Moisture:	13.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.602	0.0495	0.66	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:43:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB225_L9585-15_Form1A_SJ630225.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN015

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	06-Dec-2006 14:40
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.1 g (dry)	**Lab Sample I.D.:**	L9585-15
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_015 S: 13** **DX72_034 S: 4**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1.72	0.0495	1	1.72e+00	1.72e+00	
1,2,3,7,8-PECDD		0.714	0.0495	1	7.14e-01	7.14e-01	
1,2,3,4,7,8-HXCDD		0.989	0.0495	0.1	9.89e-02	9.89e-02	
1,2,3,6,7,8-HXCDD		2.12	0.0495	0.1	2.12e-01	2.12e-01	
1,2,3,7,8,9-HXCDD		2.57	0.0495	0.1	2.57e-01	2.57e-01	
1,2,3,4,6,7,8-HPCDD		51.7	0.105	0.01	5.17e-01	5.17e-01	
OCDD		1260	0.283	0.0001	1.26e-01	1.26e-01	
2,3,7,8-TCDF		0.602	0.0495	0.1	6.02e-02	6.02e-02	
1,2,3,7,8-PECDF		0.390	0.0495	0.05	1.95e-02	1.95e-02	
2,3,4,7,8-PECDF		0.511	0.0495	0.5	2.56e-01	2.56e-01	
1,2,3,4,7,8-HXCDF		0.747	0.0495	0.1	7.47e-02	7.47e-02	
1,2,3,6,7,8-HXCDF		0.451	0.0495	0.1	4.51e-02	4.51e-02	
1,2,3,7,8,9-HXCDF	ND		0.0495	0.1	0.00e+00	2.48e-03	
2,3,4,6,7,8-HXCDF		0.476	0.0495	0.1	4.76e-02	4.76e-02	
1,2,3,4,6,7,8-HPCDF		4.32	0.0495	0.01	4.32e-02	4.32e-02	
1,2,3,4,7,8,9-HPCDF		0.308	0.0495	0.01	3.08e-03	3.08e-03	
OCDF		7.35	0.0495	0.0001	7.35e-04	7.35e-04	
			TOTAL TEQ		4.19	4.20	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1.72	0.0495	1	1.72e+00	1.72e+00	
1,2,3,7,8-PECDD		0.714	0.0495	1	7.14e-01	7.14e-01	
1,2,3,4,7,8-HXCDD		0.989	0.0495	0.1	9.89e-02	9.89e-02	
1,2,3,6,7,8-HXCDD		2.12	0.0495	0.1	2.12e-01	2.12e-01	
1,2,3,7,8,9-HXCDD		2.57	0.0495	0.1	2.57e-01	2.57e-01	
1,2,3,4,6,7,8-HPCDD		51.7	0.105	0.01	5.17e-01	5.17e-01	
OCDD		1260	0.283	0.0003	3.78e-01	3.78e-01	
2,3,7,8-TCDF		0.602	0.0495	0.1	6.02e-02	6.02e-02	
1,2,3,7,8-PECDF		0.390	0.0495	0.03	1.17e-02	1.17e-02	
2,3,4,7,8-PECDF		0.511	0.0495	0.3	1.53e-01	1.53e-01	
1,2,3,4,7,8-HXCDF		0.747	0.0495	0.1	7.47e-02	7.47e-02	
1,2,3,6,7,8-HXCDF		0.451	0.0495	0.1	4.51e-02	4.51e-02	
1,2,3,7,8,9-HXCDF	ND		0.0495	0.1	0.00e+00	2.48e-03	
2,3,4,6,7,8-HXCDF		0.476	0.0495	0.1	4.76e-02	4.76e-02	
1,2,3,4,6,7,8-HPCDF		4.32	0.0495	0.01	4.32e-02	4.32e-02	
1,2,3,4,7,8,9-HPCDF		0.308	0.0495	0.01	3.08e-03	3.08e-03	
OCDF		7.35	0.0495	0.0003	2.21e-03	2.21e-03	
			TOTAL TEQ		4.34	4.34	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-15_TEQ_SJ630068.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN018
Sample Collection:
06-Dec-2006 15:45

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-18
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	21-Jan-2007
Analysis Date:	22-Jan-2007 **Time:** 13:28:38	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_034 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_034 S: 1
		% Moisture:	28.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		43.6	0.0473	0.78	1.001
1,2,3,7,8-PECDD [3]		4.68	0.0473	0.64	1.001
1,2,3,4,7,8-HXCDD		4.75	0.208	1.19	1.000
1,2,3,6,7,8-HXCDD		11.9	0.208	1.24	1.000
1,2,3,7,8,9-HXCDD		14.2	0.208	1.28	1.010
1,2,3,4,6,7,8-HPCDD		268	0.450	1.06	1.000
OCDD	OLR				
2,3,7,8-TCDF		27.4	0.671	0.78	1.002
1,2,3,7,8-PECDF		9.81	0.174	1.55	1.001
2,3,4,7,8-PECDF		13.8	0.174	1.56	1.000
1,2,3,4,7,8-HXCDF		24.9	0.0800	1.27	1.001
1,2,3,6,7,8-HXCDF		18.1	0.0800	1.23	1.000
1,2,3,7,8,9-HXCDF		1.46	0.0800	1.36	1.000
2,3,4,6,7,8-HXCDF		21.5	0.0800	1.26	1.000
1,2,3,4,6,7,8-HPCDF		122	0.0747	1.04	1.000
1,2,3,4,7,8,9-HPCDF		12.9	0.0747	1.03	1.000
OCDF		148	0.0473	0.90	1.002
TOTAL TETRA-DIOXINS		76.7	0.0473		
TOTAL PENTA-DIOXINS		59.7	0.0473		
TOTAL HEXA-DIOXINS		139	0.208		
TOTAL HEPTA-DIOXINS		587	0.450		
TOTAL TETRA-FURANS		147	0.671		
TOTAL PENTA-FURANS		202	0.174		
TOTAL HEXA-FURANS		195	0.0800		
TOTAL HEPTA-FURANS		186	0.0747		

(1) Where applicable, custom lab flags have been used on this report; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-18_Form1A_SJ630069.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN018
Sample Collection:
06-Dec-2006 15:45

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-18
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	21-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Jan-2007 **Time:** 13:28:38	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_034 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_034 S: 1
Concentration Units:	pg absolute	**% Moisture:**	28.6

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1110	55.4	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1230	61.4	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1180	59.1	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1190	59.7	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1230	61.4	1.04	1.095
13C-OCDD		4000	2960	73.9	0.91	1.179
13C-2,3,7,8-TCDF		2000	1040	52.0	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1130	56.5	1.58	1.283
13C-2,3,4,7,8-PECDF		2000	1100	55.2	1.56	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1180	58.9	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1180	59.1	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1160	58.1	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1140	56.9	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1170	58.6	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1200	59.8	0.46	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	112	56.0		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN018
Sample Collection:
06-Dec-2006 15:45

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-18 W
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2007 **Time:** 04:28:03	**GC Column ID:**	DB5
Extract Volume (uL):	200	**Sample Data Filename:**	**DX72_055 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	10	**Cal. Ver. Data Filename:**	DX72_055 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	28.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	18400	0.846	0.90	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-18_Form1A_SJ634195.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN018
Sample Collection:
06-Dec-2006 15:45

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-18 W
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2007 **Time:** 04:28:03	**GC Column ID:**	DB5
Extract Volume (uL):	200	**Sample Data Filename:**	**DX72_055 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	10	**Cal. Ver. Data Filename:**	DX72_055 S: 1
Concentration Units:	pg absolute	**% Moisture:**	28.6

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	2690	67.2	0.87	1.178
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-18_Form2_SJ634195.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN018
Sample Collection:
06-Dec-2006 15:45

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-18
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 16:51:37	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_015 S: 14**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_015 S: 2
		% Moisture:	28.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		9.31	0.0592	0.71	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-18_Form1A_SJ630226.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN018

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	06-Dec-2006 15:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.6 g (dry)	**Lab Sample I.D.:**	L9585-18
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_015 S: 14** **DX72_034 S: 5** **DX72_055 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		43.6	0.0473	1	4.36e+01	4.36e+01	
1,2,3,7,8-PECDD		4.68	0.0473	1	4.68e+00	4.68e+00	
1,2,3,4,7,8-HXCDD		4.75	0.208	0.1	4.75e-01	4.75e-01	
1,2,3,6,7,8-HXCDD		11.9	0.208	0.1	1.19e+00	1.19e+00	
1,2,3,7,8,9-HXCDD		14.2	0.208	0.1	1.42e+00	1.42e+00	
1,2,3,4,6,7,8-HPCDD		268	0.450	0.01	2.68e+00	2.68e+00	
OCDD		18400	0.846	0.0001	1.84e+00	1.84e+00	
2,3,7,8-TCDF		9.31	0.0592	0.1	9.31e-01	9.31e-01	
1,2,3,7,8-PECDF		9.81	0.174	0.05	4.91e-01	4.91e-01	
2,3,4,7,8-PECDF		13.8	0.174	0.5	6.90e+00	6.90e+00	
1,2,3,4,7,8-HXCDF		24.9	0.0800	0.1	2.49e+00	2.49e+00	
1,2,3,6,7,8-HXCDF		18.1	0.0800	0.1	1.81e+00	1.81e+00	
1,2,3,7,8,9-HXCDF		1.46	0.0800	0.1	1.46e-01	1.46e-01	
2,3,4,6,7,8-HXCDF		21.5	0.0800	0.1	2.15e+00	2.15e+00	
1,2,3,4,6,7,8-HPCDF		122	0.0747	0.01	1.22e+00	1.22e+00	
1,2,3,4,7,8,9-HPCDF		12.9	0.0747	0.01	1.29e-01	1.29e-01	
OCDF		148	0.0473	0.0001	1.48e-02	1.48e-02	
			TOTAL TEQ		72.2	72.2	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		43.6	0.0473	1	4.36e+01	4.36e+01	
1,2,3,7,8-PECDD		4.68	0.0473	1	4.68e+00	4.68e+00	
1,2,3,4,7,8-HXCDD		4.75	0.208	0.1	4.75e-01	4.75e-01	
1,2,3,6,7,8-HXCDD		11.9	0.208	0.1	1.19e+00	1.19e+00	
1,2,3,7,8,9-HXCDD		14.2	0.208	0.1	1.42e+00	1.42e+00	
1,2,3,4,6,7,8-HPCDD		268	0.450	0.01	2.68e+00	2.68e+00	
OCDD		18400	0.846	0.0003	5.52e+00	5.52e+00	
2,3,7,8-TCDF		9.31	0.0592	0.1	9.31e-01	9.31e-01	
1,2,3,7,8-PECDF		9.81	0.174	0.03	2.94e-01	2.94e-01	
2,3,4,7,8-PECDF		13.8	0.174	0.3	4.14e+00	4.14e+00	
1,2,3,4,7,8-HXCDF		24.9	0.0800	0.1	2.49e+00	2.49e+00	
1,2,3,6,7,8-HXCDF		18.1	0.0800	0.1	1.81e+00	1.81e+00	
1,2,3,7,8,9-HXCDF		1.46	0.0800	0.1	1.46e-01	1.46e-01	
2,3,4,6,7,8-HXCDF		21.5	0.0800	0.1	2.15e+00	2.15e+00	
1,2,3,4,6,7,8-HPCDF		122	0.0747	0.01	1.22e+00	1.22e+00	
1,2,3,4,7,8,9-HPCDF		12.9	0.0747	0.01	1.29e-01	1.29e-01	
OCDF		148	0.0473	0.0003	4.44e-02	4.44e-02	
			TOTAL TEQ		72.9	72.9	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-18_TEQ_SJ630069.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN019
Sample Collection:
06-Dec-2006 16:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-19
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	11.3 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	04-Apr-2007 **Time:** 03:50:59	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_142 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_142 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_142 S: 1
		% Moisture:	18.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		7.91	0.0442	0.80	1.001
1,2,3,7,8-PECDD [3]		2.50	0.0442	0.61	1.000
1,2,3,4,7,8-HXCDD		2.17	0.0504	1.21	1.000
1,2,3,6,7,8-HXCDD		4.16	0.0504	1.29	1.000
1,2,3,7,8,9-HXCDD		5.38	0.0504	1.16	1.010
1,2,3,4,6,7,8-HPCDD		116	0.119	1.03	1.000
OCDD	OLR				
2,3,7,8-TCDF		6.13	0.0442	0.78	1.001
1,2,3,7,8-PECDF		2.04	0.0442	1.50	1.000
2,3,4,7,8-PECDF		2.77	0.0442	1.52	1.000
1,2,3,4,7,8-HXCDF		5.75	0.0442	1.26	1.000
1,2,3,6,7,8-HXCDF		2.47	0.0442	1.17	1.000
1,2,3,7,8,9-HXCDF		0.197	0.0442	1.15	1.000
2,3,4,6,7,8-HXCDF		2.27	0.0442	1.24	1.000
1,2,3,4,6,7,8-HPCDF		10.9	0.0442	1.04	1.000
1,2,3,4,7,8,9-HPCDF		1.71	0.0442	0.97	1.000
OCDF		10.2	0.0442	0.94	1.001
TOTAL TETRA-DIOXINS		17.7	0.0442		
TOTAL PENTA-DIOXINS		21.8	0.0442		
TOTAL HEXA-DIOXINS		57.8	0.0504		
TOTAL HEPTA-DIOXINS		280	0.119		
TOTAL TETRA-FURANS		29.1	0.0442		
TOTAL PENTA-FURANS		40.8	0.0442		
TOTAL HEXA-FURANS		32.7	0.0442		
TOTAL HEPTA-FURANS		21.4	0.0442		

(1) Where applicable, custom lab flags have been used on this report; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN019
Sample Collection:
06-Dec-2006 16:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-19
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	11.3 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	04-Apr-2007 **Time:** 03:50:59	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_142 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_142 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_142 S: 1
		% Moisture:	18.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1610	80.4	0.78	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1670	83.4	0.63	1.379
13C-1,2,3,4,7,8-HXCDD		2000	1650	82.4	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1710	85.3	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1770	88.3	1.05	1.094
13C-OCDD		4000	3830	95.8	0.90	1.177
13C-2,3,7,8-TCDF		2000	1580	79.2	0.79	0.966
13C-1,2,3,7,8-PECDF		2000	1580	78.9	1.58	1.282
13C-2,3,4,7,8-PECDF		2000	1580	78.8	1.56	1.348
13C-1,2,3,4,7,8-HXCDF		2000	1660	82.8	0.52	0.955
13C-1,2,3,6,7,8-HXCDF		2000	1650	82.4	0.53	0.959
13C-1,2,3,7,8,9-HXCDF		2000	1650	82.4	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1640	82.1	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1650	82.5	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1760	88.0	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	166	83.1		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38; Report Filename: 1613_DIOXINS_1613DB5_L9585-19_Form2_SJ659714.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN019
Sample Collection:
06-Dec-2006 16:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-19 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	11.3 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	04-Apr-2007 **Time:** 13:40:20	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_143 S: 4**
Dilution Factor:	2.5	**Blank Data Filename:**	DX72_142 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_143 S: 1
		% Moisture:	18.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	6490	0.0983	0.89	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613DB5_L9585-19_Form1A_SJ659979.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN019
Sample Collection:
06-Dec-2006 16:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-19 W
Matrix:	SOLID	**Sample Size:**	11.3 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 13:40:20	**GC Column ID:**	DB5
Extract Volume (uL):	50	**Sample Data Filename:**	**DX72_143 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	2.5	**Cal. Ver. Data Filename:**	DX72_143 S: 1
Concentration Units:	pg absolute	**% Moisture:**	18.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	3950	98.9	0.90	1.179
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38; Report Filename: 1613_DIOXINS_1613DB5_L9585-19_Form2_SJ659979.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN019
Sample Collection:
06-Dec-2006 16:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-19
Matrix:	SOLID	**Sample Size:**	11.3 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	08-Jan-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 11:24:58	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_066 S: 6**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_066 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_066 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	18.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		3.60	0.0442	0.72	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:54:21; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613DB225_L9585-19_Form1A_SJ660132.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN019

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	06-Dec-2006 16:20
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	11.3 g (dry)	**Lab Sample I.D.:**	L9585-19
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_066 S: 6** **DX72_142 S: 8** **DX72_143 S: 4**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		7.91	0.0442	1	7.91e+00	7.91e+00	
1,2,3,7,8-PECDD		2.50	0.0442	1	2.50e+00	2.50e+00	
1,2,3,4,7,8-HXCDD		2.17	0.0504	0.1	2.17e-01	2.17e-01	
1,2,3,6,7,8-HXCDD		4.16	0.0504	0.1	4.16e-01	4.16e-01	
1,2,3,7,8,9-HXCDD		5.38	0.0504	0.1	5.38e-01	5.38e-01	
1,2,3,4,6,7,8-HPCDD		116	0.119	0.01	1.16e+00	1.16e+00	
OCDD		6490	0.0983	0.0001	6.49e-01	6.49e-01	
2,3,7,8-TCDF		3.60	0.0442	0.1	3.60e-01	3.60e-01	
1,2,3,7,8-PECDF		2.04	0.0442	0.05	1.02e-01	1.02e-01	
2,3,4,7,8-PECDF		2.77	0.0442	0.5	1.39e+00	1.39e+00	
1,2,3,4,7,8-HXCDF		5.75	0.0442	0.1	5.75e-01	5.75e-01	
1,2,3,6,7,8-HXCDF		2.47	0.0442	0.1	2.47e-01	2.47e-01	
1,2,3,7,8,9-HXCDF		0.197	0.0442	0.1	1.97e-02	1.97e-02	
2,3,4,6,7,8-HXCDF		2.27	0.0442	0.1	2.27e-01	2.27e-01	
1,2,3,4,6,7,8-HPCDF		10.9	0.0442	0.01	1.09e-01	1.09e-01	
1,2,3,4,7,8,9-HPCDF		1.71	0.0442	0.01	1.71e-02	1.71e-02	
OCDF		10.2	0.0442	0.0001	1.02e-03	1.02e-03	
			TOTAL TEQ		16.4	16.4	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		7.91	0.0442	1	7.91e+00	7.91e+00	
1,2,3,7,8-PECDD		2.50	0.0442	1	2.50e+00	2.50e+00	
1,2,3,4,7,8-HXCDD		2.17	0.0504	0.1	2.17e-01	2.17e-01	
1,2,3,6,7,8-HXCDD		4.16	0.0504	0.1	4.16e-01	4.16e-01	
1,2,3,7,8,9-HXCDD		5.38	0.0504	0.1	5.38e-01	5.38e-01	
1,2,3,4,6,7,8-HPCDD		116	0.119	0.01	1.16e+00	1.16e+00	
OCDD		6490	0.0983	0.0003	1.95e+00	1.95e+00	
2,3,7,8-TCDF		3.60	0.0442	0.1	3.60e-01	3.60e-01	
1,2,3,7,8-PECDF		2.04	0.0442	0.03	6.12e-02	6.12e-02	
2,3,4,7,8-PECDF		2.77	0.0442	0.3	8.31e-01	8.31e-01	
1,2,3,4,7,8-HXCDF		5.75	0.0442	0.1	5.75e-01	5.75e-01	
1,2,3,6,7,8-HXCDF		2.47	0.0442	0.1	2.47e-01	2.47e-01	
1,2,3,7,8,9-HXCDF		0.197	0.0442	0.1	1.97e-02	1.97e-02	
2,3,4,6,7,8-HXCDF		2.27	0.0442	0.1	2.27e-01	2.27e-01	
1,2,3,4,6,7,8-HPCDF		10.9	0.0442	0.01	1.09e-01	1.09e-01	
1,2,3,4,7,8,9-HPCDF		1.71	0.0442	0.01	1.71e-02	1.71e-02	
OCDF		10.2	0.0442	0.0003	3.06e-03	3.06e-03	
			TOTAL TEQ		17.1	17.1	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Apr-2007 16:55:28; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-19_TEQ_SJ659714.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN021
Sample Collection:
07-Dec-2006 13:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-21
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	6.28 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	21-Jan-2007
Analysis Date:	22-Jan-2007 **Time:** 14:23:10	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_034 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_034 S: 1
		% Moisture:	55.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		11.7	0.0796	0.76	1.001
1,2,3,7,8-PECDD [3]		1.45	0.0796	0.58	1.001
1,2,3,4,7,8-HXCDD		2.57	0.176	1.17	1.000
1,2,3,6,7,8-HXCDD		5.04	0.176	1.17	1.000
1,2,3,7,8,9-HXCDD		7.47	0.176	1.31	1.010
1,2,3,4,6,7,8-HPCDD		187	0.320	1.05	1.000
OCDD		7510	2.77	0.90	1.000
2,3,7,8-TCDF		2.85	0.105	0.83	1.001
1,2,3,7,8-PECDF		1.46	0.0796	1.46	1.001
2,3,4,7,8-PECDF		1.18	0.0796	1.45	1.000
1,2,3,4,7,8-HXCDF		1.92	0.0796	1.36	1.000
1,2,3,6,7,8-HXCDF		2.62	0.0796	1.19	1.000
1,2,3,7,8,9-HXCDF		0.297	0.0796	1.07	1.000
2,3,4,6,7,8-HXCDF		1.17	0.0796	1.15	1.000
1,2,3,4,6,7,8-HPCDF		11.4	0.0796	1.07	1.000
1,2,3,4,7,8,9-HPCDF		0.972	0.0796	0.97	1.000
OCDF		16.5	0.0796	0.90	1.002
TOTAL TETRA-DIOXINS		17.5	0.0796		
TOTAL PENTA-DIOXINS		14.2	0.0796		
TOTAL HEXA-DIOXINS		78.3	0.176		
TOTAL HEPTA-DIOXINS		468	0.320		
TOTAL TETRA-FURANS		15.0	0.105		
TOTAL PENTA-FURANS		16.9	0.0796		
TOTAL HEXA-FURANS		20.4	0.0796		
TOTAL HEPTA-FURANS		23.7	0.0796		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-21_Form1A_SJ630070.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN021
Sample Collection:
07-Dec-2006 13:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-21
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	6.28 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	21-Jan-2007
Analysis Date:	22-Jan-2007 **Time:** 14:23:10	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_034 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_034 S: 1
		% Moisture:	55.8

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1340	67.0	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1540	77.0	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1430	71.7	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1420	71.2	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1390	69.6	1.06	1.095
13C-OCDD		4000	2940	73.4	0.91	1.179
13C-2,3,7,8-TCDF		2000	1320	65.9	0.79	0.967
13C-1,2,3,7,8-PECDF		2000	1350	67.3	1.54	1.283
13C-2,3,4,7,8-PECDF		2000	1330	66.5	1.57	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1390	69.7	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1410	70.5	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1390	69.3	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1360	67.8	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1350	67.3	0.45	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1370	68.7	0.46	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	142	71.1		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-21_Form2_SJ630070.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN021
Sample Collection:
07-Dec-2006 13:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-21
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	6.28 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 17:27:16	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_015 S: 15**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_015 S: 2
		% Moisture:	55.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		2.40	0.0796	0.70	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-21_Form1A_SJ630227.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN021

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	07-Dec-2006 13:40
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	6.28 g (dry)	**Lab Sample I.D.:**	L9585-21
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_015 S: 15** **DX72_034 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		11.7	0.0796	1	1.17e+01	1.17e+01	
1,2,3,7,8-PECDD		1.45	0.0796	1	1.45e+00	1.45e+00	
1,2,3,4,7,8-HXCDD		2.57	0.176	0.1	2.57e-01	2.57e-01	
1,2,3,6,7,8-HXCDD		5.04	0.176	0.1	5.04e-01	5.04e-01	
1,2,3,7,8,9-HXCDD		7.47	0.176	0.1	7.47e-01	7.47e-01	
1,2,3,4,6,7,8-HPCDD		187	0.320	0.01	1.87e+00	1.87e+00	
OCDD		7510	2.77	0.0001	7.51e-01	7.51e-01	
2,3,7,8-TCDF		2.40	0.0796	0.1	2.40e-01	2.40e-01	
1,2,3,7,8-PECDF		1.46	0.0796	0.05	7.30e-02	7.30e-02	
2,3,4,7,8-PECDF		1.18	0.0796	0.5	5.90e-01	5.90e-01	
1,2,3,4,7,8-HXCDF		1.92	0.0796	0.1	1.92e-01	1.92e-01	
1,2,3,6,7,8-HXCDF		2.62	0.0796	0.1	2.62e-01	2.62e-01	
1,2,3,7,8,9-HXCDF		0.297	0.0796	0.1	2.97e-02	2.97e-02	
2,3,4,6,7,8-HXCDF		1.17	0.0796	0.1	1.17e-01	1.17e-01	
1,2,3,4,6,7,8-HPCDF		11.4	0.0796	0.01	1.14e-01	1.14e-01	
1,2,3,4,7,8,9-HPCDF		0.972	0.0796	0.01	9.72e-03	9.72e-03	
OCDF		16.5	0.0796	0.0001	1.65e-03	1.65e-03	
			TOTAL TEQ		18.9	18.9	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		11.7	0.0796	1	1.17e+01	1.17e+01	
1,2,3,7,8-PECDD		1.45	0.0796	1	1.45e+00	1.45e+00	
1,2,3,4,7,8-HXCDD		2.57	0.176	0.1	2.57e-01	2.57e-01	
1,2,3,6,7,8-HXCDD		5.04	0.176	0.1	5.04e-01	5.04e-01	
1,2,3,7,8,9-HXCDD		7.47	0.176	0.1	7.47e-01	7.47e-01	
1,2,3,4,6,7,8-HPCDD		187	0.320	0.01	1.87e+00	1.87e+00	
OCDD		7510	2.77	0.0003	2.25e+00	2.25e+00	
2,3,7,8-TCDF		2.40	0.0796	0.1	2.40e-01	2.40e-01	
1,2,3,7,8-PECDF		1.46	0.0796	0.03	4.38e-02	4.38e-02	
2,3,4,7,8-PECDF		1.18	0.0796	0.3	3.54e-01	3.54e-01	
1,2,3,4,7,8-HXCDF		1.92	0.0796	0.1	1.92e-01	1.92e-01	
1,2,3,6,7,8-HXCDF		2.62	0.0796	0.1	2.62e-01	2.62e-01	
1,2,3,7,8,9-HXCDF		0.297	0.0796	0.1	2.97e-02	2.97e-02	
2,3,4,6,7,8-HXCDF		1.17	0.0796	0.1	1.17e-01	1.17e-01	
1,2,3,4,6,7,8-HPCDF		11.4	0.0796	0.01	1.14e-01	1.14e-01	
1,2,3,4,7,8,9-HPCDF		0.972	0.0796	0.01	9.72e-03	9.72e-03	
OCDF		16.5	0.0796	0.0003	4.95e-03	4.95e-03	
			TOTAL TEQ		20.1	20.1	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN022
Sample Collection:
07-Dec-2006 13:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-22
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	14.6 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	04-Apr-2007 **Time:** 04:45:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_142 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_142 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_142 S: 1
		% Moisture:	61.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		8.89	0.0342	0.80	1.001
1,2,3,7,8-PECDD [3]		1.20	0.0367	0.70	1.001
1,2,3,4,7,8-HXCDD		2.00	0.0535	1.26	1.000
1,2,3,6,7,8-HXCDD		3.96	0.0535	1.29	1.000
1,2,3,7,8,9-HXCDD		6.08	0.0535	1.24	1.010
1,2,3,4,6,7,8-HPCDD		152	0.369	1.03	1.000
OCDD		6530	4.20	0.90	1.000
2,3,7,8-TCDF		2.21	0.0342	0.81	1.001
1,2,3,7,8-PECDF		1.04	0.0342	1.63	1.001
2,3,4,7,8-PECDF		0.913	0.0342	1.37	1.000
1,2,3,4,7,8-HXCDF		1.32	0.0342	1.26	1.000
1,2,3,6,7,8-HXCDF		2.19	0.0342	1.34	1.000
1,2,3,7,8,9-HXCDF		0.252	0.0342	1.31	1.000
2,3,4,6,7,8-HXCDF		0.884	0.0342	1.17	1.000
1,2,3,4,6,7,8-HPCDF		9.27	0.0342	1.07	1.000
1,2,3,4,7,8,9-HPCDF		0.809	0.0342	1.01	1.000
OCDF		13.3	0.0342	0.92	1.002
TOTAL TETRA-DIOXINS		13.3	0.0342		
TOTAL PENTA-DIOXINS		13.1	0.0367		
TOTAL HEXA-DIOXINS		64.7	0.0535		
TOTAL HEPTA-DIOXINS		391	0.369		
TOTAL TETRA-FURANS		11.6	0.0342		
TOTAL PENTA-FURANS		13.3	0.0342		
TOTAL HEXA-FURANS		17.4	0.0342		
TOTAL HEPTA-FURANS		19.6	0.0342		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613DB5_L9585-22_Form1A_SJ659715.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN022
Sample Collection:
07-Dec-2006 13:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-22
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	14.6 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	04-Apr-2007 **Time:** 04:45:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_142 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_142 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_142 S: 1
		% Moisture:	61.4

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1140	57.0	0.79	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1140	57.2	0.64	1.379
13C-1,2,3,4,7,8-HXCDD		2000	1140	56.8	1.29	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1150	57.5	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1190	59.4	1.06	1.094
13C-OCDD		4000	2430	60.8	0.90	1.177
13C-2,3,7,8-TCDF		2000	1120	56.2	0.80	0.966
13C-1,2,3,7,8-PECDF		2000	1110	55.4	1.54	1.282
13C-2,3,4,7,8-PECDF		2000	1100	55.1	1.59	1.348
13C-1,2,3,4,7,8-HXCDF		2000	1120	56.1	0.52	0.955
13C-1,2,3,6,7,8-HXCDF		2000	1110	55.3	0.53	0.959
13C-1,2,3,7,8,9-HXCDF		2000	1100	55.2	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1080	54.2	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1080	54.1	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1170	58.7	0.46	1.103
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	145	72.5		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613DB5_L9585-22_Form2_SJ659715.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN022
Sample Collection:
07-Dec-2006 13:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-22
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	14.6 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	04-Apr-2007 **Time:** 12:00:38	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_066 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_066 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_066 S: 2
		% Moisture:	61.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1.59	0.0342	0.66	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:54:21; Application: XMLTransformer-1.7.38; Report Filename: 1613_DIOXINS_1613DB225_L9585-22_Form1A_SJ660133.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN022

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	07-Dec-2006 13:55
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	14.6 g (dry)	**Lab Sample I.D.:**	L9585-22
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_066 S: 7** **DX72_142 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		8.89	0.0342	1	8.89e+00	8.89e+00	
1,2,3,7,8-PECDD		1.20	0.0367	1	1.20e+00	1.20e+00	
1,2,3,4,7,8-HXCDD		2.00	0.0535	0.1	2.00e-01	2.00e-01	
1,2,3,6,7,8-HXCDD		3.96	0.0535	0.1	3.96e-01	3.96e-01	
1,2,3,7,8,9-HXCDD		6.08	0.0535	0.1	6.08e-01	6.08e-01	
1,2,3,4,6,7,8-HPCDD		152	0.369	0.01	1.52e+00	1.52e+00	
OCDD		6530	4.20	0.0001	6.53e-01	6.53e-01	
2,3,7,8-TCDF		1.59	0.0342	0.1	1.59e-01	1.59e-01	
1,2,3,7,8-PECDF		1.04	0.0342	0.05	5.20e-02	5.20e-02	
2,3,4,7,8-PECDF		0.913	0.0342	0.5	4.57e-01	4.57e-01	
1,2,3,4,7,8-HXCDF		1.32	0.0342	0.1	1.32e-01	1.32e-01	
1,2,3,6,7,8-HXCDF		2.19	0.0342	0.1	2.19e-01	2.19e-01	
1,2,3,7,8,9-HXCDF		0.252	0.0342	0.1	2.52e-02	2.52e-02	
2,3,4,6,7,8-HXCDF		0.884	0.0342	0.1	8.84e-02	8.84e-02	
1,2,3,4,6,7,8-HPCDF		9.27	0.0342	0.01	9.27e-02	9.27e-02	
1,2,3,4,7,8,9-HPCDF		0.809	0.0342	0.01	8.09e-03	8.09e-03	
OCDF		13.3	0.0342	0.0001	1.33e-03	1.33e-03	
			TOTAL TEQ		14.7	14.7	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		8.89	0.0342	1	8.89e+00	8.89e+00	
1,2,3,7,8-PECDD		1.20	0.0367	1	1.20e+00	1.20e+00	
1,2,3,4,7,8-HXCDD		2.00	0.0535	0.1	2.00e-01	2.00e-01	
1,2,3,6,7,8-HXCDD		3.96	0.0535	0.1	3.96e-01	3.96e-01	
1,2,3,7,8,9-HXCDD		6.08	0.0535	0.1	6.08e-01	6.08e-01	
1,2,3,4,6,7,8-HPCDD		152	0.369	0.01	1.52e+00	1.52e+00	
OCDD		6530	4.20	0.0003	1.96e+00	1.96e+00	
2,3,7,8-TCDF		1.59	0.0342	0.1	1.59e-01	1.59e-01	
1,2,3,7,8-PECDF		1.04	0.0342	0.03	3.12e-02	3.12e-02	
2,3,4,7,8-PECDF		0.913	0.0342	0.3	2.74e-01	2.74e-01	
1,2,3,4,7,8-HXCDF		1.32	0.0342	0.1	1.32e-01	1.32e-01	
1,2,3,6,7,8-HXCDF		2.19	0.0342	0.1	2.19e-01	2.19e-01	
1,2,3,7,8,9-HXCDF		0.252	0.0342	0.1	2.52e-02	2.52e-02	
2,3,4,6,7,8-HXCDF		0.884	0.0342	0.1	8.84e-02	8.84e-02	
1,2,3,4,6,7,8-HPCDF		9.27	0.0342	0.01	9.27e-02	9.27e-02	
1,2,3,4,7,8,9-HPCDF		0.809	0.0342	0.01	8.09e-03	8.09e-03	
OCDF		13.3	0.0342	0.0003	3.99e-03	3.99e-03	
			TOTAL TEQ		15.8	15.8	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Apr-2007 16:55:28; Application: XMLTransformer-1.7.38; Report Filename: 1613_DIOXINS_1613-TEQ_L9585-22_TEQ_SJ659715.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN023
Sample Collection:
07-Dec-2006 14:05

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-23
Matrix:	SOLID	**Sample Size:**	10.0 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	21-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Jan-2007 **Time:** 15:17:44	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_034 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_034 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	42.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		4.54	0.0500	0.74	1.001
1,2,3,7,8-PECDD [3]		0.642	0.0500	0.65	1.001
1,2,3,4,7,8-HXCDD		1.03	0.0976	1.07	1.000
1,2,3,6,7,8-HXCDD		2.10	0.0976	1.32	1.000
1,2,3,7,8,9-HXCDD		3.12	0.0976	1.17	1.010
1,2,3,4,6,7,8-HPCDD		77.1	0.224	1.04	1.000
OCDD		2720	1.65	0.89	1.000
2,3,7,8-TCDF		1.34	0.0500	0.79	1.001
1,2,3,7,8-PECDF		0.677	0.0500	1.52	1.001
2,3,4,7,8-PECDF		0.515	0.0500	1.58	1.000
1,2,3,4,7,8-HXCDF		0.746	0.0500	1.07	1.000
1,2,3,6,7,8-HXCDF		1.21	0.0500	1.29	1.000
1,2,3,7,8,9-HXCDF		0.141	0.0500	1.17	1.000
2,3,4,6,7,8-HXCDF		0.496	0.0500	1.41	1.000
1,2,3,4,6,7,8-HPCDF		5.14	0.0500	1.06	1.000
1,2,3,4,7,8,9-HPCDF		0.462	0.0500	1.05	1.000
OCDF		7.91	0.0500	0.92	1.002
TOTAL TETRA-DIOXINS		6.97	0.0500		
TOTAL PENTA-DIOXINS		7.01	0.0500		
TOTAL HEXA-DIOXINS		34.0	0.0976		
TOTAL HEPTA-DIOXINS		196	0.224		
TOTAL TETRA-FURANS		6.39	0.0500		
TOTAL PENTA-FURANS		6.80	0.0500		
TOTAL HEXA-FURANS		8.54	0.0500		
TOTAL HEPTA-FURANS		10.9	0.0500		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-23_Form1A_SJ630071.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN023
Sample Collection:
07-Dec-2006 14:05

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-23
Matrix:	SOLID	**Sample Size:**	10.0 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	21-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Jan-2007 **Time:** 15:17:44	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_034 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_034 S: 1
Concentration Units:	pg absolute	**% Moisture:**	42.2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1130	56.4	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1230	61.7	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1200	59.8	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1190	59.4	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1240	62.1	1.04	1.095
13C-OCDD		4000	2630	65.6	0.91	1.179
13C-2,3,7,8-TCDF		2000	1100	55.2	0.79	0.967
13C-1,2,3,7,8-PECDF		2000	1150	57.5	1.58	1.283
13C-2,3,4,7,8-PECDF		2000	1170	58.3	1.55	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1160	57.9	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1160	58.2	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1150	57.4	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1130	56.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1180	58.9	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1230	61.4	0.45	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	119	59.7		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-23_Form2_SJ630071.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN023
Sample Collection:
07-Dec-2006 14:05

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-23
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 22:16:19	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_016 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_016 S: 2
		% Moisture:	42.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.995	0.0500	0.79	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-23_Form1A_SJ634083.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN023

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	07-Dec-2006 14:05
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.0 g (dry)	**Lab Sample I.D.:**	L9585-23
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_016 S: 5** **DX72_034 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.54	0.0500	1	4.54e+00	4.54e+00	
1,2,3,7,8-PECDD		0.642	0.0500	1	6.42e-01	6.42e-01	
1,2,3,4,7,8-HXCDD		1.03	0.0976	0.1	1.03e-01	1.03e-01	
1,2,3,6,7,8-HXCDD		2.10	0.0976	0.1	2.10e-01	2.10e-01	
1,2,3,7,8,9-HXCDD		3.12	0.0976	0.1	3.12e-01	3.12e-01	
1,2,3,4,6,7,8-HPCDD		77.1	0.224	0.01	7.71e-01	7.71e-01	
OCDD		2720	1.65	0.0001	2.72e-01	2.72e-01	
2,3,7,8-TCDF		0.995	0.0500	0.1	9.95e-02	9.95e-02	
1,2,3,7,8-PECDF		0.677	0.0500	0.05	3.39e-02	3.39e-02	
2,3,4,7,8-PECDF		0.515	0.0500	0.5	2.58e-01	2.58e-01	
1,2,3,4,7,8-HXCDF		0.746	0.0500	0.1	7.46e-02	7.46e-02	
1,2,3,6,7,8-HXCDF		1.21	0.0500	0.1	1.21e-01	1.21e-01	
1,2,3,7,8,9-HXCDF		0.141	0.0500	0.1	1.41e-02	1.41e-02	
2,3,4,6,7,8-HXCDF		0.496	0.0500	0.1	4.96e-02	4.96e-02	
1,2,3,4,6,7,8-HPCDF		5.14	0.0500	0.01	5.14e-02	5.14e-02	
1,2,3,4,7,8,9-HPCDF		0.462	0.0500	0.01	4.62e-03	4.62e-03	
OCDF		7.91	0.0500	0.0001	7.91e-04	7.91e-04	
			TOTAL TEQ		7.56	7.56	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.54	0.0500	1	4.54e+00	4.54e+00	
1,2,3,7,8-PECDD		0.642	0.0500	1	6.42e-01	6.42e-01	
1,2,3,4,7,8-HXCDD		1.03	0.0976	0.1	1.03e-01	1.03e-01	
1,2,3,6,7,8-HXCDD		2.10	0.0976	0.1	2.10e-01	2.10e-01	
1,2,3,7,8,9-HXCDD		3.12	0.0976	0.1	3.12e-01	3.12e-01	
1,2,3,4,6,7,8-HPCDD		77.1	0.224	0.01	7.71e-01	7.71e-01	
OCDD		2720	1.65	0.0003	8.16e-01	8.16e-01	
2,3,7,8-TCDF		0.995	0.0500	0.1	9.95e-02	9.95e-02	
1,2,3,7,8-PECDF		0.677	0.0500	0.03	2.03e-02	2.03e-02	
2,3,4,7,8-PECDF		0.515	0.0500	0.3	1.55e-01	1.55e-01	
1,2,3,4,7,8-HXCDF		0.746	0.0500	0.1	7.46e-02	7.46e-02	
1,2,3,6,7,8-HXCDF		1.21	0.0500	0.1	1.21e-01	1.21e-01	
1,2,3,7,8,9-HXCDF		0.141	0.0500	0.1	1.41e-02	1.41e-02	
2,3,4,6,7,8-HXCDF		0.496	0.0500	0.1	4.96e-02	4.96e-02	
1,2,3,4,6,7,8-HPCDF		5.14	0.0500	0.01	5.14e-02	5.14e-02	
1,2,3,4,7,8,9-HPCDF		0.462	0.0500	0.01	4.62e-03	4.62e-03	
OCDF		7.91	0.0500	0.0003	2.37e-03	2.37e-03	
			TOTAL TEQ		7.99	7.99	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-23_TEQ_SJ630071.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN024
Sample Collection:
07-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-24
Matrix:	SOLID	**Sample Size:**	11.3 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	21-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Jan-2007 **Time:** 16:12:17	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_034 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_034 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	49.3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		30.4	0.0442	0.77	1.001
1,2,3,7,8-PECDD [3]		1.80	0.0442	0.58	1.000
1,2,3,4,7,8-HXCDD		2.76	0.153	1.29	1.000
1,2,3,6,7,8-HXCDD		5.77	0.153	1.29	1.000
1,2,3,7,8,9-HXCDD		8.62	0.153	1.19	1.010
1,2,3,4,6,7,8-HPCDD		187	0.177	1.06	1.000
OCDD		5080	4.69	0.89	1.000
2,3,7,8-TCDF		8.33	0.0552	0.78	1.001
1,2,3,7,8-PECDF		3.59	0.0442	1.46	1.000
2,3,4,7,8-PECDF		1.40	0.0442	1.61	1.000
1,2,3,4,7,8-HXCDF		1.27	0.0442	1.24	1.000
1,2,3,6,7,8-HXCDF		4.22	0.0442	1.27	1.000
1,2,3,7,8,9-HXCDF		0.812	0.0442	1.26	1.000
2,3,4,6,7,8-HXCDF		0.857	0.0442	1.07	1.000
1,2,3,4,6,7,8-HPCDF		9.15	0.0442	1.06	1.000
1,2,3,4,7,8,9-HPCDF		1.11	0.0442	1.05	1.000
OCDF		13.3	0.0442	0.92	1.002
TOTAL TETRA-DIOXINS		36.8	0.0442		
TOTAL PENTA-DIOXINS		19.4	0.0442		
TOTAL HEXA-DIOXINS		83.0	0.153		
TOTAL HEPTA-DIOXINS		424	0.177		
TOTAL TETRA-FURANS		22.3	0.0552		
TOTAL PENTA-FURANS		25.3	0.0442		
TOTAL HEXA-FURANS		21.7	0.0442		
TOTAL HEPTA-FURANS		19.6	0.0442		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-24_Form1A_SJ630072.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN024
Sample Collection:
07-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-24
Matrix:	SOLID	**Sample Size:**	11.3 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	21-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Jan-2007 **Time:** 16:12:17	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_034 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_034 S: 1
Concentration Units:	pg absolute	**% Moisture:**	49.3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1160	57.9	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1190	59.4	0.62	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1160	58.0	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1180	59.1	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1210	60.7	1.05	1.095
13C-OCDD		4000	2600	65.1	0.91	1.179
13C-2,3,7,8-TCDF		2000	1110	55.6	0.80	0.967
13C-1,2,3,7,8-PECDF		2000	1120	56.2	1.57	1.283
13C-2,3,4,7,8-PECDF		2000	1120	55.8	1.57	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1140	56.8	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1130	56.7	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1130	56.6	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1100	55.2	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1140	56.9	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1180	59.2	0.46	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	123	61.5		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-24_Form2_SJ630072.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN024
Sample Collection:
07-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-24
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	11.3 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 22:51:58	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_016 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_016 S: 2
		% Moisture:	49.3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		7.88	0.0442	0.78	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:43:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB225_L9585-24_Form1A_SJ634084.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN024

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	07-Dec-2006 15:20
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	11.3 g (dry)	**Lab Sample I.D.:**	L9585-24
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_016 S: 6** **DX72_034 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		30.4	0.0442	1	3.04e+01	3.04e+01	
1,2,3,7,8-PECDD		1.80	0.0442	1	1.80e+00	1.80e+00	
1,2,3,4,7,8-HXCDD		2.76	0.153	0.1	2.76e-01	2.76e-01	
1,2,3,6,7,8-HXCDD		5.77	0.153	0.1	5.77e-01	5.77e-01	
1,2,3,7,8,9-HXCDD		8.62	0.153	0.1	8.62e-01	8.62e-01	
1,2,3,4,6,7,8-HPCDD		187	0.177	0.01	1.87e+00	1.87e+00	
OCDD		5080	4.69	0.0001	5.08e-01	5.08e-01	
2,3,7,8-TCDF		7.88	0.0442	0.1	7.88e-01	7.88e-01	
1,2,3,7,8-PECDF		3.59	0.0442	0.05	1.80e-01	1.80e-01	
2,3,4,7,8-PECDF		1.40	0.0442	0.5	7.00e-01	7.00e-01	
1,2,3,4,7,8-HXCDF		1.27	0.0442	0.1	1.27e-01	1.27e-01	
1,2,3,6,7,8-HXCDF		4.22	0.0442	0.1	4.22e-01	4.22e-01	
1,2,3,7,8,9-HXCDF		0.812	0.0442	0.1	8.12e-02	8.12e-02	
2,3,4,6,7,8-HXCDF		0.857	0.0442	0.1	8.57e-02	8.57e-02	
1,2,3,4,6,7,8-HPCDF		9.15	0.0442	0.01	9.15e-02	9.15e-02	
1,2,3,4,7,8,9-HPCDF		1.11	0.0442	0.01	1.11e-02	1.11e-02	
OCDF		13.3	0.0442	0.0001	1.33e-03	1.33e-03	
			TOTAL TEQ		38.8	38.8	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		30.4	0.0442	1	3.04e+01	3.04e+01	
1,2,3,7,8-PECDD		1.80	0.0442	1	1.80e+00	1.80e+00	
1,2,3,4,7,8-HXCDD		2.76	0.153	0.1	2.76e-01	2.76e-01	
1,2,3,6,7,8-HXCDD		5.77	0.153	0.1	5.77e-01	5.77e-01	
1,2,3,7,8,9-HXCDD		8.62	0.153	0.1	8.62e-01	8.62e-01	
1,2,3,4,6,7,8-HPCDD		187	0.177	0.01	1.87e+00	1.87e+00	
OCDD		5080	4.69	0.0003	1.52e+00	1.52e+00	
2,3,7,8-TCDF		7.88	0.0442	0.1	7.88e-01	7.88e-01	
1,2,3,7,8-PECDF		3.59	0.0442	0.03	1.08e-01	1.08e-01	
2,3,4,7,8-PECDF		1.40	0.0442	0.3	4.20e-01	4.20e-01	
1,2,3,4,7,8-HXCDF		1.27	0.0442	0.1	1.27e-01	1.27e-01	
1,2,3,6,7,8-HXCDF		4.22	0.0442	0.1	4.22e-01	4.22e-01	
1,2,3,7,8,9-HXCDF		0.812	0.0442	0.1	8.12e-02	8.12e-02	
2,3,4,6,7,8-HXCDF		0.857	0.0442	0.1	8.57e-02	8.57e-02	
1,2,3,4,6,7,8-HPCDF		9.15	0.0442	0.01	9.15e-02	9.15e-02	
1,2,3,4,7,8,9-HPCDF		1.11	0.0442	0.01	1.11e-02	1.11e-02	
OCDF		13.3	0.0442	0.0003	3.99e-03	3.99e-03	
			TOTAL TEQ		39.4	39.4	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-24_TEQ_SJ630072.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN027
Sample Collection:
07-Dec-2006 14:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-27
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	21-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Jan-2007 **Time:** 17:06:57	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_034 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_034 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	10.3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		2.29	0.0497	0.71	1.001
1,2,3,7,8-PECDD [3]		1.36	0.0497	0.65	1.000
1,2,3,4,7,8-HXCDD		3.37	0.159	1.15	1.000
1,2,3,6,7,8-HXCDD		16.0	0.159	1.25	1.000
1,2,3,7,8,9-HXCDD		17.4	0.159	1.23	1.010
1,2,3,4,6,7,8-HPCDD		412	0.300	1.05	1.000
OCDD		5180	20.0	0.89	1.000
2,3,7,8-TCDF		2.80	0.0893	0.78	1.002
1,2,3,7,8-PECDF		1.30	0.0497	1.49	1.001
2,3,4,7,8-PECDF		2.17	0.0497	1.57	1.000
1,2,3,4,7,8-HXCDF		4.52	0.0764	1.26	1.000
1,2,3,6,7,8-HXCDF		2.82	0.0764	1.20	1.000
1,2,3,7,8,9-HXCDF	NDR	0.217	0.0764	1.62	1.000
2,3,4,6,7,8-HXCDF		2.59	0.0764	1.28	1.000
1,2,3,4,6,7,8-HPCDF		23.0	0.0731	1.05	1.000
1,2,3,4,7,8,9-HPCDF		1.52	0.0731	1.02	1.000
OCDF		21.8	0.175	0.90	1.002
TOTAL TETRA-DIOXINS		30.9	0.0497		
TOTAL PENTA-DIOXINS		36.7	0.0497		
TOTAL HEXA-DIOXINS		186	0.159		
TOTAL HEPTA-DIOXINS		708	0.300		
TOTAL TETRA-FURANS		18.0	0.0893		
TOTAL PENTA-FURANS		28.0	0.0497		
TOTAL HEXA-FURANS		38.8	0.0764		
TOTAL HEPTA-FURANS		41.3	0.0731		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN027
Sample Collection:
07-Dec-2006 14:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-27
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	21-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Jan-2007 **Time:** 17:06:57	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_034 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_034 S: 1
Concentration Units:	pg absolute	**% Moisture:**	10.3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1690	84.4	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1810	90.3	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1740	87.1	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1740	86.8	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1880	94.0	1.04	1.095
13C-OCDD		4000	3820	95.6	0.90	1.179
13C-2,3,7,8-TCDF		2000	1670	83.4	0.77	0.967
13C-1,2,3,7,8-PECDF		2000	1690	84.4	1.59	1.283
13C-2,3,4,7,8-PECDF		2000	1670	83.7	1.56	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1670	83.7	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1700	85.1	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1670	83.6	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1640	82.0	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1710	85.5	0.45	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1790	89.7	0.46	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	174	87.0		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-27_Form2_SJ630073.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN027
Sample Collection:
07-Dec-2006 14:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-27
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.1 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 23:27:37	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_016 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_016 S: 2
		% Moisture:	10.3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1.06	0.0497	0.88	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-27_Form1A_SJ634085.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN027

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	07-Dec-2006 14:40
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.1 g (dry)	**Lab Sample I.D.:**	L9585-27
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_016 S: 7** **DX72_034 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		2.29	0.0497	1	2.29e+00	2.29e+00	
1,2,3,7,8-PECDD		1.36	0.0497	1	1.36e+00	1.36e+00	
1,2,3,4,7,8-HXCDD		3.37	0.159	0.1	3.37e-01	3.37e-01	
1,2,3,6,7,8-HXCDD		16.0	0.159	0.1	1.60e+00	1.60e+00	
1,2,3,7,8,9-HXCDD		17.4	0.159	0.1	1.74e+00	1.74e+00	
1,2,3,4,6,7,8-HPCDD		412	0.300	0.01	4.12e+00	4.12e+00	
OCDD		5180	20.0	0.0001	5.18e-01	5.18e-01	
2,3,7,8-TCDF		1.06	0.0497	0.1	1.06e-01	1.06e-01	
1,2,3,7,8-PECDF		1.30	0.0497	0.05	6.50e-02	6.50e-02	
2,3,4,7,8-PECDF		2.17	0.0497	0.5	1.09e+00	1.09e+00	
1,2,3,4,7,8-HXCDF		4.52	0.0764	0.1	4.52e-01	4.52e-01	
1,2,3,6,7,8-HXCDF		2.82	0.0764	0.1	2.82e-01	2.82e-01	
1,2,3,7,8,9-HXCDF	ND		0.0764	0.1	0.00e+00	3.82e-03	
2,3,4,6,7,8-HXCDF		2.59	0.0764	0.1	2.59e-01	2.59e-01	
1,2,3,4,6,7,8-HPCDF		23.0	0.0731	0.01	2.30e-01	2.30e-01	
1,2,3,4,7,8,9-HPCDF		1.52	0.0731	0.01	1.52e-02	1.52e-02	
OCDF		21.8	0.175	0.0001	2.18e-03	2.18e-03	
			TOTAL TEQ		14.5	14.5	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		2.29	0.0497	1	2.29e+00	2.29e+00	
1,2,3,7,8-PECDD		1.36	0.0497	1	1.36e+00	1.36e+00	
1,2,3,4,7,8-HXCDD		3.37	0.159	0.1	3.37e-01	3.37e-01	
1,2,3,6,7,8-HXCDD		16.0	0.159	0.1	1.60e+00	1.60e+00	
1,2,3,7,8,9-HXCDD		17.4	0.159	0.1	1.74e+00	1.74e+00	
1,2,3,4,6,7,8-HPCDD		412	0.300	0.01	4.12e+00	4.12e+00	
OCDD		5180	20.0	0.0003	1.55e+00	1.55e+00	
2,3,7,8-TCDF		1.06	0.0497	0.1	1.06e-01	1.06e-01	
1,2,3,7,8-PECDF		1.30	0.0497	0.03	3.90e-02	3.90e-02	
2,3,4,7,8-PECDF		2.17	0.0497	0.3	6.51e-01	6.51e-01	
1,2,3,4,7,8-HXCDF		4.52	0.0764	0.1	4.52e-01	4.52e-01	
1,2,3,6,7,8-HXCDF		2.82	0.0764	0.1	2.82e-01	2.82e-01	
1,2,3,7,8,9-HXCDF	ND		0.0764	0.1	0.00e+00	3.82e-03	
2,3,4,6,7,8-HXCDF		2.59	0.0764	0.1	2.59e-01	2.59e-01	
1,2,3,4,6,7,8-HPCDF		23.0	0.0731	0.01	2.30e-01	2.30e-01	
1,2,3,4,7,8,9-HPCDF		1.52	0.0731	0.01	1.52e-02	1.52e-02	
OCDF		21.8	0.175	0.0003	6.54e-03	6.54e-03	
			TOTAL TEQ		15.0	15.0	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-27_TEQ_SJ630073.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN029
Sample Collection:
07-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-29
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	21-Jan-2007
Analysis Date:	22-Jan-2007 **Time:** 18:01:36	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_034 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_034 S: 1
		% Moisture:	55.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		57.1	0.0472	0.78	1.000
1,2,3,7,8-PECDD [3]		2.68	0.0472	0.61	1.000
1,2,3,4,7,8-HXCDD		3.88	0.187	1.26	1.000
1,2,3,6,7,8-HXCDD		8.98	0.187	1.22	1.000
1,2,3,7,8,9-HXCDD		12.6	0.187	1.21	1.010
1,2,3,4,6,7,8-HPCDD		282	0.340	1.06	1.000
OCDD		6740	29.1	0.90	1.000
2,3,7,8-TCDF		12.2	0.110	0.78	1.001
1,2,3,7,8-PECDF		4.73	0.0613	1.51	1.000
2,3,4,7,8-PECDF		2.36	0.0613	1.64	1.000
1,2,3,4,7,8-HXCDF		2.44	0.0472	1.25	1.000
1,2,3,6,7,8-HXCDF		6.06	0.0472	1.21	1.000
1,2,3,7,8,9-HXCDF		1.09	0.0472	1.26	1.000
2,3,4,6,7,8-HXCDF		1.55	0.0472	1.25	1.000
1,2,3,4,6,7,8-HPCDF		15.3	0.0472	1.05	1.000
1,2,3,4,7,8,9-HPCDF		1.70	0.0472	1.07	1.000
OCDF		21.5	0.0993	0.90	1.002
TOTAL TETRA-DIOXINS		65.9	0.0472		
TOTAL PENTA-DIOXINS		29.2	0.0472		
TOTAL HEXA-DIOXINS		122	0.187		
TOTAL HEPTA-DIOXINS		620	0.340		
TOTAL TETRA-FURANS		36.6	0.110		
TOTAL PENTA-FURANS		41.4	0.0613		
TOTAL HEXA-FURANS		36.7	0.0472		
TOTAL HEPTA-FURANS		34.9	0.0472		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-29_Form1A_SJ630074.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN029
Sample Collection:
07-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-29
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	21-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Jan-2007 **Time:** 18:01:36	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_034 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_034 S: 1
Concentration Units:	pg absolute	**% Moisture:**	55.9

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	984	49.2	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1030	51.3	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		2000	997	49.8	1.31	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1000	50.0	1.18	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1050	52.7	1.03	1.095
13C-OCDD		4000	2210	55.3	0.91	1.179
13C-2,3,7,8-TCDF		2000	962	48.1	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	954	47.7	1.57	1.283
13C-2,3,4,7,8-PECDF		2000	959	47.9	1.58	1.351
13C-1,2,3,4,7,8-HXCDF		2000	977	48.8	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	968	48.4	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	970	48.5	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	954	47.7	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	966	48.3	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1010	50.6	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	105	52.6		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-29_Form2_SJ630074.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN029
Sample Collection:
07-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-29
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	26-Jan-2007 **Time:** 00:03:16	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_016 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_016 S: 2
		% Moisture:	55.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		11.9	0.0502	0.80	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:43:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB225_L9585-29_Form1A_SJ634086.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN029

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	07-Dec-2006 16:10
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.6 g (dry)	**Lab Sample I.D.:**	L9585-29
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_016 S: 8** **DX72_034 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		57.1	0.0472	1	5.71e+01	5.71e+01	
1,2,3,7,8-PECDD		2.68	0.0472	1	2.68e+00	2.68e+00	
1,2,3,4,7,8-HXCDD		3.88	0.187	0.1	3.88e-01	3.88e-01	
1,2,3,6,7,8-HXCDD		8.98	0.187	0.1	8.98e-01	8.98e-01	
1,2,3,7,8,9-HXCDD		12.6	0.187	0.1	1.26e+00	1.26e+00	
1,2,3,4,6,7,8-HPCDD		282	0.340	0.01	2.82e+00	2.82e+00	
OCDD		6740	29.1	0.0001	6.74e-01	6.74e-01	
2,3,7,8-TCDF		11.9	0.0502	0.1	1.19e+00	1.19e+00	
1,2,3,7,8-PECDF		4.73	0.0613	0.05	2.37e-01	2.37e-01	
2,3,4,7,8-PECDF		2.36	0.0613	0.5	1.18e+00	1.18e+00	
1,2,3,4,7,8-HXCDF		2.44	0.0472	0.1	2.44e-01	2.44e-01	
1,2,3,6,7,8-HXCDF		6.06	0.0472	0.1	6.06e-01	6.06e-01	
1,2,3,7,8,9-HXCDF		1.09	0.0472	0.1	1.09e-01	1.09e-01	
2,3,4,6,7,8-HXCDF		1.55	0.0472	0.1	1.55e-01	1.55e-01	
1,2,3,4,6,7,8-HPCDF		15.3	0.0472	0.01	1.53e-01	1.53e-01	
1,2,3,4,7,8,9-HPCDF		1.70	0.0472	0.01	1.70e-02	1.70e-02	
OCDF		21.5	0.0993	0.0001	2.15e-03	2.15e-03	
			TOTAL TEQ		69.7	69.7	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		57.1	0.0472	1	5.71e+01	5.71e+01	
1,2,3,7,8-PECDD		2.68	0.0472	1	2.68e+00	2.68e+00	
1,2,3,4,7,8-HXCDD		3.88	0.187	0.1	3.88e-01	3.88e-01	
1,2,3,6,7,8-HXCDD		8.98	0.187	0.1	8.98e-01	8.98e-01	
1,2,3,7,8,9-HXCDD		12.6	0.187	0.1	1.26e+00	1.26e+00	
1,2,3,4,6,7,8-HPCDD		282	0.340	0.01	2.82e+00	2.82e+00	
OCDD		6740	29.1	0.0003	2.02e+00	2.02e+00	
2,3,7,8-TCDF		11.9	0.0502	0.1	1.19e+00	1.19e+00	
1,2,3,7,8-PECDF		4.73	0.0613	0.03	1.42e-01	1.42e-01	
2,3,4,7,8-PECDF		2.36	0.0613	0.3	7.08e-01	7.08e-01	
1,2,3,4,7,8-HXCDF		2.44	0.0472	0.1	2.44e-01	2.44e-01	
1,2,3,6,7,8-HXCDF		6.06	0.0472	0.1	6.06e-01	6.06e-01	
1,2,3,7,8,9-HXCDF		1.09	0.0472	0.1	1.09e-01	1.09e-01	
2,3,4,6,7,8-HXCDF		1.55	0.0472	0.1	1.55e-01	1.55e-01	
1,2,3,4,6,7,8-HPCDF		15.3	0.0472	0.01	1.53e-01	1.53e-01	
1,2,3,4,7,8,9-HPCDF		1.70	0.0472	0.01	1.70e-02	1.70e-02	
OCDF		21.5	0.0993	0.0003	6.45e-03	6.45e-03	
			TOTAL TEQ		70.5	70.5	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-29_TEQ_SJ630074.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN030
Sample Collection:
08-Dec-2006 08:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-30
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.99 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	24-Feb-2007 **Time:** 19:05:19	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_050D S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_050D S: 1
		% Moisture:	34.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		253	3.29	0.84	1.001
1,2,3,7,8-PECDD [3]	ND		4.03		
1,2,3,4,7,8-HXCDD	ND		4.17		
1,2,3,6,7,8-HXCDD	NDR	34.7	4.17	1.53	1.001
1,2,3,7,8,9-HXCDD	NDR	13.6	4.17	1.95	1.010
1,2,3,4,6,7,8-HPCDD		1690	7.97	1.00	1.000
OCDD		25600	3.05	0.89	1.001
2,3,7,8-TCDF		26.0	1.97	0.81	1.001
1,2,3,7,8-PECDF	NDR	6.14	3.40	0.94	1.001
2,3,4,7,8-PECDF		8.36	3.40	1.40	1.000
1,2,3,4,7,8-HXCDF		32.1	2.96	1.28	1.000
1,2,3,6,7,8-HXCDF		9.72	2.96	1.11	1.001
1,2,3,7,8,9-HXCDF	NDR	3.53	2.96	1.72	1.000
2,3,4,6,7,8-HXCDF		6.43	2.96	1.22	1.000
1,2,3,4,6,7,8-HPCDF		232	3.34	1.07	1.000
1,2,3,4,7,8,9-HPCDF	NDR	19.7	3.34	1.41	1.000
OCDF		189	2.82	0.90	1.002
TOTAL TETRA-DIOXINS		264	3.29		
TOTAL PENTA-DIOXINS		21.1	4.03		
TOTAL HEXA-DIOXINS		143	4.17		
TOTAL HEPTA-DIOXINS		3470	7.97		
TOTAL TETRA-FURANS		54.4	1.97		
TOTAL PENTA-FURANS		91.7	3.40		
TOTAL HEXA-FURANS		398	2.96		
TOTAL HEPTA-FURANS		740	3.34		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9585-30_Form1A_SJ649964.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN030
Sample Collection:
08-Dec-2006 08:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-30
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.99 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	24-Feb-2007 **Time:** 19:05:19	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_050D S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_050D S: 1
		% Moisture:	34.9

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	5960	59.6	0.82	1.013
13C-1,2,3,7,8-PECDD [4]		10000	6450	64.5	0.68	1.383
13C-1,2,3,4,7,8-HXCDD		10000	5760	57.6	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		10000	6150	61.5	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	5460	54.6	1.01	1.095
13C-OCDD		20000	9680	48.4	0.93	1.178
13C-2,3,7,8-TCDF		10000	7400	74.0	0.74	0.966
13C-1,2,3,7,8-PECDF		10000	6860	68.6	1.57	1.283
13C-2,3,4,7,8-PECDF		10000	6700	67.0	1.58	1.351
13C-1,2,3,4,7,8-HXCDF		10000	6730	67.3	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		10000	6240	62.4	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		10000	6200	62.0	0.51	1.004
13C-2,3,4,6,7,8-HXCDF		10000	6190	61.9	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	5890	58.9	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	5880	58.8	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	637	63.7		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9585-30_Form2_SJ649964.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
06VN030
Sample Collection:
08-Dec-2006 08:30

Form 1A

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-30
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.99 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 22:58:07	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_028 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_028 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_028 S: 2
		% Moisture:	34.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		22.1	11.6	0.70	0.999

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 15:14:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB225_L9585-30_Form1A_SJ650201.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN030

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	08-Dec-2006 08:30
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	4.99 g (dry)	**Lab Sample I.D.:**	L9585-30
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_028 S: 6** **DX7B_050D S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		253	3.29	1	2.53e+02	2.53e+02	
1,2,3,7,8-PECDD	ND		4.03	1	0.00e+00	2.02e+00	
1,2,3,4,7,8-HXCDD	ND		4.17	0.1	0.00e+00	2.09e-01	
1,2,3,6,7,8-HXCDD	ND		4.17	0.1	0.00e+00	2.09e-01	
1,2,3,7,8,9-HXCDD	ND		4.17	0.1	0.00e+00	2.09e-01	
1,2,3,4,6,7,8-HPCDD		1690	7.97	0.01	1.69e+01	1.69e+01	
OCDD		25600	3.05	0.0001	2.56e+00	2.56e+00	
2,3,7,8-TCDF		22.1	11.6	0.1	2.21e+00	2.21e+00	
1,2,3,7,8-PECDF	ND		3.40	0.05	0.00e+00	8.50e-02	
2,3,4,7,8-PECDF		8.36	3.40	0.5	4.18e+00	4.18e+00	
1,2,3,4,7,8-HXCDF		32.1	2.96	0.1	3.21e+00	3.21e+00	
1,2,3,6,7,8-HXCDF		9.72	2.96	0.1	9.72e-01	9.72e-01	
1,2,3,7,8,9-HXCDF	ND		2.96	0.1	0.00e+00	1.48e-01	
2,3,4,6,7,8-HXCDF		6.43	2.96	0.1	6.43e-01	6.43e-01	
1,2,3,4,6,7,8-HPCDF		232	3.34	0.01	2.32e+00	2.32e+00	
1,2,3,4,7,8,9-HPCDF	ND		3.34	0.01	0.00e+00	1.67e-02	
OCDF		189	2.82	0.0001	1.89e-02	1.89e-02	
			TOTAL TEQ		286	289	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		253	3.29	1	2.53e+02	2.53e+02	
1,2,3,7,8-PECDD	ND		4.03	1	0.00e+00	2.02e+00	
1,2,3,4,7,8-HXCDD	ND		4.17	0.1	0.00e+00	2.09e-01	
1,2,3,6,7,8-HXCDD	ND		4.17	0.1	0.00e+00	2.09e-01	
1,2,3,7,8,9-HXCDD	ND		4.17	0.1	0.00e+00	2.09e-01	
1,2,3,4,6,7,8-HPCDD		1690	7.97	0.01	1.69e+01	1.69e+01	
OCDD		25600	3.05	0.0003	7.68e+00	7.68e+00	
2,3,7,8-TCDF		22.1	11.6	0.1	2.21e+00	2.21e+00	
1,2,3,7,8-PECDF	ND		3.40	0.03	0.00e+00	5.10e-02	
2,3,4,7,8-PECDF		8.36	3.40	0.3	2.51e+00	2.51e+00	
1,2,3,4,7,8-HXCDF		32.1	2.96	0.1	3.21e+00	3.21e+00	
1,2,3,6,7,8-HXCDF		9.72	2.96	0.1	9.72e-01	9.72e-01	
1,2,3,7,8,9-HXCDF	ND		2.96	0.1	0.00e+00	1.48e-01	
2,3,4,6,7,8-HXCDF		6.43	2.96	0.1	6.43e-01	6.43e-01	
1,2,3,4,6,7,8-HPCDF		232	3.34	0.01	2.32e+00	2.32e+00	
1,2,3,4,7,8,9-HPCDF	ND		3.34	0.01	0.00e+00	1.67e-02	
OCDF		189	2.82	0.0003	5.67e-02	5.67e-02	
			TOTAL TEQ		289	292	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 19-Mar-2007 15:18:15; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-30_TEQ_SJ650201.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN030
Sample Collection:
08-Dec-2006 08:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-30 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	11.3 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	04-Apr-2007 **Time:** 02:01:55	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_142 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_142 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_142 S: 1
		% Moisture:	28.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		232	0.0442	0.78	1.001
1,2,3,7,8-PECDD [3]		2.85	0.0442	0.65	1.001
1,2,3,4,7,8-HXCDD		2.65	0.0999	1.26	1.000
1,2,3,6,7,8-HXCDD		10.4	0.0999	1.28	1.000
1,2,3,7,8,9-HXCDD		7.83	0.0999	1.23	1.010
1,2,3,4,6,7,8-HPCDD		201	0.229	1.05	1.000
OCDD		2330	4.45	0.89	1.000
2,3,7,8-TCDF		27.7	0.127	0.79	1.001
1,2,3,7,8-PECDF		2.42	0.0442	1.70	1.001
2,3,4,7,8-PECDF		3.17	0.0442	1.63	1.000
1,2,3,4,7,8-HXCDF		6.61	0.0621	1.26	1.000
1,2,3,6,7,8-HXCDF		2.67	0.0621	1.24	1.000
1,2,3,7,8,9-HXCDF		0.244	0.0621	1.31	1.000
2,3,4,6,7,8-HXCDF		1.77	0.0621	1.25	1.000
1,2,3,4,6,7,8-HPCDF		20.5	0.0722	1.05	1.000
1,2,3,4,7,8,9-HPCDF		1.45	0.0722	0.99	1.000
OCDF		20.6	0.0737	0.91	1.002
TOTAL TETRA-DIOXINS		259	0.0442		
TOTAL PENTA-DIOXINS		31.6	0.0442		
TOTAL HEXA-DIOXINS		94.7	0.0999		
TOTAL HEPTA-DIOXINS		398	0.229		
TOTAL TETRA-FURANS		85.9	0.127		
TOTAL PENTA-FURANS		78.1	0.0442		
TOTAL HEXA-FURANS		67.1	0.0621		
TOTAL HEPTA-FURANS		51.0	0.0722		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN030
Sample Collection:
08-Dec-2006 08:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-30 R
Matrix:	SOLID	**Sample Size:**	11.3 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 02:01:55	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_142 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_142 S: 1
Concentration Units:	pg absolute	**% Moisture:**	28.9

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1770	88.7	0.79	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1660	83.0	0.63	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1830	91.5	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1820	90.8	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1820	91.1	1.06	1.094
13C-OCDD		4000	3440	86.1	0.89	1.177
13C-2,3,7,8-TCDF		2000	1710	85.6	0.79	0.966
13C-1,2,3,7,8-PECDF		2000	1660	82.9	1.57	1.282
13C-2,3,4,7,8-PECDF		2000	1640	82.2	1.58	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1830	91.6	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1830	91.5	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1750	87.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1790	89.3	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1730	86.6	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1780	88.8	0.46	1.103
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	197	98.4		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN030
Sample Collection:
08-Dec-2006 08:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-30 R
Matrix:	SOLID	**Sample Size:**	11.3 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	08-Jan-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 12:36:12	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_066 S: 8**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_066 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_066 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	28.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		23.7	0.0442	0.73	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:54:21; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613DB225_L9585-30_Form1A_SJ660134.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN030

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	08-Dec-2006 08:30
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	11.3 g (dry)	**Lab Sample I.D.:**	L9585-30 R
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_066 S: 8** **DX72_142 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		232	0.0442	1	2.32e+02	2.32e+02	
1,2,3,7,8-PECDD		2.85	0.0442	1	2.85e+00	2.85e+00	
1,2,3,4,7,8-HXCDD		2.65	0.0999	0.1	2.65e-01	2.65e-01	
1,2,3,6,7,8-HXCDD		10.4	0.0999	0.1	1.04e+00	1.04e+00	
1,2,3,7,8,9-HXCDD		7.83	0.0999	0.1	7.83e-01	7.83e-01	
1,2,3,4,6,7,8-HPCDD		201	0.229	0.01	2.01e+00	2.01e+00	
OCDD		2330	4.45	0.0001	2.33e-01	2.33e-01	
2,3,7,8-TCDF		23.7	0.0442	0.1	2.37e+00	2.37e+00	
1,2,3,7,8-PECDF		2.42	0.0442	0.05	1.21e-01	1.21e-01	
2,3,4,7,8-PECDF		3.17	0.0442	0.5	1.59e+00	1.59e+00	
1,2,3,4,7,8-HXCDF		6.61	0.0621	0.1	6.61e-01	6.61e-01	
1,2,3,6,7,8-HXCDF		2.67	0.0621	0.1	2.67e-01	2.67e-01	
1,2,3,7,8,9-HXCDF		0.244	0.0621	0.1	2.44e-02	2.44e-02	
2,3,4,6,7,8-HXCDF		1.77	0.0621	0.1	1.77e-01	1.77e-01	
1,2,3,4,6,7,8-HPCDF		20.5	0.0722	0.01	2.05e-01	2.05e-01	
1,2,3,4,7,8,9-HPCDF		1.45	0.0722	0.01	1.45e-02	1.45e-02	
OCDF		20.6	0.0737	0.0001	2.06e-03	2.06e-03	
			TOTAL TEQ		245	245	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		232	0.0442	1	2.32e+02	2.32e+02	
1,2,3,7,8-PECDD		2.85	0.0442	1	2.85e+00	2.85e+00	
1,2,3,4,7,8-HXCDD		2.65	0.0999	0.1	2.65e-01	2.65e-01	
1,2,3,6,7,8-HXCDD		10.4	0.0999	0.1	1.04e+00	1.04e+00	
1,2,3,7,8,9-HXCDD		7.83	0.0999	0.1	7.83e-01	7.83e-01	
1,2,3,4,6,7,8-HPCDD		201	0.229	0.01	2.01e+00	2.01e+00	
OCDD		2330	4.45	0.0003	6.99e-01	6.99e-01	
2,3,7,8-TCDF		23.7	0.0442	0.1	2.37e+00	2.37e+00	
1,2,3,7,8-PECDF		2.42	0.0442	0.03	7.26e-02	7.26e-02	
2,3,4,7,8-PECDF		3.17	0.0442	0.3	9.51e-01	9.51e-01	
1,2,3,4,7,8-HXCDF		6.61	0.0621	0.1	6.61e-01	6.61e-01	
1,2,3,6,7,8-HXCDF		2.67	0.0621	0.1	2.67e-01	2.67e-01	
1,2,3,7,8,9-HXCDF		0.244	0.0621	0.1	2.44e-02	2.44e-02	
2,3,4,6,7,8-HXCDF		1.77	0.0621	0.1	1.77e-01	1.77e-01	
1,2,3,4,6,7,8-HPCDF		20.5	0.0722	0.01	2.05e-01	2.05e-01	
1,2,3,4,7,8,9-HPCDF		1.45	0.0722	0.01	1.45e-02	1.45e-02	
OCDF		20.6	0.0737	0.0003	6.18e-03	6.18e-03	
			TOTAL TEQ		244	244	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Apr-2007 16:55:28; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-30_TEQ_SJ659712.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN031
Sample Collection:
08-Dec-2006 10:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-31
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.95 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	24-Feb-2007 **Time:** 22:54:16	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_051 S:** 4
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_051 S: 1
		% Moisture:	35.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		191	3.65	0.82	1.001
1,2,3,7,8-PECDD [3]	ND		4.91		
1,2,3,4,7,8-HXCDD	NDR	5.51	4.46	1.64	1.000
1,2,3,6,7,8-HXCDD	NDR	8.88	4.46	1.63	1.000
1,2,3,7,8,9-HXCDD	NDR	4.93	4.46	0.68	1.010
1,2,3,4,6,7,8-HPCDD		129	6.09	1.04	1.000
OCDD		1690	7.98	0.90	1.000
2,3,7,8-TCDF		21.5	2.85	0.85	1.001
1,2,3,7,8-PECDF	ND		4.27		
2,3,4,7,8-PECDF	ND		4.27		
1,2,3,4,7,8-HXCDF	ND		3.89		
1,2,3,6,7,8-HXCDF	ND		3.89		
1,2,3,7,8,9-HXCDF	ND		3.89		
2,3,4,6,7,8-HXCDF	ND		3.89		
1,2,3,4,6,7,8-HPCDF		13.1	4.79	1.06	1.000
1,2,3,4,7,8,9-HPCDF	ND		4.79		
OCDF	NDR	14.9	6.00	0.70	1.002
TOTAL TETRA-DIOXINS		199	3.65		
TOTAL PENTA-DIOXINS	ND		4.91		
TOTAL HEXA-DIOXINS		49.2	4.46		
TOTAL HEPTA-DIOXINS		274	6.09		
TOTAL TETRA-FURANS		37.7	2.85		
TOTAL PENTA-FURANS		12.2	4.27		
TOTAL HEXA-FURANS		19.3	3.89		
TOTAL HEPTA-FURANS		25.3	4.79		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN031
Sample Collection:
08-Dec-2006 10:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-31
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.95 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	24-Feb-2007 Time: 22:54:16	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_051 S: 4**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_051 S: 1
		% Moisture:	35.1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	6980	69.8	0.76	1.013
13C-1,2,3,7,8-PECDD [4]		10000	6940	69.4	0.62	1.382
13C-1,2,3,4,7,8-HXCDD		10000	6920	69.2	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		10000	6820	68.2	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	6460	64.6	0.92	1.095
13C-OCDD		20000	11100	55.5	0.91	1.178
13C-2,3,7,8-TCDF		10000	7890	78.9	0.72	0.966
13C-1,2,3,7,8-PECDF		10000	7520	75.2	1.54	1.283
13C-2,3,4,7,8-PECDF		10000	7300	73.0	1.53	1.350
13C-1,2,3,4,7,8-HXCDF		10000	7940	79.4	0.48	0.954
13C-1,2,3,6,7,8-HXCDF		10000	7730	77.3	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		10000	7100	71.0	0.58	1.005
13C-2,3,4,6,7,8-HXCDF		10000	7540	75.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	7150	71.5	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	6660	66.6	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	717	71.7		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-31_Form2_SJ649467.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN031
Sample Collection:
08-Dec-2006 10:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-31
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.95 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 23:33:42	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_028 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_028 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_028 S: 2
		% Moisture:	35.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	NDR	12.7	9.94	0.96	1.000

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 15:14:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB225_L9585-31_Form1A_SJ650202.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN031

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	08-Dec-2006 10:00
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	4.95 g (dry)	**Lab Sample I.D.:**	L9585-31
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_028 S: 7** **DX7B_051 S: 4**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		191	3.65	1	1.91e+02	1.91e+02	
1,2,3,7,8-PECDD	ND		4.91	1	0.00e+00	2.46e+00	
1,2,3,4,7,8-HXCDD	ND		4.46	0.1	0.00e+00	2.23e-01	
1,2,3,6,7,8-HXCDD	ND		4.46	0.1	0.00e+00	2.23e-01	
1,2,3,7,8,9-HXCDD	ND		4.46	0.1	0.00e+00	2.23e-01	
1,2,3,4,6,7,8-HPCDD		129	6.09	0.01	1.29e+00	1.29e+00	
OCDD		1690	7.98	0.0001	1.69e-01	1.69e-01	
2,3,7,8-TCDF	ND		9.94	0.1	0.00e+00	4.97e-01	
1,2,3,7,8-PECDF	ND		4.27	0.05	0.00e+00	1.07e-01	
2,3,4,7,8-PECDF	ND		4.27	0.5	0.00e+00	1.07e+00	
1,2,3,4,7,8-HXCDF	ND		3.89	0.1	0.00e+00	1.95e-01	
1,2,3,6,7,8-HXCDF	ND		3.89	0.1	0.00e+00	1.95e-01	
1,2,3,7,8,9-HXCDF	ND		3.89	0.1	0.00e+00	1.95e-01	
2,3,4,6,7,8-HXCDF	ND		3.89	0.1	0.00e+00	1.95e-01	
1,2,3,4,6,7,8-HPCDF		13.1	4.79	0.01	1.31e-01	1.31e-01	
1,2,3,4,7,8,9-HPCDF	ND		4.79	0.01	0.00e+00	2.40e-02	
OCDF	ND		6.00	0.0001	0.00e+00	3.00e-04	
			TOTAL TEQ		193	198	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		191	3.65	1	1.91e+02	1.91e+02	
1,2,3,7,8-PECDD	ND		4.91	1	0.00e+00	2.46e+00	
1,2,3,4,7,8-HXCDD	ND		4.46	0.1	0.00e+00	2.23e-01	
1,2,3,6,7,8-HXCDD	ND		4.46	0.1	0.00e+00	2.23e-01	
1,2,3,7,8,9-HXCDD	ND		4.46	0.1	0.00e+00	2.23e-01	
1,2,3,4,6,7,8-HPCDD		129	6.09	0.01	1.29e+00	1.29e+00	
OCDD		1690	7.98	0.0003	5.07e-01	5.07e-01	
2,3,7,8-TCDF	ND		9.94	0.1	0.00e+00	4.97e-01	
1,2,3,7,8-PECDF	ND		4.27	0.03	0.00e+00	6.41e-02	
2,3,4,7,8-PECDF	ND		4.27	0.3	0.00e+00	6.41e-01	
1,2,3,4,7,8-HXCDF	ND		3.89	0.1	0.00e+00	1.95e-01	
1,2,3,6,7,8-HXCDF	ND		3.89	0.1	0.00e+00	1.95e-01	
1,2,3,7,8,9-HXCDF	ND		3.89	0.1	0.00e+00	1.95e-01	
2,3,4,6,7,8-HXCDF	ND		3.89	0.1	0.00e+00	1.95e-01	
1,2,3,4,6,7,8-HPCDF		13.1	4.79	0.01	1.31e-01	1.31e-01	
1,2,3,4,7,8,9-HPCDF	ND		4.79	0.01	0.00e+00	2.40e-02	
OCDF	ND		6.00	0.0003	0.00e+00	9.00e-04	
			TOTAL TEQ		193	198	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 19-Mar-2007 15:18:15; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-31_TEQ_SJ650202.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN031
Sample Collection:
08-Dec-2006 10:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-31 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.78 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	11-Mar-2007 **Time:** 14:51:58	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_104 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_104 S: 1
		% Moisture:	38.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		184	2.65	0.78	1.001
1,2,3,7,8-PECDD [3]	ND		5.24		
1,2,3,4,7,8-HXCDD	ND		3.41		
1,2,3,6,7,8-HXCDD		10.8	3.41	1.20	1.000
1,2,3,7,8,9-HXCDD		7.04	3.41	1.14	1.010
1,2,3,4,6,7,8-HPCDD		138	3.06	0.97	1.000
OCDD	X				
2,3,7,8-TCDF		22.7	1.94	0.88	1.001
1,2,3,7,8-PECDF	NDR	2.27	2.05	0.37	1.000
2,3,4,7,8-PECDF	NDR	2.25	2.05	2.41	1.001
1,2,3,4,7,8-HXCDF		5.23	1.73	1.11	1.001
1,2,3,6,7,8-HXCDF	NDR	2.01	1.73	1.56	1.000
1,2,3,7,8,9-HXCDF	ND		1.73		
2,3,4,6,7,8-HXCDF	NDR	1.84	1.73	0.83	1.001
1,2,3,4,6,7,8-HPCDF		12.9	1.24	1.17	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.38	1.24	1.68	1.000
OCDF	NDR	16.3	1.95	1.05	1.002
TOTAL TETRA-DIOXINS		187	2.65		
TOTAL PENTA-DIOXINS	ND		5.24		
TOTAL HEXA-DIOXINS		71.3	3.41		
TOTAL HEPTA-DIOXINS		300	3.06		
TOTAL TETRA-FURANS		46.3	1.94		
TOTAL PENTA-FURANS		30.4	2.05		
TOTAL HEXA-FURANS		28.6	1.73		
TOTAL HEPTA-FURANS		25.3	1.24		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Teresa Rawsthorne QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-31_Form1A_SJ650662.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN031
Sample Collection:
08-Dec-2006 10:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-31 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.78 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	11-Mar-2007 **Time:** 14:51:58	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_104 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_104 S: 1
		% Moisture:	38.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	6680	66.8	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		10000	7690	76.9	0.62	1.381
13C-1,2,3,4,7,8-HXCDD		10000	9170	91.7	1.20	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9180	91.8	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	9830	98.3	1.05	1.095
13C-OCDD		20000	16500	82.6	0.93	1.178
13C-2,3,7,8-TCDF		10000	6580	65.8	0.80	0.966
13C-1,2,3,7,8-PECDF		10000	7250	72.5	1.62	1.283
13C-2,3,4,7,8-PECDF		10000	7610	76.1	1.56	1.349
13C-1,2,3,4,7,8-HXCDF		10000	9940	99.4	0.54	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9700	97.0	0.52	0.959
13C-1,2,3,7,8,9-HXCDF		10000	9070	90.7	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9930	99.3	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9710	97.1	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	9200	92.0	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	675	67.5		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Apr-2007 11:49:17; Application: XMLTransformer-1.7.37;
Report Filename: 1613_DIOXINS_1613DB5_L9585-31_Form2_SJ650662.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN031
Sample Collection:
08-Dec-2006 10:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-31 Ri
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.78 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	03-Apr-2007 **Time:** 17:27:26	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_141 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_141 S: 1
		% Moisture:	38.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD		1890	8.67	0.92	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-31_Form1A_SJ659553.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN031
Sample Collection:
08-Dec-2006 10:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-31 Ri
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.78 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	03-Apr-2007 **Time:** 17:27:26	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_141 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_141 S: 1
		% Moisture:	38.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD		20000	14000	69.9	0.96	1.176
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Apr-2007 11:49:17; Application: XMLTransformer-1.7.37;
Report Filename: 1613_DIOXINS_1613DB5_L9585-31_Form2_SJ659553.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN031
Sample Collection:
08-Dec-2006 10:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-31 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.78 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	10-Mar-2007 **Time:** 12:46:54	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_051 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_050 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_051 S: 2
		% Moisture:	38.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	NDR	17.2	5.14	0.98	1.000

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 11:55:33; Application: XMLTransformer-1.7.37;
Report Filename: 1613_DIOXINS_1613DB225_L9585-31_Form1A_SJ648897.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN031

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	08-Dec-2006 10:00
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	4.78 g (dry)	**Lab Sample I.D.:**	L9585-31 R
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_051 S: 5** **DX72_104 S: 8** **DX72_141 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		184	2.65	1	1.84e+02	1.84e+02	
1,2,3,7,8-PECDD	ND		5.24	1	0.00e+00	2.62e+00	
1,2,3,4,7,8-HXCDD	ND		3.41	0.1	0.00e+00	1.71e-01	
1,2,3,6,7,8-HXCDD		10.8	3.41	0.1	1.08e+00	1.08e+00	
1,2,3,7,8,9-HXCDD		7.04	3.41	0.1	7.04e-01	7.04e-01	
1,2,3,4,6,7,8-HPCDD		138	3.06	0.01	1.38e+00	1.38e+00	
OCDD		1890	8.67	0.0001	1.89e-01	1.89e-01	
2,3,7,8-TCDF	ND		5.14	0.1	0.00e+00	2.57e-01	
1,2,3,7,8-PECDF	ND		2.05	0.05	0.00e+00	5.13e-02	
2,3,4,7,8-PECDF	ND		2.05	0.5	0.00e+00	5.13e-01	
1,2,3,4,7,8-HXCDF		5.23	1.73	0.1	5.23e-01	5.23e-01	
1,2,3,6,7,8-HXCDF	ND		1.73	0.1	0.00e+00	8.65e-02	
1,2,3,7,8,9-HXCDF	ND		1.73	0.1	0.00e+00	8.65e-02	
2,3,4,6,7,8-HXCDF	ND		1.73	0.1	0.00e+00	8.65e-02	
1,2,3,4,6,7,8-HPCDF		12.9	1.24	0.01	1.29e-01	1.29e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.24	0.01	0.00e+00	6.20e-03	
OCDF	ND		1.95	0.0001	0.00e+00	9.75e-05	
			TOTAL TEQ		188	192	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		184	2.65	1	1.84e+02	1.84e+02	
1,2,3,7,8-PECDD	ND		5.24	1	0.00e+00	2.62e+00	
1,2,3,4,7,8-HXCDD	ND		3.41	0.1	0.00e+00	1.71e-01	
1,2,3,6,7,8-HXCDD		10.8	3.41	0.1	1.08e+00	1.08e+00	
1,2,3,7,8,9-HXCDD		7.04	3.41	0.1	7.04e-01	7.04e-01	
1,2,3,4,6,7,8-HPCDD		138	3.06	0.01	1.38e+00	1.38e+00	
OCDD		1890	8.67	0.0003	5.67e-01	5.67e-01	
2,3,7,8-TCDF	ND		5.14	0.1	0.00e+00	2.57e-01	
1,2,3,7,8-PECDF	ND		2.05	0.03	0.00e+00	3.08e-02	
2,3,4,7,8-PECDF	ND		2.05	0.3	0.00e+00	3.08e-01	
1,2,3,4,7,8-HXCDF		5.23	1.73	0.1	5.23e-01	5.23e-01	
1,2,3,6,7,8-HXCDF	ND		1.73	0.1	0.00e+00	8.65e-02	
1,2,3,7,8,9-HXCDF	ND		1.73	0.1	0.00e+00	8.65e-02	
2,3,4,6,7,8-HXCDF	ND		1.73	0.1	0.00e+00	8.65e-02	
1,2,3,4,6,7,8-HPCDF		12.9	1.24	0.01	1.29e-01	1.29e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.24	0.01	0.00e+00	6.20e-03	
OCDF	ND		1.95	0.0003	0.00e+00	2.93e-04	
			TOTAL TEQ		188	192	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Apr-2007 11:56:49; Application: XMLTransformer-1.7.37;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-31_TEQ_SJ648897.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN032
Sample Collection:
08-Dec-2006 10:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-32 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	2.22 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	08-Mar-2007 **Time:** 15:57:33	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_098B S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_098B S: 1
		% Moisture:	87.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		2750	1.96	0.78	1.001
1,2,3,7,8-PECDD [3]		63.3	2.23	0.69	1.001
1,2,3,4,7,8-HXCDD		35.7	3.48	1.16	1.000
1,2,3,6,7,8-HXCDD		159	3.48	1.34	1.000
1,2,3,7,8,9-HXCDD		118	3.48	1.24	1.010
1,2,3,4,6,7,8-HPCDD		3130	6.94	1.05	1.000
OCDD		31900	4.71	0.90	1.000
2,3,7,8-TCDF		727	4.21	0.79	1.001
1,2,3,7,8-PECDF	NDR	21.2	2.53	2.22	1.000
2,3,4,7,8-PECDF		25.3	2.53	1.47	1.000
1,2,3,4,7,8-HXCDF		44.7	2.16	1.14	1.000
1,2,3,6,7,8-HXCDF		39.9	2.16	1.24	1.000
1,2,3,7,8,9-HXCDF	NDR	6.67	2.16	1.72	1.000
2,3,4,6,7,8-HXCDF		25.4	2.16	1.16	1.000
1,2,3,4,6,7,8-HPCDF		398	1.64	1.05	1.000
1,2,3,4,7,8,9-HPCDF		31.3	1.64	0.89	1.000
OCDF		933	1.93	0.85	1.002
TOTAL TETRA-DIOXINS		3040	1.96		
TOTAL PENTA-DIOXINS		614	2.23		
TOTAL HEXA-DIOXINS		1630	3.48		
TOTAL HEPTA-DIOXINS		6730	6.94		
TOTAL TETRA-FURANS		1560	4.21		
TOTAL PENTA-FURANS		1020	2.53		
TOTAL HEXA-FURANS		770	2.16		
TOTAL HEPTA-FURANS		1110	1.64		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-32_Form1A_SJ650137.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN032
Sample Collection:
08-Dec-2006 10:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-32 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	2.22 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	08-Mar-2007 **Time:** 15:57:33	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_098B S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_098B S: 1
		% Moisture:	87.8

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	7950	79.5	0.81	1.013
13C-1,2,3,7,8-PECDD [4]		10000	8340	83.4	0.65	1.382
13C-1,2,3,4,7,8-HXCDD		10000	8690	86.9	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8440	84.4	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8440	84.4	1.08	1.095
13C-OCDD		20000	13400	66.8	0.90	1.178
13C-2,3,7,8-TCDF		10000	9100	91.0	0.78	0.966
13C-1,2,3,7,8-PECDF		10000	8600	86.0	1.55	1.283
13C-2,3,4,7,8-PECDF		10000	8840	88.4	1.54	1.350
13C-1,2,3,4,7,8-HXCDF		10000	9450	94.5	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9240	92.4	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8670	86.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9030	90.3	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9730	97.3	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8910	89.1	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	882	88.2		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9585-32_Form2_SJ650137.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN032
Sample Collection:
08-Dec-2006 10:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-32
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	2.20 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 00:45:00	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_028 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_028 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_028 S: 2
		% Moisture:	87.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		701	12.9	0.79	1.000

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 15:14:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB225_L9585-32_Form1A_SJ650204.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN032

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	08-Dec-2006 10:20
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	2.22 g (dry)	**Lab Sample I.D.:**	L9585-32
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_028 S: 9** **DX72_098B S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		2750	1.96	1	2.75e+03	2.75e+03	
1,2,3,7,8-PECDD		63.3	2.23	1	6.33e+01	6.33e+01	
1,2,3,4,7,8-HXCDD		35.7	3.48	0.1	3.57e+00	3.57e+00	
1,2,3,6,7,8-HXCDD		159	3.48	0.1	1.59e+01	1.59e+01	
1,2,3,7,8,9-HXCDD		118	3.48	0.1	1.18e+01	1.18e+01	
1,2,3,4,6,7,8-HPCDD		3130	6.94	0.01	3.13e+01	3.13e+01	
OCDD		31900	4.71	0.0001	3.19e+00	3.19e+00	
2,3,7,8-TCDF		701	12.9	0.1	7.01e+01	7.01e+01	
1,2,3,7,8-PECDF	ND		2.53	0.05	0.00e+00	6.33e-02	
2,3,4,7,8-PECDF		25.3	2.53	0.5	1.27e+01	1.27e+01	
1,2,3,4,7,8-HXCDF		44.7	2.16	0.1	4.47e+00	4.47e+00	
1,2,3,6,7,8-HXCDF		39.9	2.16	0.1	3.99e+00	3.99e+00	
1,2,3,7,8,9-HXCDF	ND		2.16	0.1	0.00e+00	1.08e-01	
2,3,4,6,7,8-HXCDF		25.4	2.16	0.1	2.54e+00	2.54e+00	
1,2,3,4,6,7,8-HPCDF		398	1.64	0.01	3.98e+00	3.98e+00	
1,2,3,4,7,8,9-HPCDF		31.3	1.64	0.01	3.13e-01	3.13e-01	
OCDF		933	1.93	0.0001	9.33e-02	9.33e-02	
			TOTAL TEQ		2980	2980	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		2750	1.96	1	2.75e+03	2.75e+03	
1,2,3,7,8-PECDD		63.3	2.23	1	6.33e+01	6.33e+01	
1,2,3,4,7,8-HXCDD		35.7	3.48	0.1	3.57e+00	3.57e+00	
1,2,3,6,7,8-HXCDD		159	3.48	0.1	1.59e+01	1.59e+01	
1,2,3,7,8,9-HXCDD		118	3.48	0.1	1.18e+01	1.18e+01	
1,2,3,4,6,7,8-HPCDD		3130	6.94	0.01	3.13e+01	3.13e+01	
OCDD		31900	4.71	0.0003	9.57e+00	9.57e+00	
2,3,7,8-TCDF		701	12.9	0.1	7.01e+01	7.01e+01	
1,2,3,7,8-PECDF	ND		2.53	0.03	0.00e+00	3.80e-02	
2,3,4,7,8-PECDF		25.3	2.53	0.3	7.59e+00	7.59e+00	
1,2,3,4,7,8-HXCDF		44.7	2.16	0.1	4.47e+00	4.47e+00	
1,2,3,6,7,8-HXCDF		39.9	2.16	0.1	3.99e+00	3.99e+00	
1,2,3,7,8,9-HXCDF	ND		2.16	0.1	0.00e+00	1.08e-01	
2,3,4,6,7,8-HXCDF		25.4	2.16	0.1	2.54e+00	2.54e+00	
1,2,3,4,6,7,8-HPCDF		398	1.64	0.01	3.98e+00	3.98e+00	
1,2,3,4,7,8,9-HPCDF		31.3	1.64	0.01	3.13e-01	3.13e-01	
OCDF		933	1.93	0.0003	2.80e-01	2.80e-01	
			TOTAL TEQ		2980	2980	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 19-Mar-2007 15:18:15; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-32_TEQ_SJ650204.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN032
Sample Collection:
08-Dec-2006 10:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-32 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	8.74 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	04-Apr-2007 **Time:** 02:56:27	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_142 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_142 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_142 S: 1
		% Moisture:	75.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD [3]		26.0	0.0650	0.64	1.001
1,2,3,4,7,8-HXCDD		14.9	0.234	1.20	1.000
1,2,3,6,7,8-HXCDD		63.3	0.234	1.24	1.000
1,2,3,7,8,9-HXCDD		48.1	0.234	1.26	1.010
1,2,3,4,6,7,8-HPCDD		1200	0.931	1.04	1.000
OCDD	OLR				
2,3,7,8-TCDF		296	0.763	0.79	1.001
1,2,3,7,8-PECDF		7.57	0.117	1.53	1.001
2,3,4,7,8-PECDF		7.86	0.117	1.54	1.000
1,2,3,4,7,8-HXCDF		16.6	0.182	1.25	1.000
1,2,3,6,7,8-HXCDF		14.7	0.182	1.29	1.000
1,2,3,7,8,9-HXCDF		1.65	0.182	1.33	1.000
2,3,4,6,7,8-HXCDF		8.43	0.182	1.26	1.000
1,2,3,4,6,7,8-HPCDF		158	0.476	1.04	1.000
1,2,3,4,7,8,9-HPCDF		12.0	0.476	1.04	1.000
OCDF		321	1.18	0.90	1.002
TOTAL TETRA-DIOXINS	OLR				
TOTAL PENTA-DIOXINS		256	0.0650		
TOTAL HEXA-DIOXINS		648	0.234		
TOTAL HEPTA-DIOXINS		2510	0.931		
TOTAL TETRA-FURANS		627	0.763		
TOTAL PENTA-FURANS		419	0.117		
TOTAL HEXA-FURANS		311	0.182		
TOTAL HEPTA-FURANS		452	0.476		

(1) Where applicable, custom lab flags have been used on this report; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38; Report Filename: 1613_DIOXINS_1613DB5_L9585-32_Form1A_SJ659713.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN032
Sample Collection:
08-Dec-2006 10:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-32 R
Matrix:	SOLID	**Sample Size:**	8.74 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 02:56:27	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_142 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_142 S: 1
Concentration Units:	pg absolute	**% Moisture:**	75.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1380	68.9	0.80	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1270	63.4	0.63	1.379
13C-1,2,3,4,7,8-HXCDD		2000	1330	66.7	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1270	63.3	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1440	72.1	1.09	1.094
13C-OCDD		4000	2910	72.7	0.91	1.178
13C-2,3,7,8-TCDF		2000	1290	64.7	0.80	0.966
13C-1,2,3,7,8-PECDF		2000	1230	61.5	1.56	1.282
13C-2,3,4,7,8-PECDF		2000	1230	61.6	1.58	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1300	65.0	0.53	0.955
13C-1,2,3,6,7,8-HXCDF		2000	1260	63.1	0.53	0.959
13C-1,2,3,7,8,9-HXCDF		2000	1270	63.6	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1270	63.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1280	64.2	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1350	67.4	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	196	98.1		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN032
Sample Collection:
08-Dec-2006 10:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-32 W
Matrix:	SOLID	**Sample Size:**	8.74 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 17:18:18	**GC Column ID:**	DB5
Extract Volume (uL):	50	**Sample Data Filename:**	**DX72_143 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	2.5	**Cal. Ver. Data Filename:**	DX72_143 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	75.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	1140	0.510	0.78	1.001
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	12700	1.29	0.90	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	1280	0.510		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613DB5_L9585-32_Form1A_SJ659983.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN032
Sample Collection:
08-Dec-2006 10:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-32 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	8.74 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	04-Apr-2007 **Time:** 17:18:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_143 S: 8**
Dilution Factor:	2.5	**Blank Data Filename:**	DX72_142 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_143 S: 1
		% Moisture:	75.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	2000	1340	66.9	0.79	1.013
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	2340	58.4	0.90	1.179
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN032
Sample Collection:
08-Dec-2006 10:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-32 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	8.74 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	04-Apr-2007 **Time:** 14:58:47	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_066 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_066 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_066 S: 2
		% Moisture:	75.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		283	0.325	0.73	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

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AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN032

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	08-Dec-2006 10:20
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	8.74 g (dry)	**Lab Sample I.D.:**	L9585-32 R
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_066 S: 12** **DX72_142 S: 7** **DX72_143 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1140	0.510	1	1.14e+03	1.14e+03	
1,2,3,7,8-PECDD		26.0	0.0650	1	2.60e+01	2.60e+01	
1,2,3,4,7,8-HXCDD		14.9	0.234	0.1	1.49e+00	1.49e+00	
1,2,3,6,7,8-HXCDD		63.3	0.234	0.1	6.33e+00	6.33e+00	
1,2,3,7,8,9-HXCDD		48.1	0.234	0.1	4.81e+00	4.81e+00	
1,2,3,4,6,7,8-HPCDD		1200	0.931	0.01	1.20e+01	1.20e+01	
OCDD		12700	1.29	0.0001	1.27e+00	1.27e+00	
2,3,7,8-TCDF		283	0.325	0.1	2.83e+01	2.83e+01	
1,2,3,7,8-PECDF		7.57	0.117	0.05	3.79e-01	3.79e-01	
2,3,4,7,8-PECDF		7.86	0.117	0.5	3.93e+00	3.93e+00	
1,2,3,4,7,8-HXCDF		16.6	0.182	0.1	1.66e+00	1.66e+00	
1,2,3,6,7,8-HXCDF		14.7	0.182	0.1	1.47e+00	1.47e+00	
1,2,3,7,8,9-HXCDF		1.65	0.182	0.1	1.65e-01	1.65e-01	
2,3,4,6,7,8-HXCDF		8.43	0.182	0.1	8.43e-01	8.43e-01	
1,2,3,4,6,7,8-HPCDF		158	0.476	0.01	1.58e+00	1.58e+00	
1,2,3,4,7,8,9-HPCDF		12.0	0.476	0.01	1.20e-01	1.20e-01	
OCDF		321	1.18	0.0001	3.21e-02	3.21e-02	
			TOTAL TEQ		1230	1230	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1140	0.510	1	1.14e+03	1.14e+03	
1,2,3,7,8-PECDD		26.0	0.0650	1	2.60e+01	2.60e+01	
1,2,3,4,7,8-HXCDD		14.9	0.234	0.1	1.49e+00	1.49e+00	
1,2,3,6,7,8-HXCDD		63.3	0.234	0.1	6.33e+00	6.33e+00	
1,2,3,7,8,9-HXCDD		48.1	0.234	0.1	4.81e+00	4.81e+00	
1,2,3,4,6,7,8-HPCDD		1200	0.931	0.01	1.20e+01	1.20e+01	
OCDD		12700	1.29	0.0003	3.81e+00	3.81e+00	
2,3,7,8-TCDF		283	0.325	0.1	2.83e+01	2.83e+01	
1,2,3,7,8-PECDF		7.57	0.117	0.03	2.27e-01	2.27e-01	
2,3,4,7,8-PECDF		7.86	0.117	0.3	2.36e+00	2.36e+00	
1,2,3,4,7,8-HXCDF		16.6	0.182	0.1	1.66e+00	1.66e+00	
1,2,3,6,7,8-HXCDF		14.7	0.182	0.1	1.47e+00	1.47e+00	
1,2,3,7,8,9-HXCDF		1.65	0.182	0.1	1.65e-01	1.65e-01	
2,3,4,6,7,8-HXCDF		8.43	0.182	0.1	8.43e-01	8.43e-01	
1,2,3,4,6,7,8-HPCDF		158	0.476	0.01	1.58e+00	1.58e+00	
1,2,3,4,7,8,9-HPCDF		12.0	0.476	0.01	1.20e-01	1.20e-01	
OCDF		321	1.18	0.0003	9.63e-02	9.63e-02	
			TOTAL TEQ		1230	1230	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Apr-2007 16:55:28; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-32_TEQ_SJ659713.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN033
Sample Collection:
08-Dec-2006 10:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-33
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.47 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 01:39:16	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_051 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_051 S: 1
		% Moisture:	36.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		61.4	3.86	0.83	1.001
1,2,3,7,8-PECDD [3]	ND		5.47		
1,2,3,4,7,8-HXCDD	ND		5.39		
1,2,3,6,7,8-HXCDD	ND		5.39		
1,2,3,7,8,9-HXCDD	ND		5.39		
1,2,3,4,6,7,8-HPCDD		105	8.02	1.17	1.000
OCDD		1080	6.32	0.88	1.000
2,3,7,8-TCDF		16.9	2.80	0.73	1.001
1,2,3,7,8-PECDF	ND		4.94		
2,3,4,7,8-PECDF	ND		4.94		
1,2,3,4,7,8-HXCDF	ND		4.70		
1,2,3,6,7,8-HXCDF	ND		4.70		
1,2,3,7,8,9-HXCDF	ND		4.70		
2,3,4,6,7,8-HXCDF	ND		4.70		
1,2,3,4,6,7,8-HPCDF		12.4	5.29	1.06	1.000
1,2,3,4,7,8,9-HPCDF	ND		5.29		
OCDF	NDR	22.2	6.02	0.71	1.002
TOTAL TETRA-DIOXINS		61.4	3.86		
TOTAL PENTA-DIOXINS	ND		5.47		
TOTAL HEXA-DIOXINS		24.0	5.39		
TOTAL HEPTA-DIOXINS		237	8.02		
TOTAL TETRA-FURANS		23.3	2.80		
TOTAL PENTA-FURANS		15.0	4.94		
TOTAL HEXA-FURANS		4.80	4.70		
TOTAL HEPTA-FURANS		29.4	5.29		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN033
Sample Collection:
08-Dec-2006 10:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-33
Matrix:	SOLID	**Sample Size:**	5.47 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	16-Dec-2006
Extraction Date:	24-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	25-Feb-2007 **Time:** 01:39:16	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX7B_051 S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7B_050D S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_051 S: 1
Concentration Units:	pg absolute	**% Moisture:**	36.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	6590	65.9	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		10000	6170	61.7	0.59	1.382
13C-1,2,3,4,7,8-HXCDD		10000	6770	67.7	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		10000	6790	67.9	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	5960	59.6	0.93	1.095
13C-OCDD		20000	10600	53.2	0.95	1.178
13C-2,3,7,8-TCDF		10000	7230	72.3	0.74	0.966
13C-1,2,3,7,8-PECDF		10000	6880	68.8	1.57	1.283
13C-2,3,4,7,8-PECDF		10000	6350	63.5	1.51	1.350
13C-1,2,3,4,7,8-HXCDF		10000	7640	76.4	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		10000	7190	71.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	6960	69.6	0.55	1.005
13C-2,3,4,6,7,8-HXCDF		10000	7240	72.4	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	6620	66.2	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	6190	61.9	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	616	61.6		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-33_Form2_SJ649470.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN033
Sample Collection:
08-Dec-2006 10:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-33
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.47 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 01:20:35	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_028 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_028 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_028 S: 2
		% Moisture:	36.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	NDR	12.8	7.68	3.77	1.002

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 15:14:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB225_L9585-33_Form1A_SJ650205.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN033

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	08-Dec-2006 10:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.47 g (dry)	**Lab Sample I.D.:**	L9585-33
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_028 S: 10** **DX7B_051 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		61.4	3.86	1	6.14e+01	6.14e+01	
1,2,3,7,8-PECDD	ND		5.47	1	0.00e+00	2.74e+00	
1,2,3,4,7,8-HXCDD	ND		5.39	0.1	0.00e+00	2.70e-01	
1,2,3,6,7,8-HXCDD	ND		5.39	0.1	0.00e+00	2.70e-01	
1,2,3,7,8,9-HXCDD	ND		5.39	0.1	0.00e+00	2.70e-01	
1,2,3,4,6,7,8-HPCDD		105	8.02	0.01	1.05e+00	1.05e+00	
OCDD		1080	6.32	0.0001	1.08e-01	1.08e-01	
2,3,7,8-TCDF	ND		7.68	0.1	0.00e+00	3.84e-01	
1,2,3,7,8-PECDF	ND		4.94	0.05	0.00e+00	1.24e-01	
2,3,4,7,8-PECDF	ND		4.94	0.5	0.00e+00	1.24e+00	
1,2,3,4,7,8-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,6,7,8-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,7,8,9-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
2,3,4,6,7,8-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,4,6,7,8-HPCDF		12.4	5.29	0.01	1.24e-01	1.24e-01	
1,2,3,4,7,8,9-HPCDF	ND		5.29	0.01	0.00e+00	2.65e-02	
OCDF	ND		6.02	0.0001	0.00e+00	3.01e-04	
			TOTAL TEQ		62.7	68.9	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		61.4	3.86	1	6.14e+01	6.14e+01	
1,2,3,7,8-PECDD	ND		5.47	1	0.00e+00	2.74e+00	
1,2,3,4,7,8-HXCDD	ND		5.39	0.1	0.00e+00	2.70e-01	
1,2,3,6,7,8-HXCDD	ND		5.39	0.1	0.00e+00	2.70e-01	
1,2,3,7,8,9-HXCDD	ND		5.39	0.1	0.00e+00	2.70e-01	
1,2,3,4,6,7,8-HPCDD		105	8.02	0.01	1.05e+00	1.05e+00	
OCDD		1080	6.32	0.0003	3.24e-01	3.24e-01	
2,3,7,8-TCDF	ND		7.68	0.1	0.00e+00	3.84e-01	
1,2,3,7,8-PECDF	ND		4.94	0.03	0.00e+00	7.41e-02	
2,3,4,7,8-PECDF	ND		4.94	0.3	0.00e+00	7.41e-01	
1,2,3,4,7,8-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,6,7,8-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,7,8,9-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
2,3,4,6,7,8-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,4,6,7,8-HPCDF		12.4	5.29	0.01	1.24e-01	1.24e-01	
1,2,3,4,7,8,9-HPCDF	ND		5.29	0.01	0.00e+00	2.65e-02	
OCDF	ND		6.02	0.0003	0.00e+00	9.03e-04	
			TOTAL TEQ		62.9	68.6	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 19-Mar-2007 15:18:15; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613-TEQ_L9585-33_TEQ_SJ650205.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN033
Sample Collection:
08-Dec-2006 10:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-33 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.23 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	11-Mar-2007 **Time:** 15:46:25	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_104 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_104 S: 1
		% Moisture:	35.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		63.6	1.80	0.69	1.001
1,2,3,7,8-PECDD [3]	NDR	3.18	2.13	0.76	1.000
1,2,3,4,7,8-HXCDD	NDR	2.27	2.18	0.89	1.000
1,2,3,6,7,8-HXCDD		5.41	2.18	1.40	1.001
1,2,3,7,8,9-HXCDD	NDR	5.44	2.18	1.04	1.010
1,2,3,4,6,7,8-HPCDD		101	2.58	1.03	1.000
OCDD	X				
2,3,7,8-TCDF		15.6	1.34	0.75	1.001
1,2,3,7,8-PECDF	NDR	2.35	1.69	2.51	1.000
2,3,4,7,8-PECDF	ND		1.69		
1,2,3,4,7,8-HXCDF	NDR	2.10	1.31	1.45	1.001
1,2,3,6,7,8-HXCDF		2.34	1.31	1.20	1.000
1,2,3,7,8,9-HXCDF	ND		1.31		
2,3,4,6,7,8-HXCDF	ND		1.31		
1,2,3,4,6,7,8-HPCDF	NDR	11.2	1.12	0.82	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.65	1.12	0.55	1.000
OCDF		20.0	1.27	1.02	1.002
TOTAL TETRA-DIOXINS		63.6	1.80		
TOTAL PENTA-DIOXINS		6.46	2.13		
TOTAL HEXA-DIOXINS		55.1	2.18		
TOTAL HEPTA-DIOXINS		212	2.58		
TOTAL TETRA-FURANS		23.5	1.34		
TOTAL PENTA-FURANS		6.76	1.69		
TOTAL HEXA-FURANS		16.0	1.31		
TOTAL HEPTA-FURANS		17.7	1.12		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-33_Form1A_SJ650663.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN033
Sample Collection:
08-Dec-2006 10:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-33 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.23 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	11-Mar-2007 **Time:** 15:46:25	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_104 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_104 S: 1
		% Moisture:	35.4

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	7440	74.4	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		10000	7900	79.0	0.62	1.381
13C-1,2,3,4,7,8-HXCDD		10000	8870	88.7	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9310	93.1	1.30	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	9660	96.6	1.05	1.094
13C-OCDD		20000	15800	79.2	0.93	1.178
13C-2,3,7,8-TCDF		10000	7340	73.4	0.76	0.966
13C-1,2,3,7,8-PECDF		10000	7390	73.9	1.60	1.283
13C-2,3,4,7,8-PECDF		10000	7700	77.0	1.58	1.349
13C-1,2,3,4,7,8-HXCDF		10000	9820	98.2	0.54	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9480	94.8	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9100	91.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9580	95.8	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9510	95.1	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	9170	91.7	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	730	73.0		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Apr-2007 11:49:17; Application: XMLTransformer-1.7.37;
Report Filename: 1613_DIOXINS_1613DB5_L9585-33_Form2_SJ650663.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN033
Sample Collection:
08-Dec-2006 10:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-33 Ri
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.23 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	03-Apr-2007 **Time:** 16:32:54	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_141 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_141 S: 1
		% Moisture:	35.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD		973	9.90	0.89	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Teresa Rawsthorne QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-33_Form1A_SJ659552.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN033
Sample Collection:
08-Dec-2006 10:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-33 Ri
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.23 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	03-Apr-2007 **Time:** 16:32:54	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_141 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_141 S: 1
		% Moisture:	35.4

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD		20000	14200	70.9	0.93	1.176
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Apr-2007 11:49:17; Application: XMLTransformer-1.7.37;
Report Filename: 1613_DIOXINS_1613DB5_L9585-33_Form2_SJ659552.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN033
Sample Collection:
08-Dec-2006 10:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-33 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.23 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	10-Mar-2007 **Time:** 13:22:38	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_051 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_050 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_051 S: 2
		% Moisture:	35.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		17.6	7.39	0.84	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 11:55:33; Application: XMLTransformer-1.7.37; Report Filename: 1613_DIOXINS_1613DB225_L9585-33_Form1A_SJ648898.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN033

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	08-Dec-2006 10:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.23 g (dry)	**Lab Sample I.D.:**	L9585-33 R
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_051 S: 6** **DX72_104 S: 9** **DX72_141 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		63.6	1.80	1	6.36e+01	6.36e+01	
1,2,3,7,8-PECDD	ND		2.13	1	0.00e+00	1.07e+00	
1,2,3,4,7,8-HXCDD	ND		2.18	0.1	0.00e+00	1.09e-01	
1,2,3,6,7,8-HXCDD		5.41	2.18	0.1	5.41e-01	5.41e-01	
1,2,3,7,8,9-HXCDD	ND		2.18	0.1	0.00e+00	1.09e-01	
1,2,3,4,6,7,8-HPCDD		101	2.58	0.01	1.01e+00	1.01e+00	
OCDD		973	9.90	0.0001	9.73e-02	9.73e-02	
2,3,7,8-TCDF		17.6	7.39	0.1	1.76e+00	1.76e+00	
1,2,3,7,8-PECDF	ND		1.69	0.05	0.00e+00	4.23e-02	
2,3,4,7,8-PECDF	ND		1.69	0.5	0.00e+00	4.23e-01	
1,2,3,4,7,8-HXCDF	ND		1.31	0.1	0.00e+00	6.55e-02	
1,2,3,6,7,8-HXCDF		2.34	1.31	0.1	2.34e-01	2.34e-01	
1,2,3,7,8,9-HXCDF	ND		1.31	0.1	0.00e+00	6.55e-02	
2,3,4,6,7,8-HXCDF	ND		1.31	0.1	0.00e+00	6.55e-02	
1,2,3,4,6,7,8-HPCDF	ND		1.12	0.01	0.00e+00	5.60e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.12	0.01	0.00e+00	5.60e-03	
OCDF		20.0	1.27	0.0001	2.00e-03	2.00e-03	
			TOTAL TEQ		67.2	69.2	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		63.6	1.80	1	6.36e+01	6.36e+01	
1,2,3,7,8-PECDD	ND		2.13	1	0.00e+00	1.07e+00	
1,2,3,4,7,8-HXCDD	ND		2.18	0.1	0.00e+00	1.09e-01	
1,2,3,6,7,8-HXCDD		5.41	2.18	0.1	5.41e-01	5.41e-01	
1,2,3,7,8,9-HXCDD	ND		2.18	0.1	0.00e+00	1.09e-01	
1,2,3,4,6,7,8-HPCDD		101	2.58	0.01	1.01e+00	1.01e+00	
OCDD		973	9.90	0.0003	2.92e-01	2.92e-01	
2,3,7,8-TCDF		17.6	7.39	0.1	1.76e+00	1.76e+00	
1,2,3,7,8-PECDF	ND		1.69	0.03	0.00e+00	2.54e-02	
2,3,4,7,8-PECDF	ND		1.69	0.3	0.00e+00	2.54e-01	
1,2,3,4,7,8-HXCDF	ND		1.31	0.1	0.00e+00	6.55e-02	
1,2,3,6,7,8-HXCDF		2.34	1.31	0.1	2.34e-01	2.34e-01	
1,2,3,7,8,9-HXCDF	ND		1.31	0.1	0.00e+00	6.55e-02	
2,3,4,6,7,8-HXCDF	ND		1.31	0.1	0.00e+00	6.55e-02	
1,2,3,4,6,7,8-HPCDF	ND		1.12	0.01	0.00e+00	5.60e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.12	0.01	0.00e+00	5.60e-03	
OCDF		20.0	1.27	0.0003	6.00e-03	6.00e-03	
			TOTAL TEQ		67.4	69.2	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Apr-2007 11:56:49; Application: XMLTransformer-1.7.37;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-33_TEQ_SJ648898.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN035
Sample Collection:
09-Dec-2006 10:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-35
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 05:39:58	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_142 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_142 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	12.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		103	0.0480	0.78	1.001
1,2,3,7,8-PECDD [3]		6.48	0.0671	0.66	1.001
1,2,3,4,7,8-HXCDD		7.99	0.283	1.24	1.000
1,2,3,6,7,8-HXCDD		34.9	0.283	1.23	1.000
1,2,3,7,8,9-HXCDD		29.2	0.283	1.25	1.009
1,2,3,4,6,7,8-HPCDD		1260	1.46	1.05	1.000
OCDD	OLR				
2,3,7,8-TCDF		32.0	0.248	0.77	1.002
1,2,3,7,8-PECDF		14.5	0.231	1.48	1.001
2,3,4,7,8-PECDF		16.0	0.231	1.56	1.000
1,2,3,4,7,8-HXCDF		28.2	0.236	1.26	1.000
1,2,3,6,7,8-HXCDF		18.9	0.236	1.27	1.000
1,2,3,7,8,9-HXCDF		2.62	0.236	1.27	1.000
2,3,4,6,7,8-HXCDF		16.5	0.236	1.23	1.000
1,2,3,4,6,7,8-HPCDF		166	0.487	1.04	1.000
1,2,3,4,7,8,9-HPCDF		13.1	0.487	1.03	1.000
OCDF		326	0.848	0.90	1.002
TOTAL TETRA-DIOXINS		152	0.0480		
TOTAL PENTA-DIOXINS		112	0.0671		
TOTAL HEXA-DIOXINS		522	0.283		
TOTAL HEPTA-DIOXINS		2770	1.46		
TOTAL TETRA-FURANS		183	0.248		
TOTAL PENTA-FURANS		230	0.231		
TOTAL HEXA-FURANS		323	0.236		
TOTAL HEPTA-FURANS		482	0.487		

(1) Where applicable, custom lab flags have been used on this report; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Teresa Rawsthorne QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN035
Sample Collection:
09-Dec-2006 10:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-35
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 05:39:58	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_142 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_142 S: 1
Concentration Units:	pg absolute	**% Moisture:**	12.6

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1750	87.6	0.80	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1680	84.2	0.63	1.378
13C-1,2,3,4,7,8-HXCDD		2000	1800	89.9	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1720	86.0	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1980	99.1	1.06	1.094
13C-OCDD		4000	4120	103	0.91	1.177
13C-2,3,7,8-TCDF		2000	1710	85.3	0.79	0.965
13C-1,2,3,7,8-PECDF		2000	1650	82.3	1.56	1.281
13C-2,3,4,7,8-PECDF		2000	1640	81.9	1.58	1.347
13C-1,2,3,4,7,8-HXCDF		2000	1750	87.7	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1720	85.8	0.53	0.959
13C-1,2,3,7,8,9-HXCDF		2000	1690	84.5	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1670	83.5	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1710	85.3	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1850	92.4	0.46	1.103
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	185	92.7		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN035
Sample Collection:
09-Dec-2006 10:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-35 W
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 14:34:52	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX72_143 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	5	**Cal. Ver. Data Filename:**	DX72_143 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	12.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	16900	30.8	0.90	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613DB5_L9585-35_Form1A_SJ659980.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN035
Sample Collection:
09-Dec-2006 10:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-35 W
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 14:34:52	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX72_143 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	5	**Cal. Ver. Data Filename:**	DX72_143 S: 1
Concentration Units:	pg absolute	**% Moisture:**	12.6

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	4000	99.9	0.90	1.179
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38; Report Filename: 1613_DIOXINS_1613DB5_L9585-35_Form2_SJ659980.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN035
Sample Collection:
09-Dec-2006 10:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-35
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	04-Apr-2007 **Time:** 13:11:52	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_066 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_066 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_066 S: 2
		% Moisture:	12.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		13.7	0.0480	0.76	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:54:21; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613DB225_L9585-35_Form1A_SJ660135.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN035

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 10:00
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.4 g (dry)	**Lab Sample I.D.:**	L9585-35
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_066 S: 9** **DX72_142 S: 10** **DX72_143 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		103	0.0480	1	1.03e+02	1.03e+02	
1,2,3,7,8-PECDD		6.48	0.0671	1	6.48e+00	6.48e+00	
1,2,3,4,7,8-HXCDD		7.99	0.283	0.1	7.99e-01	7.99e-01	
1,2,3,6,7,8-HXCDD		34.9	0.283	0.1	3.49e+00	3.49e+00	
1,2,3,7,8,9-HXCDD		29.2	0.283	0.1	2.92e+00	2.92e+00	
1,2,3,4,6,7,8-HPCDD		1260	1.46	0.01	1.26e+01	1.26e+01	
OCDD		16900	30.8	0.0001	1.69e+00	1.69e+00	
2,3,7,8-TCDF		13.7	0.0480	0.1	1.37e+00	1.37e+00	
1,2,3,7,8-PECDF		14.5	0.231	0.05	7.25e-01	7.25e-01	
2,3,4,7,8-PECDF		16.0	0.231	0.5	8.00e+00	8.00e+00	
1,2,3,4,7,8-HXCDF		28.2	0.236	0.1	2.82e+00	2.82e+00	
1,2,3,6,7,8-HXCDF		18.9	0.236	0.1	1.89e+00	1.89e+00	
1,2,3,7,8,9-HXCDF		2.62	0.236	0.1	2.62e-01	2.62e-01	
2,3,4,6,7,8-HXCDF		16.5	0.236	0.1	1.65e+00	1.65e+00	
1,2,3,4,6,7,8-HPCDF		166	0.487	0.01	1.66e+00	1.66e+00	
1,2,3,4,7,8,9-HPCDF		13.1	0.487	0.01	1.31e-01	1.31e-01	
OCDF		326	0.848	0.0001	3.26e-02	3.26e-02	
			TOTAL TEQ		150	150	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		103	0.0480	1	1.03e+02	1.03e+02	
1,2,3,7,8-PECDD		6.48	0.0671	1	6.48e+00	6.48e+00	
1,2,3,4,7,8-HXCDD		7.99	0.283	0.1	7.99e-01	7.99e-01	
1,2,3,6,7,8-HXCDD		34.9	0.283	0.1	3.49e+00	3.49e+00	
1,2,3,7,8,9-HXCDD		29.2	0.283	0.1	2.92e+00	2.92e+00	
1,2,3,4,6,7,8-HPCDD		1260	1.46	0.01	1.26e+01	1.26e+01	
OCDD		16900	30.8	0.0003	5.07e+00	5.07e+00	
2,3,7,8-TCDF		13.7	0.0480	0.1	1.37e+00	1.37e+00	
1,2,3,7,8-PECDF		14.5	0.231	0.03	4.35e-01	4.35e-01	
2,3,4,7,8-PECDF		16.0	0.231	0.3	4.80e+00	4.80e+00	
1,2,3,4,7,8-HXCDF		28.2	0.236	0.1	2.82e+00	2.82e+00	
1,2,3,6,7,8-HXCDF		18.9	0.236	0.1	1.89e+00	1.89e+00	
1,2,3,7,8,9-HXCDF		2.62	0.236	0.1	2.62e-01	2.62e-01	
2,3,4,6,7,8-HXCDF		16.5	0.236	0.1	1.65e+00	1.65e+00	
1,2,3,4,6,7,8-HPCDF		166	0.487	0.01	1.66e+00	1.66e+00	
1,2,3,4,7,8,9-HPCDF		13.1	0.487	0.01	1.31e-01	1.31e-01	
OCDF		326	0.848	0.0003	9.78e-02	9.78e-02	
			TOTAL TEQ		149	149	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Apr-2007 16:55:28; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-35_TEQ_SJ659716.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN036
Sample Collection:
09-Dec-2006 10:25

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-36
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	21-Jan-2007
Analysis Date:	22-Jan-2007 **Time:** 18:56:09	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_034 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_034 S: 1
		% Moisture:	20.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		16.9	0.0499	0.78	1.001
1,2,3,7,8-PECDD [3]		2.20	0.0499	0.63	1.000
1,2,3,4,7,8-HXCDD		3.42	0.0823	1.23	1.000
1,2,3,6,7,8-HXCDD		16.3	0.0823	1.25	1.000
1,2,3,7,8,9-HXCDD		9.09	0.0823	1.27	1.010
1,2,3,4,6,7,8-HPCDD		346	0.237	1.05	1.000
OCDD		4760	0.841	0.89	1.000
2,3,7,8-TCDF		4.11	0.104	0.81	1.002
1,2,3,7,8-PECDF		2.54	0.0722	1.44	1.001
2,3,4,7,8-PECDF		4.20	0.0722	1.54	1.000
1,2,3,4,7,8-HXCDF		10.0	0.0607	1.25	1.000
1,2,3,6,7,8-HXCDF		5.19	0.0607	1.30	1.000
1,2,3,7,8,9-HXCDF		0.361	0.0607	1.20	1.000
2,3,4,6,7,8-HXCDF		3.85	0.0607	1.20	1.000
1,2,3,4,6,7,8-HPCDF		55.4	0.0726	1.05	1.000
1,2,3,4,7,8,9-HPCDF		3.10	0.0726	1.11	1.000
OCDF		95.9	0.0499	0.89	1.002
TOTAL TETRA-DIOXINS		23.4	0.0499		
TOTAL PENTA-DIOXINS		17.8	0.0499		
TOTAL HEXA-DIOXINS		102	0.0823		
TOTAL HEPTA-DIOXINS		670	0.237		
TOTAL TETRA-FURANS		23.3	0.104		
TOTAL PENTA-FURANS		54.3	0.0722		
TOTAL HEXA-FURANS		104	0.0607		
TOTAL HEPTA-FURANS		142	0.0726		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-36_Form1A_SJ630075.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN036
Sample Collection:
09-Dec-2006 10:25

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-36
Matrix:	SOLID	**Sample Size:**	10.0 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	21-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Jan-2007 **Time:** 18:56:09	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_034 S: 11**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_034 S: 1
Concentration Units:	pg absolute	**% Moisture:**	20.1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1140	57.0	0.77	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1200	59.9	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1190	59.6	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1210	60.5	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1350	67.4	1.05	1.095
13C-OCDD		4000	2850	71.4	0.90	1.179
13C-2,3,7,8-TCDF		2000	1080	53.8	0.77	0.967
13C-1,2,3,7,8-PECDF		2000	1120	55.9	1.58	1.283
13C-2,3,4,7,8-PECDF		2000	1120	56.1	1.55	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1130	56.5	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1150	57.4	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1160	58.1	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1150	57.3	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1200	60.2	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1280	63.8	0.46	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	119	59.4		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9585-36_Form2_SJ630075.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN036
Sample Collection:
09-Dec-2006 10:25

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-36
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (dry)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	26-Jan-2007 **Time:** 00:38:55	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_016 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_016 S: 2
		% Moisture:	20.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1.92	0.0499	0.68	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-36_Form1A_SJ634087.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
06VN036

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	09-Dec-2006 10:25		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-36
Sample Size:	10.0 g (dry)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_016 S: 9** **DX72_034 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		16.9	0.0499	1	1.69e+01	1.69e+01	
1,2,3,7,8-PECDD		2.20	0.0499	1	2.20e+00	2.20e+00	
1,2,3,4,7,8-HXCDD		3.42	0.0823	0.1	3.42e-01	3.42e-01	
1,2,3,6,7,8-HXCDD		16.3	0.0823	0.1	1.63e+00	1.63e+00	
1,2,3,7,8,9-HXCDD		9.09	0.0823	0.1	9.09e-01	9.09e-01	
1,2,3,4,6,7,8-HPCDD		346	0.237	0.01	3.46e+00	3.46e+00	
OCDD		4760	0.841	0.0001	4.76e-01	4.76e-01	
2,3,7,8-TCDF		1.92	0.0499	0.1	1.92e-01	1.92e-01	
1,2,3,7,8-PECDF		2.54	0.0722	0.05	1.27e-01	1.27e-01	
2,3,4,7,8-PECDF		4.20	0.0722	0.5	2.10e+00	2.10e+00	
1,2,3,4,7,8-HXCDF		10.0	0.0607	0.1	1.00e+00	1.00e+00	
1,2,3,6,7,8-HXCDF		5.19	0.0607	0.1	5.19e-01	5.19e-01	
1,2,3,7,8,9-HXCDF		0.361	0.0607	0.1	3.61e-02	3.61e-02	
2,3,4,6,7,8-HXCDF		3.85	0.0607	0.1	3.85e-01	3.85e-01	
1,2,3,4,6,7,8-HPCDF		55.4	0.0726	0.01	5.54e-01	5.54e-01	
1,2,3,4,7,8,9-HPCDF		3.10	0.0726	0.01	3.10e-02	3.10e-02	
OCDF		95.9	0.0499	0.0001	9.59e-03	9.59e-03	
			TOTAL TEQ		30.9	30.9	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		16.9	0.0499	1	1.69e+01	1.69e+01	
1,2,3,7,8-PECDD		2.20	0.0499	1	2.20e+00	2.20e+00	
1,2,3,4,7,8-HXCDD		3.42	0.0823	0.1	3.42e-01	3.42e-01	
1,2,3,6,7,8-HXCDD		16.3	0.0823	0.1	1.63e+00	1.63e+00	
1,2,3,7,8,9-HXCDD		9.09	0.0823	0.1	9.09e-01	9.09e-01	
1,2,3,4,6,7,8-HPCDD		346	0.237	0.01	3.46e+00	3.46e+00	
OCDD		4760	0.841	0.0003	1.43e+00	1.43e+00	
2,3,7,8-TCDF		1.92	0.0499	0.1	1.92e-01	1.92e-01	
1,2,3,7,8-PECDF		2.54	0.0722	0.03	7.62e-02	7.62e-02	
2,3,4,7,8-PECDF		4.20	0.0722	0.3	1.26e+00	1.26e+00	
1,2,3,4,7,8-HXCDF		10.0	0.0607	0.1	1.00e+00	1.00e+00	
1,2,3,6,7,8-HXCDF		5.19	0.0607	0.1	5.19e-01	5.19e-01	
1,2,3,7,8,9-HXCDF		0.361	0.0607	0.1	3.61e-02	3.61e-02	
2,3,4,6,7,8-HXCDF		3.85	0.0607	0.1	3.85e-01	3.85e-01	
1,2,3,4,6,7,8-HPCDF		55.4	0.0726	0.01	5.54e-01	5.54e-01	
1,2,3,4,7,8,9-HPCDF		3.10	0.0726	0.01	3.10e-02	3.10e-02	
OCDF		95.9	0.0499	0.0003	2.88e-02	2.88e-02	
			TOTAL TEQ		31.0	31.0	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-36_TEQ_SJ630075.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN037
Sample Collection:
09-Dec-2006 10:50

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-37 W
Matrix:	SOLID	**Sample Size:**	10.7 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 15:29:19	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX72_143 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	5	**Cal. Ver. Data Filename:**	DX72_143 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	14.3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	165	0.0909	0.77	1.001
1,2,3,7,8-PECDD [3]	D	34.4	0.181	0.62	1.000
1,2,3,4,7,8-HXCDD	D	25.3	0.329	1.34	1.001
1,2,3,6,7,8-HXCDD	D	69.2	0.329	1.27	1.000
1,2,3,7,8,9-HXCDD	D	62.4	0.329	1.31	1.009
1,2,3,4,6,7,8-HPCDD	D	1900	8.43	1.05	1.000
OCDD	D	19900	26.5	0.90	1.000
2,3,7,8-TCDF	D	61.6	0.624	0.78	1.002
1,2,3,7,8-PECDF	D	21.9	0.341	1.58	1.000
2,3,4,7,8-PECDF	D	31.5	0.341	1.52	1.000
1,2,3,4,7,8-HXCDF	D	56.6	0.496	1.26	1.001
1,2,3,6,7,8-HXCDF	D	38.6	0.496	1.30	1.000
1,2,3,7,8,9-HXCDF	D	3.97	0.496	1.28	1.000
2,3,4,6,7,8-HXCDF	D	36.4	0.496	1.26	1.000
1,2,3,4,6,7,8-HPCDF	D	279	0.566	1.04	1.000
1,2,3,4,7,8,9-HPCDF	D	23.7	0.566	1.06	1.000
OCDF	D	313	0.525	0.88	1.002
TOTAL TETRA-DIOXINS	D	334	0.0909		
TOTAL PENTA-DIOXINS	D	302	0.181		
TOTAL HEXA-DIOXINS	D	891	0.329		
TOTAL HEPTA-DIOXINS	D	4100	8.43		
TOTAL TETRA-FURANS	D	358	0.624		
TOTAL PENTA-FURANS	D	481	0.341		
TOTAL HEXA-FURANS	D	603	0.496		
TOTAL HEPTA-FURANS	D	596	0.566		

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN037
Sample Collection:
09-Dec-2006 10:50

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-37 W
Matrix:	SOLID	**Sample Size:**	10.7 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 15:29:19	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX72_143 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	5	**Cal. Ver. Data Filename:**	DX72_143 S: 1
Concentration Units:	pg absolute	**% Moisture:**	14.3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	2000	1790	89.3	0.78	1.013
13C-1,2,3,7,8-PECDD [4]	D	2000	1660	82.9	0.64	1.382
13C-1,2,3,4,7,8-HXCDD	D	2000	1870	93.5	1.21	0.987
13C-1,2,3,6,7,8-HXCDD	D	2000	1660	82.9	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD	D	2000	1830	91.6	1.05	1.095
13C-OCDD	D	4000	3370	84.2	0.88	1.179
13C-2,3,7,8-TCDF	D	2000	1730	86.7	0.79	0.966
13C-1,2,3,7,8-PECDF	D	2000	1610	80.5	1.54	1.284
13C-2,3,4,7,8-PECDF	D	2000	1600	79.9	1.53	1.351
13C-1,2,3,4,7,8-HXCDF	D	2000	1770	88.6	0.51	0.954
13C-1,2,3,6,7,8-HXCDF	D	2000	1710	85.4	0.55	0.958
13C-1,2,3,7,8,9-HXCDF	D	2000	1690	84.6	0.54	1.005
13C-2,3,4,6,7,8-HXCDF	D	2000	1720	85.9	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF	D	2000	1770	88.5	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF	D	2000	1810	90.7	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	D	200	183	91.3		1.013

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Teresa Rawsthorne QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN037
Sample Collection:
09-Dec-2006 10:50

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-37
Matrix:	SOLID	**Sample Size:**	10.7 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	08-Jan-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 13:47:30	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_066 S: 10**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_066 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_066 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	14.3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		26.8	0.425	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:54:21; Application: XMLTransformer-1.7.38; Report Filename: 1613_DIOXINS_1613DB225_L9585-37_Form1A_SJ660136.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN037

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 10:50
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.7 g (dry)	**Lab Sample I.D.:**	L9585-37
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_066 S: 10** **DX72_143 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		165	0.0909	1	1.65e+02	1.65e+02	
1,2,3,7,8-PECDD		34.4	0.181	1	3.44e+01	3.44e+01	
1,2,3,4,7,8-HXCDD		25.3	0.329	0.1	2.53e+00	2.53e+00	
1,2,3,6,7,8-HXCDD		69.2	0.329	0.1	6.92e+00	6.92e+00	
1,2,3,7,8,9-HXCDD		62.4	0.329	0.1	6.24e+00	6.24e+00	
1,2,3,4,6,7,8-HPCDD		1900	8.43	0.01	1.90e+01	1.90e+01	
OCDD		19900	26.5	0.0001	1.99e+00	1.99e+00	
2,3,7,8-TCDF		26.8	0.425	0.1	2.68e+00	2.68e+00	
1,2,3,7,8-PECDF		21.9	0.341	0.05	1.10e+00	1.10e+00	
2,3,4,7,8-PECDF		31.5	0.341	0.5	1.58e+01	1.58e+01	
1,2,3,4,7,8-HXCDF		56.6	0.496	0.1	5.66e+00	5.66e+00	
1,2,3,6,7,8-HXCDF		38.6	0.496	0.1	3.86e+00	3.86e+00	
1,2,3,7,8,9-HXCDF		3.97	0.496	0.1	3.97e-01	3.97e-01	
2,3,4,6,7,8-HXCDF		36.4	0.496	0.1	3.64e+00	3.64e+00	
1,2,3,4,6,7,8-HPCDF		279	0.566	0.01	2.79e+00	2.79e+00	
1,2,3,4,7,8,9-HPCDF		23.7	0.566	0.01	2.37e-01	2.37e-01	
OCDF		313	0.525	0.0001	3.13e-02	3.13e-02	
			TOTAL TEQ		272	272	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		165	0.0909	1	1.65e+02	1.65e+02	
1,2,3,7,8-PECDD		34.4	0.181	1	3.44e+01	3.44e+01	
1,2,3,4,7,8-HXCDD		25.3	0.329	0.1	2.53e+00	2.53e+00	
1,2,3,6,7,8-HXCDD		69.2	0.329	0.1	6.92e+00	6.92e+00	
1,2,3,7,8,9-HXCDD		62.4	0.329	0.1	6.24e+00	6.24e+00	
1,2,3,4,6,7,8-HPCDD		1900	8.43	0.01	1.90e+01	1.90e+01	
OCDD		19900	26.5	0.0003	5.97e+00	5.97e+00	
2,3,7,8-TCDF		26.8	0.425	0.1	2.68e+00	2.68e+00	
1,2,3,7,8-PECDF		21.9	0.341	0.03	6.57e-01	6.57e-01	
2,3,4,7,8-PECDF		31.5	0.341	0.3	9.45e+00	9.45e+00	
1,2,3,4,7,8-HXCDF		56.6	0.496	0.1	5.66e+00	5.66e+00	
1,2,3,6,7,8-HXCDF		38.6	0.496	0.1	3.86e+00	3.86e+00	
1,2,3,7,8,9-HXCDF		3.97	0.496	0.1	3.97e-01	3.97e-01	
2,3,4,6,7,8-HXCDF		36.4	0.496	0.1	3.64e+00	3.64e+00	
1,2,3,4,6,7,8-HPCDF		279	0.566	0.01	2.79e+00	2.79e+00	
1,2,3,4,7,8,9-HPCDF		23.7	0.566	0.01	2.37e-01	2.37e-01	
OCDF		313	0.525	0.0003	9.39e-02	9.39e-02	
			TOTAL TEQ		270	270	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Apr-2007 16:55:28; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-37_TEQ_SJ660136.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN038
Sample Collection:
09-Dec-2006 11:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-38 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	04-Apr-2007 **Time:** 16:23:51	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_143 S: 7**
Dilution Factor:	5	**Blank Data Filename:**	DX72_142 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_143 S: 1
		% Moisture:	15.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	150	0.116	0.78	1.001
1,2,3,7,8-PECDD [3]	D	30.9	0.112	0.59	1.000
1,2,3,4,7,8-HXCDD	D	24.3	0.601	1.24	1.000
1,2,3,6,7,8-HXCDD	D	73.3	0.601	1.28	1.000
1,2,3,7,8,9-HXCDD	D	66.2	0.601	1.32	1.010
1,2,3,4,6,7,8-HPCDD	D	2150	0.844	1.05	1.000
OCDD	OLR				
2,3,7,8-TCDF	D	54.0	0.622	0.78	1.001
1,2,3,7,8-PECDF	D	20.6	0.274	1.60	1.001
2,3,4,7,8-PECDF	D	29.6	0.274	1.58	1.000
1,2,3,4,7,8-HXCDF	D	53.4	0.347	1.26	1.000
1,2,3,6,7,8-HXCDF	D	37.8	0.347	1.22	1.000
1,2,3,7,8,9-HXCDF	D	3.19	0.347	1.16	1.000
2,3,4,6,7,8-HXCDF	D	35.1	0.347	1.27	1.000
1,2,3,4,6,7,8-HPCDF	D	290	0.398	1.03	1.000
1,2,3,4,7,8,9-HPCDF	D	22.8	0.398	1.08	1.000
OCDF	D	310	0.594	0.90	1.002
TOTAL TETRA-DIOXINS	D	307	0.116		
TOTAL PENTA-DIOXINS	D	282	0.112		
TOTAL HEXA-DIOXINS	D	930	0.601		
TOTAL HEPTA-DIOXINS	D	4590	0.844		
TOTAL TETRA-FURANS	D	317	0.622		
TOTAL PENTA-FURANS	D	443	0.274		
TOTAL HEXA-FURANS	D	585	0.347		
TOTAL HEPTA-FURANS	D	644	0.398		

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38; Report Filename: 1613_DIOXINS_1613DB5_L9585-38_Form1A_SJ659982.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN038
Sample Collection:
09-Dec-2006 11:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-38 W
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 16:23:51	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX72_143 S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	5	**Cal. Ver. Data Filename:**	DX72_143 S: 1
Concentration Units:	pg absolute	**% Moisture:**	15.2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	2000	1810	90.6	0.80	1.013
13C-1,2,3,7,8-PECDD [4]	D	2000	1760	88.2	0.64	1.383
13C-1,2,3,4,7,8-HXCDD	D	2000	1950	97.4	1.33	0.987
13C-1,2,3,6,7,8-HXCDD	D	2000	1730	86.3	1.17	0.990
13C-1,2,3,4,6,7,8-HPCDD	D	2000	1960	97.8	1.06	1.095
13C-OCDD	D	4000	3850	96.3	0.90	1.179
13C-2,3,7,8-TCDF	D	2000	1820	91.0	0.80	0.966
13C-1,2,3,7,8-PECDF	D	2000	1680	84.0	1.56	1.284
13C-2,3,4,7,8-PECDF	D	2000	1700	84.9	1.53	1.351
13C-1,2,3,4,7,8-HXCDF	D	2000	1860	93.2	0.52	0.954
13C-1,2,3,6,7,8-HXCDF	D	2000	1780	88.8	0.54	0.958
13C-1,2,3,7,8,9-HXCDF	D	2000	1800	90.1	0.53	1.005
13C-2,3,4,6,7,8-HXCDF	D	2000	1760	87.9	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF	D	2000	1770	88.5	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF	D	2000	1900	95.0	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	D	200	188	93.8		1.014

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN038
Sample Collection:
09-Dec-2006 11:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-38 W2
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	05-Apr-2007 **Time:** 01:32:37	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	200	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_144 S: 6**
Dilution Factor:	10	**Blank Data Filename:**	DX72_142 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_144 S: 1
		% Moisture:	15.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	22100	0.677	0.90	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN038
Sample Collection:
09-Dec-2006 11:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-38 W2
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	05-Apr-2007 **Time:** 01:32:37	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	200	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_144 S: 6**
Dilution Factor:	10	**Blank Data Filename:**	DX72_142 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_144 S: 1
		% Moisture:	15.2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	3530	88.3	0.88	1.179
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613DB5_L9585-38_Form2_SJ660212.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN038
Sample Collection:
09-Dec-2006 11:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-38
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	04-Apr-2007 **Time:** 14:23:09	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_066 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_066 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_066 S: 2
		% Moisture:	15.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		23.6	0.174	0.74	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:54:21; Application: XMLTransformer-1.7.38; Report Filename: 1613_DIOXINS_1613DB225_L9585-38_Form1A_SJ660137.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN038

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 11:10
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.4 g (dry)	**Lab Sample I.D.:**	L9585-38
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_066 S: 11** **DX72_143 S: 7** **DX72_144 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		150	0.116	1	1.50e+02	1.50e+02	
1,2,3,7,8-PECDD		30.9	0.112	1	3.09e+01	3.09e+01	
1,2,3,4,7,8-HXCDD		24.3	0.601	0.1	2.43e+00	2.43e+00	
1,2,3,6,7,8-HXCDD		73.3	0.601	0.1	7.33e+00	7.33e+00	
1,2,3,7,8,9-HXCDD		66.2	0.601	0.1	6.62e+00	6.62e+00	
1,2,3,4,6,7,8-HPCDD		2150	0.844	0.01	2.15e+01	2.15e+01	
OCDD		22100	0.677	0.0001	2.21e+00	2.21e+00	
2,3,7,8-TCDF		23.6	0.174	0.1	2.36e+00	2.36e+00	
1,2,3,7,8-PECDF		20.6	0.274	0.05	1.03e+00	1.03e+00	
2,3,4,7,8-PECDF		29.6	0.274	0.5	1.48e+01	1.48e+01	
1,2,3,4,7,8-HXCDF		53.4	0.347	0.1	5.34e+00	5.34e+00	
1,2,3,6,7,8-HXCDF		37.8	0.347	0.1	3.78e+00	3.78e+00	
1,2,3,7,8,9-HXCDF		3.19	0.347	0.1	3.19e-01	3.19e-01	
2,3,4,6,7,8-HXCDF		35.1	0.347	0.1	3.51e+00	3.51e+00	
1,2,3,4,6,7,8-HPCDF		290	0.398	0.01	2.90e+00	2.90e+00	
1,2,3,4,7,8,9-HPCDF		22.8	0.398	0.01	2.28e-01	2.28e-01	
OCDF		310	0.594	0.0001	3.10e-02	3.10e-02	
			TOTAL TEQ		255	255	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		150	0.116	1	1.50e+02	1.50e+02	
1,2,3,7,8-PECDD		30.9	0.112	1	3.09e+01	3.09e+01	
1,2,3,4,7,8-HXCDD		24.3	0.601	0.1	2.43e+00	2.43e+00	
1,2,3,6,7,8-HXCDD		73.3	0.601	0.1	7.33e+00	7.33e+00	
1,2,3,7,8,9-HXCDD		66.2	0.601	0.1	6.62e+00	6.62e+00	
1,2,3,4,6,7,8-HPCDD		2150	0.844	0.01	2.15e+01	2.15e+01	
OCDD		22100	0.677	0.0003	6.63e+00	6.63e+00	
2,3,7,8-TCDF		23.6	0.174	0.1	2.36e+00	2.36e+00	
1,2,3,7,8-PECDF		20.6	0.274	0.03	6.18e-01	6.18e-01	
2,3,4,7,8-PECDF		29.6	0.274	0.3	8.88e+00	8.88e+00	
1,2,3,4,7,8-HXCDF		53.4	0.347	0.1	5.34e+00	5.34e+00	
1,2,3,6,7,8-HXCDF		37.8	0.347	0.1	3.78e+00	3.78e+00	
1,2,3,7,8,9-HXCDF		3.19	0.347	0.1	3.19e-01	3.19e-01	
2,3,4,6,7,8-HXCDF		35.1	0.347	0.1	3.51e+00	3.51e+00	
1,2,3,4,6,7,8-HPCDF		290	0.398	0.01	2.90e+00	2.90e+00	
1,2,3,4,7,8,9-HPCDF		22.8	0.398	0.01	2.28e-01	2.28e-01	
OCDF		310	0.594	0.0003	9.30e-02	9.30e-02	
			TOTAL TEQ		253	253	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN040
Sample Collection:
08-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-40 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.09 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 01:04:12	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_090 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_047 S: 6,7
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_090 S: 1
		% Moisture:	73.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		1160	1.73	0.79	1.001
1,2,3,7,8-PECDD [3]	NDR	30.5	2.09	0.81	1.001
1,2,3,4,7,8-HXCDD		18.7	1.81	1.23	1.000
1,2,3,6,7,8-HXCDD		70.8	1.81	1.29	1.000
1,2,3,7,8,9-HXCDD		44.8	1.81	1.41	1.010
1,2,3,4,6,7,8-HPCDD		1430	3.16	1.05	1.000
OCDD		15100	1.44	0.89	1.000
2,3,7,8-TCDF		201	4.93	0.77	1.001
1,2,3,7,8-PECDF		8.45	2.35	1.49	1.001
2,3,4,7,8-PECDF		8.08	2.35	1.34	1.000
1,2,3,4,7,8-HXCDF		24.2	1.61	1.20	1.000
1,2,3,6,7,8-HXCDF		18.4	1.61	1.37	1.000
1,2,3,7,8,9-HXCDF	NDR	2.88	1.61	0.80	1.000
2,3,4,6,7,8-HXCDF		10.4	1.61	1.08	1.000
1,2,3,4,6,7,8-HPCDF		217	1.80	1.04	1.000
1,2,3,4,7,8,9-HPCDF		21.5	1.80	0.89	1.000
OCDF		565	1.84	0.88	1.002
TOTAL TETRA-DIOXINS		1290	1.73		
TOTAL PENTA-DIOXINS		188	2.09		
TOTAL HEXA-DIOXINS		648	1.81		
TOTAL HEPTA-DIOXINS		2950	3.16		
TOTAL TETRA-FURANS		492	4.93		
TOTAL PENTA-FURANS		416	2.35		
TOTAL HEXA-FURANS		400	1.61		
TOTAL HEPTA-FURANS		668	1.80		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Mar-2007 10:04:48; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB5_L9585-40_Form1A_SJ645962.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN040
Sample Collection:
08-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-40 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.09 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 01:04:12	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_090 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_047 S: 6,7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_090 S: 1
		% Moisture:	73.5

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	7000	70.0	0.72	1.012
13C-1,2,3,7,8-PECDD [4]		10000	7630	76.3	0.67	1.381
13C-1,2,3,4,7,8-HXCDD		10000	9000	90.0	1.14	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9320	93.2	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7700	77.0	1.01	1.095
13C-OCDD		20000	11400	57.2	0.85	1.179
13C-2,3,7,8-TCDF		10000	7950	79.5	0.79	0.966
13C-1,2,3,7,8-PECDF		10000	7390	73.9	1.58	1.283
13C-2,3,4,7,8-PECDF		10000	8180	81.8	1.54	1.350
13C-1,2,3,4,7,8-HXCDF		10000	9570	95.7	0.57	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9380	93.8	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		10000	7890	78.9	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		10000	8940	89.4	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	7950	79.5	0.48	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7530	75.3	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	948	94.8		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Mar-2007 10:04:48; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-40_Form2_SJ645962.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN040
Sample Collection:
08-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-40
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.09 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 16:21:38	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 16**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_027 S: 5,6
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_027 S: 2
		% Moisture:	73.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		907	11.4	0.79	1.000

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-40_Form1A_SJ643830.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN040

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	08-Dec-2006 16:10
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.09 g (dry)	**Lab Sample I.D.:**	L9585-40
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_027 S: 16** **DX72_090 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1160	1.73	1	1.16e+03	1.16e+03	
1,2,3,7,8-PECDD	ND		2.09	1	0.00e+00	1.05e+00	
1,2,3,4,7,8-HXCDD		18.7	1.81	0.1	1.87e+00	1.87e+00	
1,2,3,6,7,8-HXCDD		70.8	1.81	0.1	7.08e+00	7.08e+00	
1,2,3,7,8,9-HXCDD		44.8	1.81	0.1	4.48e+00	4.48e+00	
1,2,3,4,6,7,8-HPCDD		1430	3.16	0.01	1.43e+01	1.43e+01	
OCDD		15100	1.44	0.0001	1.51e+00	1.51e+00	
2,3,7,8-TCDF		907	11.4	0.1	9.07e+01	9.07e+01	
1,2,3,7,8-PECDF		8.45	2.35	0.05	4.23e-01	4.23e-01	
2,3,4,7,8-PECDF		8.08	2.35	0.5	4.04e+00	4.04e+00	
1,2,3,4,7,8-HXCDF		24.2	1.61	0.1	2.42e+00	2.42e+00	
1,2,3,6,7,8-HXCDF		18.4	1.61	0.1	1.84e+00	1.84e+00	
1,2,3,7,8,9-HXCDF	ND		1.61	0.1	0.00e+00	8.05e-02	
2,3,4,6,7,8-HXCDF		10.4	1.61	0.1	1.04e+00	1.04e+00	
1,2,3,4,6,7,8-HPCDF		217	1.80	0.01	2.17e+00	2.17e+00	
1,2,3,4,7,8,9-HPCDF		21.5	1.80	0.01	2.15e-01	2.15e-01	
OCDF		565	1.84	0.0001	5.65e-02	5.65e-02	
			TOTAL TEQ		1290	1290	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1160	1.73	1	1.16e+03	1.16e+03	
1,2,3,7,8-PECDD	ND		2.09	1	0.00e+00	1.05e+00	
1,2,3,4,7,8-HXCDD		18.7	1.81	0.1	1.87e+00	1.87e+00	
1,2,3,6,7,8-HXCDD		70.8	1.81	0.1	7.08e+00	7.08e+00	
1,2,3,7,8,9-HXCDD		44.8	1.81	0.1	4.48e+00	4.48e+00	
1,2,3,4,6,7,8-HPCDD		1430	3.16	0.01	1.43e+01	1.43e+01	
OCDD		15100	1.44	0.0003	4.53e+00	4.53e+00	
2,3,7,8-TCDF		907	11.4	0.1	9.07e+01	9.07e+01	
1,2,3,7,8-PECDF		8.45	2.35	0.03	2.54e-01	2.54e-01	
2,3,4,7,8-PECDF		8.08	2.35	0.3	2.42e+00	2.42e+00	
1,2,3,4,7,8-HXCDF		24.2	1.61	0.1	2.42e+00	2.42e+00	
1,2,3,6,7,8-HXCDF		18.4	1.61	0.1	1.84e+00	1.84e+00	
1,2,3,7,8,9-HXCDF	ND		1.61	0.1	0.00e+00	8.05e-02	
2,3,4,6,7,8-HXCDF		10.4	1.61	0.1	1.04e+00	1.04e+00	
1,2,3,4,6,7,8-HPCDF		217	1.80	0.01	2.17e+00	2.17e+00	
1,2,3,4,7,8,9-HPCDF		21.5	1.80	0.01	2.15e-01	2.15e-01	
OCDF		565	1.84	0.0003	1.70e-01	1.70e-01	
			TOTAL TEQ		1290	1290	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L9585-40_TEQ_SJ643830.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN042
Sample Collection:
09-Dec-2006 11:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-42 (A)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	21-Feb-2007 **Time:** 18:43:16	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_044B S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_044B S: 1
		% Moisture:	17.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD [3]		24.8	0.0630	0.64	1.001
1,2,3,4,7,8-HXCDD		20.0	0.813	1.22	1.000
1,2,3,6,7,8-HXCDD		92.7	0.813	1.25	1.000
1,2,3,7,8,9-HXCDD		61.7	0.813	1.21	1.009
1,2,3,4,6,7,8-HPCDD		3140	0.744	1.04	1.000
OCDD	OLR				
2,3,7,8-TCDF		92.7	0.509	0.78	1.001
1,2,3,7,8-PECDF		41.1	0.402	1.50	1.000
2,3,4,7,8-PECDF		38.2	0.402	1.51	1.000
1,2,3,4,7,8-HXCDF		105	0.430	1.22	1.000
1,2,3,6,7,8-HXCDF		46.8	0.430	1.22	1.000
1,2,3,7,8,9-HXCDF		5.60	0.430	1.25	1.000
2,3,4,6,7,8-HXCDF		33.2	0.430	1.21	1.000
1,2,3,4,6,7,8-HPCDF		357	0.296	1.02	1.000
1,2,3,4,7,8,9-HPCDF		40.1	0.296	1.01	1.000
OCDF		634	0.122	0.89	1.002
TOTAL TETRA-DIOXINS	OLR				
TOTAL PENTA-DIOXINS		458	0.0630		
TOTAL HEXA-DIOXINS		1510	0.813		
TOTAL HEPTA-DIOXINS		7720	0.744		
TOTAL TETRA-FURANS		512	0.509		
TOTAL PENTA-FURANS		710	0.402		
TOTAL HEXA-FURANS		923	0.430		
TOTAL HEPTA-FURANS		1040	0.296		

(1) Where applicable, custom lab flags have been used on this report; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-42_Form1A_SJ642111.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN042
Sample Collection:
09-Dec-2006 11:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-42 (A)
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	16-Dec-2006
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	21-Feb-2007 **Time:** 18:43:16	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7B_044B S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_089 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_044B S: 1
Concentration Units:	pg absolute	**% Moisture:**	17.4

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]		2000	765	38.3	0.65	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1080	54.2	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1040	52.1	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1040	52.2	1.02	1.095
13C-OCDD		4000	2260	56.4	0.90	1.179
13C-2,3,7,8-TCDF		2000	1020	50.8	0.75	0.966
13C-1,2,3,7,8-PECDF		2000	883	44.1	1.59	1.282
13C-2,3,4,7,8-PECDF		2000	861	43.1	1.57	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1170	58.5	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1120	55.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	896	44.8	0.54	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1060	53.1	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1040	51.9	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	895	44.7	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	141	70.6		1.013

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-42_Form2_SJ642111.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN042
Sample Collection:
09-Dec-2006 11:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-42 W (A)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 11:54:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	200	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S: 5**
Dilution Factor:	10	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_089 S: 1
		% Moisture:	17.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	1700	0.708	0.77	1.001
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	41900	8.47	0.89	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	1890	0.708		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB5_L9585-42_Form1A_SJ645342.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN042
Sample Collection:
09-Dec-2006 11:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-42 W (A)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 11:54:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	200	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S: 5**
Dilution Factor:	10	**Blank Data Filename:**	DX72_089 S: **4**
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_089 S: 1
		% Moisture:	17.4

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	2000	985	49.2	0.78	1.012
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	1920	48.0	0.88	1.179
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-42_Form2_SJ645342.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN042
Sample Collection:
09-Dec-2006 11:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-42 (A)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 01:39:12	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_026 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_026 S: 2
		% Moisture:	17.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		52.3	0.251	0.74	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN042

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 11:15
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.4 g (dry)	**Lab Sample I.D.:**	L9585-42 (A)
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_026 S: 12** **DX72_089 S: 5** **DX7B_044B S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1700	0.708	1	1.70e+03	1.70e+03	
1,2,3,7,8-PECDD		24.8	0.0630	1	2.48e+01	2.48e+01	
1,2,3,4,7,8-HXCDD		20.0	0.813	0.1	2.00e+00	2.00e+00	
1,2,3,6,7,8-HXCDD		92.7	0.813	0.1	9.27e+00	9.27e+00	
1,2,3,7,8,9-HXCDD		61.7	0.813	0.1	6.17e+00	6.17e+00	
1,2,3,4,6,7,8-HPCDD		3140	0.744	0.01	3.14e+01	3.14e+01	
OCDD		41900	8.47	0.0001	4.19e+00	4.19e+00	
2,3,7,8-TCDF		52.3	0.251	0.1	5.23e+00	5.23e+00	
1,2,3,7,8-PECDF		41.1	0.402	0.05	2.06e+00	2.06e+00	
2,3,4,7,8-PECDF		38.2	0.402	0.5	1.91e+01	1.91e+01	
1,2,3,4,7,8-HXCDF		105	0.430	0.1	1.05e+01	1.05e+01	
1,2,3,6,7,8-HXCDF		46.8	0.430	0.1	4.68e+00	4.68e+00	
1,2,3,7,8,9-HXCDF		5.60	0.430	0.1	5.60e-01	5.60e-01	
2,3,4,6,7,8-HXCDF		33.2	0.430	0.1	3.32e+00	3.32e+00	
1,2,3,4,6,7,8-HPCDF		357	0.296	0.01	3.57e+00	3.57e+00	
1,2,3,4,7,8,9-HPCDF		40.1	0.296	0.01	4.01e-01	4.01e-01	
OCDF		634	0.122	0.0001	6.34e-02	6.34e-02	
			TOTAL TEQ		1830	1830	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1700	0.708	1	1.70e+03	1.70e+03	
1,2,3,7,8-PECDD		24.8	0.0630	1	2.48e+01	2.48e+01	
1,2,3,4,7,8-HXCDD		20.0	0.813	0.1	2.00e+00	2.00e+00	
1,2,3,6,7,8-HXCDD		92.7	0.813	0.1	9.27e+00	9.27e+00	
1,2,3,7,8,9-HXCDD		61.7	0.813	0.1	6.17e+00	6.17e+00	
1,2,3,4,6,7,8-HPCDD		3140	0.744	0.01	3.14e+01	3.14e+01	
OCDD		41900	8.47	0.0003	1.26e+01	1.26e+01	
2,3,7,8-TCDF		52.3	0.251	0.1	5.23e+00	5.23e+00	
1,2,3,7,8-PECDF		41.1	0.402	0.03	1.23e+00	1.23e+00	
2,3,4,7,8-PECDF		38.2	0.402	0.3	1.15e+01	1.15e+01	
1,2,3,4,7,8-HXCDF		105	0.430	0.1	1.05e+01	1.05e+01	
1,2,3,6,7,8-HXCDF		46.8	0.430	0.1	4.68e+00	4.68e+00	
1,2,3,7,8,9-HXCDF		5.60	0.430	0.1	5.60e-01	5.60e-01	
2,3,4,6,7,8-HXCDF		33.2	0.430	0.1	3.32e+00	3.32e+00	
1,2,3,4,6,7,8-HPCDF		357	0.296	0.01	3.57e+00	3.57e+00	
1,2,3,4,7,8,9-HPCDF		40.1	0.296	0.01	4.01e-01	4.01e-01	
OCDF		634	0.122	0.0003	1.90e-01	1.90e-01	
			TOTAL TEQ		1830	1830	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 07-Mar-2007 15:50:19; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613-TEQ_L9585-42_TEQ_SJ643394.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN042 (Duplicate)
Sample Collection:
09-Dec-2006 11:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	WG21083-103 (DUP L9585-42)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	21-Feb-2007 **Time:** 19:38:27	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_044B S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_044B S: 1
		% Moisture:	18.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD [3]		26.3	0.0931	0.66	1.001
1,2,3,4,7,8-HXCDD		21.4	0.596	1.18	1.000
1,2,3,6,7,8-HXCDD		96.5	0.596	1.24	1.000
1,2,3,7,8,9-HXCDD		64.0	0.596	1.25	1.010
1,2,3,4,6,7,8-HPCDD		3300	0.956	1.04	1.000
OCDD	OLR				
2,3,7,8-TCDF		95.7	0.922	0.79	1.002
1,2,3,7,8-PECDF		40.8	0.330	1.55	1.001
2,3,4,7,8-PECDF		39.8	0.330	1.49	1.000
1,2,3,4,7,8-HXCDF		105	0.172	1.22	1.000
1,2,3,6,7,8-HXCDF		46.8	0.172	1.23	1.000
1,2,3,7,8,9-HXCDF		4.61	0.172	1.27	1.000
2,3,4,6,7,8-HXCDF		35.4	0.172	1.24	1.000
1,2,3,4,6,7,8-HPCDF		345	0.417	1.04	1.000
1,2,3,4,7,8,9-HPCDF		31.7	0.417	1.07	1.000
OCDF		484	0.390	0.89	1.001
TOTAL TETRA-DIOXINS	OLR				
TOTAL PENTA-DIOXINS		436	0.0931		
TOTAL HEXA-DIOXINS		1410	0.596		
TOTAL HEPTA-DIOXINS		7620	0.956		
TOTAL TETRA-FURANS		525	0.922		
TOTAL PENTA-FURANS		733	0.330		
TOTAL HEXA-FURANS		931	0.172		
TOTAL HEPTA-FURANS		958	0.417		

(1) Where applicable, custom lab flags have been used on this report; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_WG21083-103_Form1A_SJ642112.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN042 (Duplicate)
Sample Collection:
09-Dec-2006 11:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	WG21083-103 (DUP L9585-42)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	21-Feb-2007 **Time:** 19:38:27	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_044B S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_044B S: 1
		% Moisture:	18.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]		2000	867	43.3	0.65	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1200	59.9	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1140	56.9	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1080	54.1	0.99	1.095
13C-OCDD		4000	2150	53.7	0.90	1.180
13C-2,3,7,8-TCDF		2000	1100	55.2	0.77	0.966
13C-1,2,3,7,8-PECDF		2000	954	47.7	1.56	1.283
13C-2,3,4,7,8-PECDF		2000	945	47.2	1.57	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1260	63.1	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1220	60.8	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	962	48.1	0.54	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1140	56.9	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1110	55.6	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	929	46.4	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	158	79.1		1.014

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN042 (Duplicate)
Sample Collection:
09-Dec-2006 11:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	WG21083-103 W (DUP L9585-42)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 12:48:59	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	200	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S: 6**
Dilution Factor:	10	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_089 S: 1
		% Moisture:	18.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	1670	0.542	0.77	1.001
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	37600	2.31	0.89	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	1850	0.542		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_WG21083-103_Form1A_SJ645343.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN042 (Duplicate)
Sample Collection:
09-Dec-2006 11:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	WG21083-103 W (DUP L9585-42)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 12:48:59	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	200	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S: 6**
Dilution Factor:	10	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_089 S: 1
		% Moisture:	18.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	2000	1090	54.7	0.82	1.012
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	X					
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_WG21083-103_Form2_SJ645343.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN042 (Duplicate)
Sample Collection:
09-Dec-2006 11:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	WG21083-103 (DUP L9585-42)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 02:14:51	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_026 S: 13**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_026 S: 2
		% Moisture:	18.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		52.7	0.220	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS REPORT
RELATIVE PERCENT DIFFERENCE

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Client ID: 06VN042

Project No. DANDI 1283

Concentration Units: pg/g (dry weight basis)

COMPOUND	L9585-42 (A)		WG21083-103		MEAN	RELATIVE PERCENT DIFFERENCE
	LAB FLAG [1]	CONC. FOUND	LAB FLAG [1]	CONC. FOUND		
2,3,7,8-TCDD	D	1700	D	1670	1680	1.74
1,2,3,7,8-PECDD		24.8		26.3	25.5	5.91
1,2,3,4,7,8-HXCDD		20.0		21.4	20.7	6.79
1,2,3,6,7,8-HXCDD		92.7		96.5	94.6	4.00
1,2,3,7,8,9-HXCDD		61.7		64.0	62.8	3.58
1,2,3,4,6,7,8-HPCDD		3140		3300	3220	5.01
OCDD	D	41900	D	37600	39700	10.7
2,3,7,8-TCDF		52.3		52.7	52.5	0.840
1,2,3,7,8-PECDF		41.1		40.8	40.9	0.701
2,3,4,7,8-PECDF		38.2		39.8	39.0	4.11
1,2,3,4,7,8-HXCDF		105		105	105	0.082
1,2,3,6,7,8-HXCDF		46.8		46.8	46.8	0.073
1,2,3,7,8,9-HXCDF		5.60		4.61	5.10	19.4
2,3,4,6,7,8-HXCDF		33.2		35.4	34.3	6.50
1,2,3,4,6,7,8-HPCDF		357		345	351	3.26
1,2,3,4,7,8,9-HPCDF		40.1		31.7	35.9	23.6
OCDF		634		484	559	27.0

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: RPD.xsl; Created: 07-Mar-2007 15:49:31; Application: XMLTransformer-1.7.32;
Report Filename: RPD_DIOXINS_1613-RPD_WG21083-103_L9585-42_.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN042 (Duplicate)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 11:15
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.4 g (dry)	**Lab Sample I.D.:**	WG21083-103 (DUP L9585-42)
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_026 S: 13** **DX72_089 S: 6** **DX7B_044B S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1670	0.542	1	1.67e+03	1.67e+03	
1,2,3,7,8-PECDD		26.3	0.0931	1	2.63e+01	2.63e+01	
1,2,3,4,7,8-HXCDD		21.4	0.596	0.1	2.14e+00	2.14e+00	
1,2,3,6,7,8-HXCDD		96.5	0.596	0.1	9.65e+00	9.65e+00	
1,2,3,7,8,9-HXCDD		64.0	0.596	0.1	6.40e+00	6.40e+00	
1,2,3,4,6,7,8-HPCDD		3300	0.956	0.01	3.30e+01	3.30e+01	
OCDD		37600	2.31	0.0001	3.76e+00	3.76e+00	
2,3,7,8-TCDF		52.7	0.220	0.1	5.27e+00	5.27e+00	
1,2,3,7,8-PECDF		40.8	0.330	0.05	2.04e+00	2.04e+00	
2,3,4,7,8-PECDF		39.8	0.330	0.5	1.99e+01	1.99e+01	
1,2,3,4,7,8-HXCDF		105	0.172	0.1	1.05e+01	1.05e+01	
1,2,3,6,7,8-HXCDF		46.8	0.172	0.1	4.68e+00	4.68e+00	
1,2,3,7,8,9-HXCDF		4.61	0.172	0.1	4.61e-01	4.61e-01	
2,3,4,6,7,8-HXCDF		35.4	0.172	0.1	3.54e+00	3.54e+00	
1,2,3,4,6,7,8-HPCDF		345	0.417	0.01	3.45e+00	3.45e+00	
1,2,3,4,7,8,9-HPCDF		31.7	0.417	0.01	3.17e-01	3.17e-01	
OCDF		484	0.390	0.0001	4.84e-02	4.84e-02	
			TOTAL TEQ		1800	1800	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1670	0.542	1	1.67e+03	1.67e+03	
1,2,3,7,8-PECDD		26.3	0.0931	1	2.63e+01	2.63e+01	
1,2,3,4,7,8-HXCDD		21.4	0.596	0.1	2.14e+00	2.14e+00	
1,2,3,6,7,8-HXCDD		96.5	0.596	0.1	9.65e+00	9.65e+00	
1,2,3,7,8,9-HXCDD		64.0	0.596	0.1	6.40e+00	6.40e+00	
1,2,3,4,6,7,8-HPCDD		3300	0.956	0.01	3.30e+01	3.30e+01	
OCDD		37600	2.31	0.0003	1.13e+01	1.13e+01	
2,3,7,8-TCDF		52.7	0.220	0.1	5.27e+00	5.27e+00	
1,2,3,7,8-PECDF		40.8	0.330	0.03	1.22e+00	1.22e+00	
2,3,4,7,8-PECDF		39.8	0.330	0.3	1.19e+01	1.19e+01	
1,2,3,4,7,8-HXCDF		105	0.172	0.1	1.05e+01	1.05e+01	
1,2,3,6,7,8-HXCDF		46.8	0.172	0.1	4.68e+00	4.68e+00	
1,2,3,7,8,9-HXCDF		4.61	0.172	0.1	4.61e-01	4.61e-01	
2,3,4,6,7,8-HXCDF		35.4	0.172	0.1	3.54e+00	3.54e+00	
1,2,3,4,6,7,8-HPCDF		345	0.417	0.01	3.45e+00	3.45e+00	
1,2,3,4,7,8,9-HPCDF		31.7	0.417	0.01	3.17e-01	3.17e-01	
OCDF		484	0.390	0.0003	1.45e-01	1.45e-01	
			TOTAL TEQ		1800	1800	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_WG21083-103_TEQ_SJ643395.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN043
Sample Collection:
10-Dec-2006 08:35

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-43 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.40 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 03:19:54	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_047 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_047 S: 1
		% Moisture:	17.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		136	0.373	0.82	1.001
1,2,3,7,8-PECDD [3]		28.2	0.557	0.63	1.001
1,2,3,4,7,8-HXCDD		3.07	0.949	1.29	1.000
1,2,3,6,7,8-HXCDD		10.2	0.949	1.16	1.000
1,2,3,7,8,9-HXCDD		7.64	0.949	1.29	1.010
1,2,3,4,6,7,8-HPCDD		103	1.24	1.06	1.000
OCDD		6550	0.914	0.89	1.000
2,3,7,8-TCDF		6.52	0.277	0.75	1.001
1,2,3,7,8-PECDF	ND		0.481		
2,3,4,7,8-PECDF	NDR	0.986	0.481	2.50	1.001
1,2,3,4,7,8-HXCDF	NDR	0.810	0.443	0.97	1.000
1,2,3,6,7,8-HXCDF	ND		0.443		
1,2,3,7,8,9-HXCDF	ND		0.443		
2,3,4,6,7,8-HXCDF	ND		0.443		
1,2,3,4,6,7,8-HPCDF		2.34	0.807	1.14	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.807		
OCDF	NDR	6.29	0.592	1.06	1.001
TOTAL TETRA-DIOXINS		149	0.373		
TOTAL PENTA-DIOXINS		74.6	0.557		
TOTAL HEXA-DIOXINS		92.4	0.949		
TOTAL HEPTA-DIOXINS		243	1.24		
TOTAL TETRA-FURANS		48.1	0.277		
TOTAL PENTA-FURANS		108	0.481		
TOTAL HEXA-FURANS		20.4	0.443		
TOTAL HEPTA-FURANS		2.34	0.807		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-43_Form1A_SJ642145.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN043
Sample Collection:
10-Dec-2006 08:35

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-43 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.40 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 03:19:54	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_047 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_047 S: 1
		% Moisture:	17.5

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1600	80.1	0.76	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1600	79.8	0.65	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1840	92.0	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1810	90.5	1.18	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1670	83.6	1.02	1.094
13C-OCDD		4000	2780	69.5	0.89	1.178
13C-2,3,7,8-TCDF		2000	1700	85.2	0.78	0.966
13C-1,2,3,7,8-PECDF		2000	1810	90.7	1.54	1.282
13C-2,3,4,7,8-PECDF		2000	1750	87.4	1.59	1.349
13C-1,2,3,4,7,8-HXCDF		2000	2090	105	0.54	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2040	102	0.55	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1920	96.2	0.54	1.004
13C-2,3,4,6,7,8-HXCDF		2000	2000	99.9	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1730	86.7	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1740	87.0	0.48	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	190	95.0		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-43_Form2_SJ642145.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN043
Sample Collection:
10-Dec-2006 08:35

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-43
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.40 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 02:50:28	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_026 S: 14**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_026 S: 2
		% Moisture:	17.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		6.23	2.73	0.85	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-43_Form1A_SJ643396.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN043

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 08:35
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.40 g (dry)	**Lab Sample I.D.:**	L9585-43
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_026 S: 14** **DX7B_047 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		136	0.373	1	1.36e+02	1.36e+02	
1,2,3,7,8-PECDD		28.2	0.557	1	2.82e+01	2.82e+01	
1,2,3,4,7,8-HXCDD		3.07	0.949	0.1	3.07e-01	3.07e-01	
1,2,3,6,7,8-HXCDD		10.2	0.949	0.1	1.02e+00	1.02e+00	
1,2,3,7,8,9-HXCDD		7.64	0.949	0.1	7.64e-01	7.64e-01	
1,2,3,4,6,7,8-HPCDD		103	1.24	0.01	1.03e+00	1.03e+00	
OCDD		6550	0.914	0.0001	6.55e-01	6.55e-01	
2,3,7,8-TCDF		6.23	2.73	0.1	6.23e-01	6.23e-01	
1,2,3,7,8-PECDF	ND		0.481	0.05	0.00e+00	1.20e-02	
2,3,4,7,8-PECDF	ND		0.481	0.5	0.00e+00	1.20e-01	
1,2,3,4,7,8-HXCDF	ND		0.443	0.1	0.00e+00	2.22e-02	
1,2,3,6,7,8-HXCDF	ND		0.443	0.1	0.00e+00	2.22e-02	
1,2,3,7,8,9-HXCDF	ND		0.443	0.1	0.00e+00	2.22e-02	
2,3,4,6,7,8-HXCDF	ND		0.443	0.1	0.00e+00	2.22e-02	
1,2,3,4,6,7,8-HPCDF		2.34	0.807	0.01	2.34e-02	2.34e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.807	0.01	0.00e+00	4.04e-03	
OCDF	ND		0.592	0.0001	0.00e+00	2.96e-05	
			TOTAL TEQ		169	169	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		136	0.373	1	1.36e+02	1.36e+02	
1,2,3,7,8-PECDD		28.2	0.557	1	2.82e+01	2.82e+01	
1,2,3,4,7,8-HXCDD		3.07	0.949	0.1	3.07e-01	3.07e-01	
1,2,3,6,7,8-HXCDD		10.2	0.949	0.1	1.02e+00	1.02e+00	
1,2,3,7,8,9-HXCDD		7.64	0.949	0.1	7.64e-01	7.64e-01	
1,2,3,4,6,7,8-HPCDD		103	1.24	0.01	1.03e+00	1.03e+00	
OCDD		6550	0.914	0.0003	1.97e+00	1.97e+00	
2,3,7,8-TCDF		6.23	2.73	0.1	6.23e-01	6.23e-01	
1,2,3,7,8-PECDF	ND		0.481	0.03	0.00e+00	7.22e-03	
2,3,4,7,8-PECDF	ND		0.481	0.3	0.00e+00	7.22e-02	
1,2,3,4,7,8-HXCDF	ND		0.443	0.1	0.00e+00	2.22e-02	
1,2,3,6,7,8-HXCDF	ND		0.443	0.1	0.00e+00	2.22e-02	
1,2,3,7,8,9-HXCDF	ND		0.443	0.1	0.00e+00	2.22e-02	
2,3,4,6,7,8-HXCDF	ND		0.443	0.1	0.00e+00	2.22e-02	
1,2,3,4,6,7,8-HPCDF		2.34	0.807	0.01	2.34e-02	2.34e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.807	0.01	0.00e+00	4.04e-03	
OCDF	ND		0.592	0.0003	0.00e+00	8.88e-05	
			TOTAL TEQ		170	170	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN045
Sample Collection:
10-Dec-2006 08:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-45 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 07:00:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_047 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_047 S: 1
		% Moisture:	16.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD [3]		25.2	0.0479	0.65	1.000
1,2,3,4,7,8-HXCDD		13.9	0.655	1.25	1.000
1,2,3,6,7,8-HXCDD		59.2	0.655	1.29	1.000
1,2,3,7,8,9-HXCDD		41.7	0.655	1.24	1.010
1,2,3,4,6,7,8-HPCDD	OLR				
OCDD	OLR				
2,3,7,8-TCDF		35.5	0.493	0.79	1.002
1,2,3,7,8-PECDF		9.96	0.127	1.51	1.000
2,3,4,7,8-PECDF		15.0	0.127	1.51	1.000
1,2,3,4,7,8-HXCDF		35.8	0.127	1.26	1.000
1,2,3,6,7,8-HXCDF		19.4	0.127	1.20	1.000
1,2,3,7,8,9-HXCDF		1.26	0.127	1.28	1.000
2,3,4,6,7,8-HXCDF		17.7	0.127	1.19	1.000
1,2,3,4,6,7,8-HPCDF		262	0.843	1.04	1.000
1,2,3,4,7,8,9-HPCDF		18.5	0.843	1.03	1.000
OCDF		593	3.11	0.90	1.002
TOTAL TETRA-DIOXINS	OLR				
TOTAL PENTA-DIOXINS		156	0.0479		
TOTAL HEXA-DIOXINS		506	0.655		
TOTAL HEPTA-DIOXINS	OLR				
TOTAL TETRA-FURANS		235	0.493		
TOTAL PENTA-FURANS		279	0.127		
TOTAL HEXA-FURANS		414	0.127		
TOTAL HEPTA-FURANS		774	0.843		

(1) Where applicable, custom lab flags have been used on this report; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-45_Form1A_SJ642149.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN045
Sample Collection:
10-Dec-2006 08:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-45 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 07:00:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_047 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_047 S: 1
		% Moisture:	16.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]		2000	1640	82.1	0.65	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1690	84.6	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1740	86.8	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD		4000	4480	112	0.91	1.180
13C-2,3,7,8-TCDF		2000	1990	99.3	0.76	0.966
13C-1,2,3,7,8-PECDF		2000	1830	91.3	1.57	1.283
13C-2,3,4,7,8-PECDF		2000	1780	88.9	1.59	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1920	95.8	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1880	93.8	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1830	91.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1860	93.0	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1730	86.6	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1860	93.0	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	177	88.5		1.014

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-45_Form2_SJ642149.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN045
Sample Collection:
10-Dec-2006 08:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-45 W
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	03-Mar-2007 **Time:** 13:43:27	**GC Column ID:**	DB5
Extract Volume (uL):	300	**Sample Data Filename:**	**DX72_089 S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_089 S: 4
Dilution Factor:	15	**Cal. Ver. Data Filename:**	DX72_089 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	16.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	598	0.660	0.77	1.001
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	D	1690	2.15	1.04	1.000
OCDD	D	17500	1.27	0.89	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	667	0.660		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	D	3210	2.15		
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN045
Sample Collection:
10-Dec-2006 08:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-45 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 13:43:27	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	300	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S: 7**
Dilution Factor:	15	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_089 S: 1
		% Moisture:	16.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	2000	1590	79.7	0.71	1.012
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	D	2000	1680	84.2	0.95	1.095
13C-OCDD	D	4000	2960	73.9	0.91	1.179
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN045
Sample Collection:
10-Dec-2006 08:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-45
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 03:26:07	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_026 S: 15**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_026 S: 2
		% Moisture:	16.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		17.2	0.168	0.73	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:48:00; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB225_L9585-45_Form1A_SJ643397.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN045

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 08:30
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.4 g (dry)	**Lab Sample I.D.:**	L9585-45
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_026 S: 15** **DX72_089 S: 7** **DX7B_047 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		598	0.660	1	5.98e+02	5.98e+02	
1,2,3,7,8-PECDD		25.2	0.0479	1	2.52e+01	2.52e+01	
1,2,3,4,7,8-HXCDD		13.9	0.655	0.1	1.39e+00	1.39e+00	
1,2,3,6,7,8-HXCDD		59.2	0.655	0.1	5.92e+00	5.92e+00	
1,2,3,7,8,9-HXCDD		41.7	0.655	0.1	4.17e+00	4.17e+00	
1,2,3,4,6,7,8-HPCDD		1690	2.15	0.01	1.69e+01	1.69e+01	
OCDD		17500	1.27	0.0001	1.75e+00	1.75e+00	
2,3,7,8-TCDF		17.2	0.168	0.1	1.72e+00	1.72e+00	
1,2,3,7,8-PECDF		9.96	0.127	0.05	4.98e-01	4.98e-01	
2,3,4,7,8-PECDF		15.0	0.127	0.5	7.50e+00	7.50e+00	
1,2,3,4,7,8-HXCDF		35.8	0.127	0.1	3.58e+00	3.58e+00	
1,2,3,6,7,8-HXCDF		19.4	0.127	0.1	1.94e+00	1.94e+00	
1,2,3,7,8,9-HXCDF		1.26	0.127	0.1	1.26e-01	1.26e-01	
2,3,4,6,7,8-HXCDF		17.7	0.127	0.1	1.77e+00	1.77e+00	
1,2,3,4,6,7,8-HPCDF		262	0.843	0.01	2.62e+00	2.62e+00	
1,2,3,4,7,8,9-HPCDF		18.5	0.843	0.01	1.85e-01	1.85e-01	
OCDF		593	3.11	0.0001	5.93e-02	5.93e-02	
			TOTAL TEQ		673	673	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		598	0.660	1	5.98e+02	5.98e+02	
1,2,3,7,8-PECDD		25.2	0.0479	1	2.52e+01	2.52e+01	
1,2,3,4,7,8-HXCDD		13.9	0.655	0.1	1.39e+00	1.39e+00	
1,2,3,6,7,8-HXCDD		59.2	0.655	0.1	5.92e+00	5.92e+00	
1,2,3,7,8,9-HXCDD		41.7	0.655	0.1	4.17e+00	4.17e+00	
1,2,3,4,6,7,8-HPCDD		1690	2.15	0.01	1.69e+01	1.69e+01	
OCDD		17500	1.27	0.0003	5.25e+00	5.25e+00	
2,3,7,8-TCDF		17.2	0.168	0.1	1.72e+00	1.72e+00	
1,2,3,7,8-PECDF		9.96	0.127	0.03	2.99e-01	2.99e-01	
2,3,4,7,8-PECDF		15.0	0.127	0.3	4.50e+00	4.50e+00	
1,2,3,4,7,8-HXCDF		35.8	0.127	0.1	3.58e+00	3.58e+00	
1,2,3,6,7,8-HXCDF		19.4	0.127	0.1	1.94e+00	1.94e+00	
1,2,3,7,8,9-HXCDF		1.26	0.127	0.1	1.26e-01	1.26e-01	
2,3,4,6,7,8-HXCDF		17.7	0.127	0.1	1.77e+00	1.77e+00	
1,2,3,4,6,7,8-HPCDF		262	0.843	0.01	2.62e+00	2.62e+00	
1,2,3,4,7,8,9-HPCDF		18.5	0.843	0.01	1.85e-01	1.85e-01	
OCDF		593	3.11	0.0003	1.78e-01	1.78e-01	
			TOTAL TEQ		674	674	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 07-Mar-2007 15:50:19; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-45_TEQ_SJ643397.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN046
Sample Collection:
10-Dec-2006 09:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-46 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.5 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	05-Apr-2007 **Time:** 03:21:33	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_144 S: 8**
Dilution Factor:	5	**Blank Data Filename:**	DX72_142 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_144 S: 1
		% Moisture:	22.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD [3]	D	191	0.195	0.64	1.000
1,2,3,4,7,8-HXCDD	D	51.1	0.342	1.22	1.000
1,2,3,6,7,8-HXCDD	D	285	0.342	1.25	1.000
1,2,3,7,8,9-HXCDD	D	161	0.342	1.26	1.010
1,2,3,4,6,7,8-HPCDD	D	1320	0.410	1.04	1.000
OCDD	D	3570	0.653	0.90	1.000
2,3,7,8-TCDF	D	333	1.88	0.78	1.001
1,2,3,7,8-PECDF	D	8.74	0.182	1.52	1.000
2,3,4,7,8-PECDF	D	8.80	0.182	1.48	1.001
1,2,3,4,7,8-HXCDF	D	8.18	0.166	1.29	1.000
1,2,3,6,7,8-HXCDF	D	3.59	0.166	1.26	1.000
1,2,3,7,8,9-HXCDF	D	0.225	0.166	1.26	1.000
2,3,4,6,7,8-HXCDF	D	2.65	0.166	1.41	1.000
1,2,3,4,6,7,8-HPCDF	D	61.2	0.166	1.06	1.000
1,2,3,4,7,8,9-HPCDF	D	1.85	0.166	0.99	1.000
OCDF	D	57.0	0.183	0.88	1.002
TOTAL TETRA-DIOXINS	OLR				
TOTAL PENTA-DIOXINS	D	1110	0.195		
TOTAL HEXA-DIOXINS	D	1800	0.342		
TOTAL HEPTA-DIOXINS	D	2110	0.410		
TOTAL TETRA-FURANS	D	1740	1.88		
TOTAL PENTA-FURANS	D	2240	0.182		
TOTAL HEXA-FURANS	D	502	0.166		
TOTAL HEPTA-FURANS	D	113	0.166		

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613DB5_L9585-46_Form1A_SJ660214.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN046
Sample Collection:
10-Dec-2006 09:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-46 W
Matrix:	SOLID	**Sample Size:**	10.5 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	05-Apr-2007 **Time:** 03:21:33	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX72_144 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	5	**Cal. Ver. Data Filename:**	DX72_144 S: 1
Concentration Units:	pg absolute	**% Moisture:**	22.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	2000	2130	107	0.79	1.013
13C-1,2,3,7,8-PECDD [4]	D	2000	1820	91.2	0.63	1.382
13C-1,2,3,4,7,8-HXCDD	D	2000	2030	102	1.29	0.987
13C-1,2,3,6,7,8-HXCDD	D	2000	1820	90.9	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD	D	2000	2040	102	1.05	1.095
13C-OCDD	D	4000	3540	88.4	0.88	1.179
13C-2,3,7,8-TCDF	D	2000	1910	95.3	0.79	0.967
13C-1,2,3,7,8-PECDF	D	2000	1750	87.4	1.53	1.285
13C-2,3,4,7,8-PECDF	D	2000	1700	84.9	1.53	1.351
13C-1,2,3,4,7,8-HXCDF	D	2000	1970	98.3	0.52	0.955
13C-1,2,3,6,7,8-HXCDF	D	2000	1820	91.2	0.53	0.959
13C-1,2,3,7,8,9-HXCDF	D	2000	1860	92.8	0.52	1.005
13C-2,3,4,6,7,8-HXCDF	D	2000	1840	91.9	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF	D	2000	1820	90.9	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF	D	2000	1920	95.9	0.46	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD	NQ

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; NQ = data not quantifiable.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38; Report Filename: 1613_DIOXINS_1613DB5_L9585-46_Form2_SJ660214.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN046
Sample Collection:
10-Dec-2006 09:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-46 NK
Matrix:	SOLID	**Sample Size:**	10.5 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	05-Apr-2007 **Time:** 12:34:42	**GC Column ID:**	DB5
Extract Volume (uL):	2000	**Sample Data Filename:**	**DX72_145 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	100	**Cal. Ver. Data Filename:**	DX72_145 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	22.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	5400	3.02	0.78	1.001
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	5780	3.02		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Teresa Rawsthorne QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN046
Sample Collection:
10-Dec-2006 09:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-46 NK
Matrix:	SOLID	**Sample Size:**	10.5 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	05-Apr-2007 **Time:** 12:34:42	**GC Column ID:**	DB5
Extract Volume (uL):	2000	**Sample Data Filename:**	**DX72_145 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	100	**Cal. Ver. Data Filename:**	DX72_145 S: 1
Concentration Units:	pg absolute	**% Moisture:**	22.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	X					
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN046
Sample Collection:
10-Dec-2006 09:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-46
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.5 g (dry)
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	04-Apr-2007 **Time:** 17:56:54	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_066 S: 17**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_066 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_066 S: 2
		% Moisture:	22.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		282	0.162	0.75	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

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AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN046

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 09:00
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.5 g (dry)	**Lab Sample I.D.:**	L9585-46
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_066 S: 17** **DX72_144 S: 8** **DX72_145 S: 4**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5400	3.02	1	5.40e+03	5.40e+03	
1,2,3,7,8-PECDD		191	0.195	1	1.91e+02	1.91e+02	
1,2,3,4,7,8-HXCDD		51.1	0.342	0.1	5.11e+00	5.11e+00	
1,2,3,6,7,8-HXCDD		285	0.342	0.1	2.85e+01	2.85e+01	
1,2,3,7,8,9-HXCDD		161	0.342	0.1	1.61e+01	1.61e+01	
1,2,3,4,6,7,8-HPCDD		1320	0.410	0.01	1.32e+01	1.32e+01	
OCDD		3570	0.653	0.0001	3.57e-01	3.57e-01	
2,3,7,8-TCDF		282	0.162	0.1	2.82e+01	2.82e+01	
1,2,3,7,8-PECDF		8.74	0.182	0.05	4.37e-01	4.37e-01	
2,3,4,7,8-PECDF		8.80	0.182	0.5	4.40e+00	4.40e+00	
1,2,3,4,7,8-HXCDF		8.18	0.166	0.1	8.18e-01	8.18e-01	
1,2,3,6,7,8-HXCDF		3.59	0.166	0.1	3.59e-01	3.59e-01	
1,2,3,7,8,9-HXCDF		0.225	0.166	0.1	2.25e-02	2.25e-02	
2,3,4,6,7,8-HXCDF		2.65	0.166	0.1	2.65e-01	2.65e-01	
1,2,3,4,6,7,8-HPCDF		61.2	0.166	0.01	6.12e-01	6.12e-01	
1,2,3,4,7,8,9-HPCDF		1.85	0.166	0.01	1.85e-02	1.85e-02	
OCDF		57.0	0.183	0.0001	5.70e-03	5.70e-03	
			TOTAL TEQ		5690	5690	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5400	3.02	1	5.40e+03	5.40e+03	
1,2,3,7,8-PECDD		191	0.195	1	1.91e+02	1.91e+02	
1,2,3,4,7,8-HXCDD		51.1	0.342	0.1	5.11e+00	5.11e+00	
1,2,3,6,7,8-HXCDD		285	0.342	0.1	2.85e+01	2.85e+01	
1,2,3,7,8,9-HXCDD		161	0.342	0.1	1.61e+01	1.61e+01	
1,2,3,4,6,7,8-HPCDD		1320	0.410	0.01	1.32e+01	1.32e+01	
OCDD		3570	0.653	0.0003	1.07e+00	1.07e+00	
2,3,7,8-TCDF		282	0.162	0.1	2.82e+01	2.82e+01	
1,2,3,7,8-PECDF		8.74	0.182	0.03	2.62e-01	2.62e-01	
2,3,4,7,8-PECDF		8.80	0.182	0.3	2.64e+00	2.64e+00	
1,2,3,4,7,8-HXCDF		8.18	0.166	0.1	8.18e-01	8.18e-01	
1,2,3,6,7,8-HXCDF		3.59	0.166	0.1	3.59e-01	3.59e-01	
1,2,3,7,8,9-HXCDF		0.225	0.166	0.1	2.25e-02	2.25e-02	
2,3,4,6,7,8-HXCDF		2.65	0.166	0.1	2.65e-01	2.65e-01	
1,2,3,4,6,7,8-HPCDF		61.2	0.166	0.01	6.12e-01	6.12e-01	
1,2,3,4,7,8,9-HPCDF		1.85	0.166	0.01	1.85e-02	1.85e-02	
OCDF		57.0	0.183	0.0003	1.71e-02	1.71e-02	
			TOTAL TEQ		5690	5690	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Apr-2007 16:55:28; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-46_TEQ_SJ660139.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN047
Sample Collection:
10-Dec-2006 09:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-47 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.05 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 05:09:57	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_047 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_047 S: 1
		% Moisture:	28.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD [3]		333	0.633	0.63	1.001
1,2,3,4,7,8-HXCDD		69.7	1.16	1.26	1.000
1,2,3,6,7,8-HXCDD		328	1.16	1.31	1.000
1,2,3,7,8,9-HXCDD		203	1.16	1.29	1.010
1,2,3,4,6,7,8-HPCDD		1640	3.41	1.02	1.000
OCDD		3370	1.53	0.89	1.000
2,3,7,8-TCDF		245	0.651	0.79	1.001
1,2,3,7,8-PECDF		14.8	0.733	1.35	1.000
2,3,4,7,8-PECDF		12.3	0.733	1.58	1.000
1,2,3,4,7,8-HXCDF		12.8	0.685	1.18	1.000
1,2,3,6,7,8-HXCDF		5.46	0.685	1.39	1.000
1,2,3,7,8,9-HXCDF	ND		0.685		
2,3,4,6,7,8-HXCDF		3.83	0.685	1.09	1.000
1,2,3,4,6,7,8-HPCDF		75.2	1.25	1.00	1.000
1,2,3,4,7,8,9-HPCDF		2.74	1.25	0.97	1.000
OCDF		56.6	1.09	0.94	1.002
TOTAL TETRA-DIOXINS	OLR				
TOTAL PENTA-DIOXINS		1580	0.633		
TOTAL HEXA-DIOXINS		2260	1.16		
TOTAL HEPTA-DIOXINS		2660	3.41		
TOTAL TETRA-FURANS		1800	0.651		
TOTAL PENTA-FURANS		3410	0.733		
TOTAL HEXA-FURANS		826	0.685		
TOTAL HEPTA-FURANS		141	1.25		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-47_Form1A_SJ642147.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN047
Sample Collection:
10-Dec-2006 09:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.		DANDI 1283	
Contract No.:	2607	**Lab Sample I.D.:**	L9585-47 i
Matrix:	SOLID	**Sample Size:**	5.05 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	16-Dec-2006
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	23-Feb-2007 **Time:** 05:09:57	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX7B_047 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_089 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_047 S: 1
Concentration Units:	pg absolute	**% Moisture:**	28.5

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]		2000	1570	78.6	0.65	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1660	83.2	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1720	86.1	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1470	73.7	1.03	1.094
13C-OCDD		4000	2240	56.0	0.88	1.178
13C-2,3,7,8-TCDF		2000	1990	99.4	0.73	0.966
13C-1,2,3,7,8-PECDF		2000	1880	93.8	1.54	1.282
13C-2,3,4,7,8-PECDF		2000	1770	88.3	1.53	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1900	95.1	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1930	96.3	0.55	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1790	89.6	0.53	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1830	91.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1560	78.0	0.48	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1500	75.0	0.48	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	178	88.9		1.014

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN047
Sample Collection:
10-Dec-2006 09:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-47 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.05 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 14:37:54	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	300	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S: 8**
Dilution Factor:	2.5	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_089 S: 1
		% Moisture:	28.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	6080	1.52	0.77	1.001
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	6490	1.52		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN047
Sample Collection:
10-Dec-2006 09:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-47 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.05 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 14:37:54	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	300	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S: 8**
Dilution Factor:	2.5	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_089 S: 1
		% Moisture:	28.5

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	2000	1680	84.1	0.70	1.012
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	X					
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-47_Form2_SJ645345.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN047
Sample Collection:
10-Dec-2006 09:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-47
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.05 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 04:01:44	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_026 S: 16**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_026 S: 2
		% Moisture:	28.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		195	1.12	0.72	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:48:00; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB225_L9585-47_Form1A_SJ643398.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN047

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 09:30
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.05 g (dry)	**Lab Sample I.D.:**	L9585-47
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_026 S: 16** **DX72_089 S: 8** **DX7B_047 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6080	1.52	1	6.08e+03	6.08e+03	
1,2,3,7,8-PECDD		333	0.633	1	3.33e+02	3.33e+02	
1,2,3,4,7,8-HXCDD		69.7	1.16	0.1	6.97e+00	6.97e+00	
1,2,3,6,7,8-HXCDD		328	1.16	0.1	3.28e+01	3.28e+01	
1,2,3,7,8,9-HXCDD		203	1.16	0.1	2.03e+01	2.03e+01	
1,2,3,4,6,7,8-HPCDD		1640	3.41	0.01	1.64e+01	1.64e+01	
OCDD		3370	1.53	0.0001	3.37e-01	3.37e-01	
2,3,7,8-TCDF		195	1.12	0.1	1.95e+01	1.95e+01	
1,2,3,7,8-PECDF		14.8	0.733	0.05	7.40e-01	7.40e-01	
2,3,4,7,8-PECDF		12.3	0.733	0.5	6.15e+00	6.15e+00	
1,2,3,4,7,8-HXCDF		12.8	0.685	0.1	1.28e+00	1.28e+00	
1,2,3,6,7,8-HXCDF		5.46	0.685	0.1	5.46e-01	5.46e-01	
1,2,3,7,8,9-HXCDF	ND		0.685	0.1	0.00e+00	3.43e-02	
2,3,4,6,7,8-HXCDF		3.83	0.685	0.1	3.83e-01	3.83e-01	
1,2,3,4,6,7,8-HPCDF		75.2	1.25	0.01	7.52e-01	7.52e-01	
1,2,3,4,7,8,9-HPCDF		2.74	1.25	0.01	2.74e-02	2.74e-02	
OCDF		56.6	1.09	0.0001	5.66e-03	5.66e-03	
			TOTAL TEQ		6520	6520	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6080	1.52	1	6.08e+03	6.08e+03	
1,2,3,7,8-PECDD		333	0.633	1	3.33e+02	3.33e+02	
1,2,3,4,7,8-HXCDD		69.7	1.16	0.1	6.97e+00	6.97e+00	
1,2,3,6,7,8-HXCDD		328	1.16	0.1	3.28e+01	3.28e+01	
1,2,3,7,8,9-HXCDD		203	1.16	0.1	2.03e+01	2.03e+01	
1,2,3,4,6,7,8-HPCDD		1640	3.41	0.01	1.64e+01	1.64e+01	
OCDD		3370	1.53	0.0003	1.01e+00	1.01e+00	
2,3,7,8-TCDF		195	1.12	0.1	1.95e+01	1.95e+01	
1,2,3,7,8-PECDF		14.8	0.733	0.03	4.44e-01	4.44e-01	
2,3,4,7,8-PECDF		12.3	0.733	0.3	3.69e+00	3.69e+00	
1,2,3,4,7,8-HXCDF		12.8	0.685	0.1	1.28e+00	1.28e+00	
1,2,3,6,7,8-HXCDF		5.46	0.685	0.1	5.46e-01	5.46e-01	
1,2,3,7,8,9-HXCDF	ND		0.685	0.1	0.00e+00	3.43e-02	
2,3,4,6,7,8-HXCDF		3.83	0.685	0.1	3.83e-01	3.83e-01	
1,2,3,4,6,7,8-HPCDF		75.2	1.25	0.01	7.52e-01	7.52e-01	
1,2,3,4,7,8,9-HPCDF		2.74	1.25	0.01	2.74e-02	2.74e-02	
OCDF		56.6	1.09	0.0003	1.70e-02	1.70e-02	
			TOTAL TEQ		6520	6520	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 07-Mar-2007 15:50:19; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-47_TEQ_SJ643398.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN048
Sample Collection:
10-Dec-2006 09:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-48 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.27 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 06:04:56	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_047 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_047 S: 1
		% Moisture:	25.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		3840	0.510	0.80	1.001
1,2,3,7,8-PECDD [3]		210	0.511	0.62	1.000
1,2,3,4,7,8-HXCDD		57.0	0.753	1.32	1.000
1,2,3,6,7,8-HXCDD		306	0.753	1.30	1.000
1,2,3,7,8,9-HXCDD		191	0.753	1.29	1.010
1,2,3,4,6,7,8-HPCDD		1520	2.49	1.04	1.000
OCDD		3540	0.657	0.89	1.000
2,3,7,8-TCDF		213	1.51	0.78	1.001
1,2,3,7,8-PECDF		7.45	1.05	1.38	1.001
2,3,4,7,8-PECDF		8.59	1.05	1.61	1.001
1,2,3,4,7,8-HXCDF		6.80	0.652	1.11	1.000
1,2,3,6,7,8-HXCDF	NDR	3.97	0.652	0.92	1.000
1,2,3,7,8,9-HXCDF	ND		0.652		
2,3,4,6,7,8-HXCDF		3.72	0.652	1.08	1.000
1,2,3,4,6,7,8-HPCDF		59.8	0.700	1.06	1.000
1,2,3,4,7,8,9-HPCDF		1.42	0.700	1.15	1.000
OCDF		43.5	0.782	0.83	1.002
TOTAL TETRA-DIOXINS		4080	0.510		
TOTAL PENTA-DIOXINS		1180	0.511		
TOTAL HEXA-DIOXINS		2030	0.753		
TOTAL HEPTA-DIOXINS		2570	2.49		
TOTAL TETRA-FURANS		749	1.51		
TOTAL PENTA-FURANS		2060	1.05		
TOTAL HEXA-FURANS		634	0.652		
TOTAL HEPTA-FURANS		110	0.700		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN048
Sample Collection:
10-Dec-2006 09:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-48 i
Matrix:	SOLID	**Sample Size:**	5.27 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	16-Dec-2006
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	23-Feb-2007 **Time:** 06:04:56	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX7B_047 S: 11**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_089 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_047 S: 1
Concentration Units:	pg absolute	**% Moisture:**	25.5

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1790	89.6	0.82	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1700	85.1	0.66	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1710	85.5	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1690	84.7	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1590	79.5	0.98	1.095
13C-OCDD		4000	2490	62.3	0.93	1.178
13C-2,3,7,8-TCDF		2000	1970	98.5	0.75	0.966
13C-1,2,3,7,8-PECDF		2000	1890	94.3	1.55	1.283
13C-2,3,4,7,8-PECDF		2000	1850	92.6	1.57	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1880	93.8	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1850	92.7	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1830	91.3	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1870	93.3	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1650	82.7	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1570	78.3	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	165	82.7		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB5_L9585-48_Form2_SJ642148.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN048
Sample Collection:
10-Dec-2006 09:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-48
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.27 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 04:37:22	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_026 S: 17**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_026 S: 2
		% Moisture:	25.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		197	0.886	0.73	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:48:00; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB225_L9585-48_Form1A_SJ643399.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN048

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 09:15
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.27 g (dry)	**Lab Sample I.D.:**	L9585-48
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_026 S: 17** **DX7B_047 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3840	0.510	1	3.84e+03	3.84e+03	
1,2,3,7,8-PECDD		210	0.511	1	2.10e+02	2.10e+02	
1,2,3,4,7,8-HXCDD		57.0	0.753	0.1	5.70e+00	5.70e+00	
1,2,3,6,7,8-HXCDD		306	0.753	0.1	3.06e+01	3.06e+01	
1,2,3,7,8,9-HXCDD		191	0.753	0.1	1.91e+01	1.91e+01	
1,2,3,4,6,7,8-HPCDD		1520	2.49	0.01	1.52e+01	1.52e+01	
OCDD		3540	0.657	0.0001	3.54e-01	3.54e-01	
2,3,7,8-TCDF		197	0.886	0.1	1.97e+01	1.97e+01	
1,2,3,7,8-PECDF		7.45	1.05	0.05	3.73e-01	3.73e-01	
2,3,4,7,8-PECDF		8.59	1.05	0.5	4.30e+00	4.30e+00	
1,2,3,4,7,8-HXCDF		6.80	0.652	0.1	6.80e-01	6.80e-01	
1,2,3,6,7,8-HXCDF	ND		0.652	0.1	0.00e+00	3.26e-02	
1,2,3,7,8,9-HXCDF	ND		0.652	0.1	0.00e+00	3.26e-02	
2,3,4,6,7,8-HXCDF		3.72	0.652	0.1	3.72e-01	3.72e-01	
1,2,3,4,6,7,8-HPCDF		59.8	0.700	0.01	5.98e-01	5.98e-01	
1,2,3,4,7,8,9-HPCDF		1.42	0.700	0.01	1.42e-02	1.42e-02	
OCDF		43.5	0.782	0.0001	4.35e-03	4.35e-03	
			TOTAL TEQ		4150	4150	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3840	0.510	1	3.84e+03	3.84e+03	
1,2,3,7,8-PECDD		210	0.511	1	2.10e+02	2.10e+02	
1,2,3,4,7,8-HXCDD		57.0	0.753	0.1	5.70e+00	5.70e+00	
1,2,3,6,7,8-HXCDD		306	0.753	0.1	3.06e+01	3.06e+01	
1,2,3,7,8,9-HXCDD		191	0.753	0.1	1.91e+01	1.91e+01	
1,2,3,4,6,7,8-HPCDD		1520	2.49	0.01	1.52e+01	1.52e+01	
OCDD		3540	0.657	0.0003	1.06e+00	1.06e+00	
2,3,7,8-TCDF		197	0.886	0.1	1.97e+01	1.97e+01	
1,2,3,7,8-PECDF		7.45	1.05	0.03	2.24e-01	2.24e-01	
2,3,4,7,8-PECDF		8.59	1.05	0.3	2.58e+00	2.58e+00	
1,2,3,4,7,8-HXCDF		6.80	0.652	0.1	6.80e-01	6.80e-01	
1,2,3,6,7,8-HXCDF	ND		0.652	0.1	0.00e+00	3.26e-02	
1,2,3,7,8,9-HXCDF	ND		0.652	0.1	0.00e+00	3.26e-02	
2,3,4,6,7,8-HXCDF		3.72	0.652	0.1	3.72e-01	3.72e-01	
1,2,3,4,6,7,8-HPCDF		59.8	0.700	0.01	5.98e-01	5.98e-01	
1,2,3,4,7,8,9-HPCDF		1.42	0.700	0.01	1.42e-02	1.42e-02	
OCDF		43.5	0.782	0.0003	1.31e-02	1.31e-02	
			TOTAL TEQ		4150	4150	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L9585-48_TEQ_SJ643399.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN052
Sample Collection:
09-Dec-2006 14:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-52
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.32 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 02:34:15	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_051 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_051 S: 1
		% Moisture:	86.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		5440	4.24	0.82	1.001
1,2,3,7,8-PECDD [3]		125	6.42	0.64	1.000
1,2,3,4,7,8-HXCDD	NDR	87.5	12.7	0.99	1.000
1,2,3,6,7,8-HXCDD		339	12.7	1.27	1.000
1,2,3,7,8,9-HXCDD		269	12.7	1.23	1.010
1,2,3,4,6,7,8-HPCDD		7210	20.4	1.06	1.000
OCDD		72200	5.55	0.89	1.000
2,3,7,8-TCDF		1850	6.13	0.79	1.001
1,2,3,7,8-PECDF		39.7	5.67	1.40	1.001
2,3,4,7,8-PECDF		45.1	5.67	1.40	1.000
1,2,3,4,7,8-HXCDF		74.3	7.38	1.22	1.000
1,2,3,6,7,8-HXCDF		79.8	7.38	1.21	1.000
1,2,3,7,8,9-HXCDF		9.08	7.38	1.35	1.000
2,3,4,6,7,8-HXCDF		41.3	7.38	1.38	1.000
1,2,3,4,6,7,8-HPCDF		876	5.18	1.02	1.000
1,2,3,4,7,8,9-HPCDF		65.9	5.18	1.06	1.000
OCDF		1940	5.26	0.89	1.002
TOTAL TETRA-DIOXINS		6160	4.24		
TOTAL PENTA-DIOXINS		1370	6.42		
TOTAL HEXA-DIOXINS		3340	12.7		
TOTAL HEPTA-DIOXINS		14900	20.4		
TOTAL TETRA-FURANS		3550	6.13		
TOTAL PENTA-FURANS		2310	5.67		
TOTAL HEXA-FURANS		1770	7.38		
TOTAL HEPTA-FURANS		2480	5.18		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN052
Sample Collection:
09-Dec-2006 14:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-52
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.32 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 02:34:15	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_051 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_051 S: 1
		% Moisture:	86.9

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	7450	74.5	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		10000	7070	70.7	0.65	1.382
13C-1,2,3,4,7,8-HXCDD		10000	6990	69.9	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		10000	7050	70.5	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	6860	68.6	0.97	1.095
13C-OCDD		20000	13000	65.0	0.94	1.179
13C-2,3,7,8-TCDF		10000	8110	81.1	0.74	0.966
13C-1,2,3,7,8-PECDF		10000	7530	75.3	1.58	1.283
13C-2,3,4,7,8-PECDF		10000	7040	70.4	1.49	1.350
13C-1,2,3,4,7,8-HXCDF		10000	8210	82.1	0.56	0.954
13C-1,2,3,6,7,8-HXCDF		10000	7720	77.2	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		10000	7610	76.1	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		10000	7600	76.0	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	7110	71.1	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7210	72.1	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	854	85.4		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9585-52_Form2_SJ649471.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN052
Sample Collection:
09-Dec-2006 14:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-52
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.32 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 01:56:14	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_028 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_028 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_028 S: 2
		% Moisture:	86.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1820	5.92	0.73	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: Kalai Pillay QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-52_Form1A_SJ650207.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN052

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 14:55
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	4.32 g (dry)	**Lab Sample I.D.:**	L9585-52
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_028 S: 11** **DX7B_051 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5440	4.24	1	5.44e+03	5.44e+03	
1,2,3,7,8-PECDD		125	6.42	1	1.25e+02	1.25e+02	
1,2,3,4,7,8-HXCDD	ND		12.7	0.1	0.00e+00	6.35e-01	
1,2,3,6,7,8-HXCDD		339	12.7	0.1	3.39e+01	3.39e+01	
1,2,3,7,8,9-HXCDD		269	12.7	0.1	2.69e+01	2.69e+01	
1,2,3,4,6,7,8-HPCDD		7210	20.4	0.01	7.21e+01	7.21e+01	
OCDD		72200	5.55	0.0001	7.22e+00	7.22e+00	
2,3,7,8-TCDF		1820	5.92	0.1	1.82e+02	1.82e+02	
1,2,3,7,8-PECDF		39.7	5.67	0.05	1.99e+00	1.99e+00	
2,3,4,7,8-PECDF		45.1	5.67	0.5	2.26e+01	2.26e+01	
1,2,3,4,7,8-HXCDF		74.3	7.38	0.1	7.43e+00	7.43e+00	
1,2,3,6,7,8-HXCDF		79.8	7.38	0.1	7.98e+00	7.98e+00	
1,2,3,7,8,9-HXCDF		9.08	7.38	0.1	9.08e-01	9.08e-01	
2,3,4,6,7,8-HXCDF		41.3	7.38	0.1	4.13e+00	4.13e+00	
1,2,3,4,6,7,8-HPCDF		876	5.18	0.01	8.76e+00	8.76e+00	
1,2,3,4,7,8,9-HPCDF		65.9	5.18	0.01	6.59e-01	6.59e-01	
OCDF		1940	5.26	0.0001	1.94e-01	1.94e-01	
			TOTAL TEQ		5940	5940	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5440	4.24	1	5.44e+03	5.44e+03	
1,2,3,7,8-PECDD		125	6.42	1	1.25e+02	1.25e+02	
1,2,3,4,7,8-HXCDD	ND		12.7	0.1	0.00e+00	6.35e-01	
1,2,3,6,7,8-HXCDD		339	12.7	0.1	3.39e+01	3.39e+01	
1,2,3,7,8,9-HXCDD		269	12.7	0.1	2.69e+01	2.69e+01	
1,2,3,4,6,7,8-HPCDD		7210	20.4	0.01	7.21e+01	7.21e+01	
OCDD		72200	5.55	0.0003	2.17e+01	2.17e+01	
2,3,7,8-TCDF		1820	5.92	0.1	1.82e+02	1.82e+02	
1,2,3,7,8-PECDF		39.7	5.67	0.03	1.19e+00	1.19e+00	
2,3,4,7,8-PECDF		45.1	5.67	0.3	1.35e+01	1.35e+01	
1,2,3,4,7,8-HXCDF		74.3	7.38	0.1	7.43e+00	7.43e+00	
1,2,3,6,7,8-HXCDF		79.8	7.38	0.1	7.98e+00	7.98e+00	
1,2,3,7,8,9-HXCDF		9.08	7.38	0.1	9.08e-01	9.08e-01	
2,3,4,6,7,8-HXCDF		41.3	7.38	0.1	4.13e+00	4.13e+00	
1,2,3,4,6,7,8-HPCDF		876	5.18	0.01	8.76e+00	8.76e+00	
1,2,3,4,7,8,9-HPCDF		65.9	5.18	0.01	6.59e-01	6.59e-01	
OCDF		1940	5.26	0.0003	5.82e-01	5.82e-01	
			TOTAL TEQ		5950	5950	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN053
Sample Collection:
09-Dec-2006 15:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-53
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.49 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 03:29:19	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_051 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_051 S: 1
		% Moisture:	84.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		6240	4.91	0.82	1.001
1,2,3,7,8-PECDD [3]		177	6.32	0.65	1.001
1,2,3,4,7,8-HXCDD		76.8	7.58	1.22	1.000
1,2,3,6,7,8-HXCDD		319	7.58	1.31	1.000
1,2,3,7,8,9-HXCDD		250	7.58	1.28	1.010
1,2,3,4,6,7,8-HPCDD		5010	16.8	1.05	1.000
OCDD		43300	8.76	0.89	1.000
2,3,7,8-TCDF		2330	8.89	0.77	1.001
1,2,3,7,8-PECDF		42.0	5.70	1.45	1.001
2,3,4,7,8-PECDF		31.1	5.70	1.74	1.000
1,2,3,4,7,8-HXCDF		62.1	6.77	1.18	1.000
1,2,3,6,7,8-HXCDF		56.5	6.77	1.19	1.000
1,2,3,7,8,9-HXCDF	NDR	9.43	6.77	0.94	1.000
2,3,4,6,7,8-HXCDF		27.6	6.77	1.25	1.000
1,2,3,4,6,7,8-HPCDF		555	5.39	1.01	1.000
1,2,3,4,7,8,9-HPCDF		37.2	5.39	1.08	1.000
OCDF		999	6.57	0.92	1.002
TOTAL TETRA-DIOXINS		7160	4.91		
TOTAL PENTA-DIOXINS		1540	6.32		
TOTAL HEXA-DIOXINS		3190	7.58		
TOTAL HEPTA-DIOXINS		10200	16.8		
TOTAL TETRA-FURANS		4370	8.89		
TOTAL PENTA-FURANS		2710	5.70		
TOTAL HEXA-FURANS		1270	6.77		
TOTAL HEPTA-FURANS		1400	5.39		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-53_Form1A_SJ649472.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN053
Sample Collection:
09-Dec-2006 15:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-53
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.49 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 03:29:19	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_051 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_051 S: 1
		% Moisture:	84.8

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	5920	59.2	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		10000	5990	59.9	0.64	1.382
13C-1,2,3,4,7,8-HXCDD		10000	6130	61.3	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		10000	6240	62.4	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	5700	57.0	1.00	1.095
13C-OCDD		20000	10200	51.2	0.93	1.178
13C-2,3,7,8-TCDF		10000	6880	68.8	0.75	0.966
13C-1,2,3,7,8-PECDF		10000	6080	60.8	1.59	1.283
13C-2,3,4,7,8-PECDF		10000	5970	59.7	1.52	1.350
13C-1,2,3,4,7,8-HXCDF		10000	6460	64.6	0.55	0.954
13C-1,2,3,6,7,8-HXCDF		10000	6340	63.4	0.56	0.958
13C-1,2,3,7,8,9-HXCDF		10000	6400	64.0	0.56	1.005
13C-2,3,4,6,7,8-HXCDF		10000	6370	63.7	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	6030	60.3	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	5750	57.5	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	749	74.9		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN053
Sample Collection:
09-Dec-2006 15:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-53
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.49 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 02:31:52	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_028 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_028 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_028 S: 2
		% Moisture:	84.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		2420	10.8	0.73	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-53_Form1A_SJ650208.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN053

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 15:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	4.49 g (dry)	**Lab Sample I.D.:**	L9585-53
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_028 S: 12** **DX7B_051 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6240	4.91	1	6.24e+03	6.24e+03	
1,2,3,7,8-PECDD		177	6.32	1	1.77e+02	1.77e+02	
1,2,3,4,7,8-HXCDD		76.8	7.58	0.1	7.68e+00	7.68e+00	
1,2,3,6,7,8-HXCDD		319	7.58	0.1	3.19e+01	3.19e+01	
1,2,3,7,8,9-HXCDD		250	7.58	0.1	2.50e+01	2.50e+01	
1,2,3,4,6,7,8-HPCDD		5010	16.8	0.01	5.01e+01	5.01e+01	
OCDD		43300	8.76	0.0001	4.33e+00	4.33e+00	
2,3,7,8-TCDF		2420	10.8	0.1	2.42e+02	2.42e+02	
1,2,3,7,8-PECDF		42.0	5.70	0.05	2.10e+00	2.10e+00	
2,3,4,7,8-PECDF		31.1	5.70	0.5	1.56e+01	1.56e+01	
1,2,3,4,7,8-HXCDF		62.1	6.77	0.1	6.21e+00	6.21e+00	
1,2,3,6,7,8-HXCDF		56.5	6.77	0.1	5.65e+00	5.65e+00	
1,2,3,7,8,9-HXCDF	ND		6.77	0.1	0.00e+00	3.39e-01	
2,3,4,6,7,8-HXCDF		27.6	6.77	0.1	2.76e+00	2.76e+00	
1,2,3,4,6,7,8-HPCDF		555	5.39	0.01	5.55e+00	5.55e+00	
1,2,3,4,7,8,9-HPCDF		37.2	5.39	0.01	3.72e-01	3.72e-01	
OCDF		999	6.57	0.0001	9.99e-02	9.99e-02	
			TOTAL TEQ		6820	6820	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6240	4.91	1	6.24e+03	6.24e+03	
1,2,3,7,8-PECDD		177	6.32	1	1.77e+02	1.77e+02	
1,2,3,4,7,8-HXCDD		76.8	7.58	0.1	7.68e+00	7.68e+00	
1,2,3,6,7,8-HXCDD		319	7.58	0.1	3.19e+01	3.19e+01	
1,2,3,7,8,9-HXCDD		250	7.58	0.1	2.50e+01	2.50e+01	
1,2,3,4,6,7,8-HPCDD		5010	16.8	0.01	5.01e+01	5.01e+01	
OCDD		43300	8.76	0.0003	1.30e+01	1.30e+01	
2,3,7,8-TCDF		2420	10.8	0.1	2.42e+02	2.42e+02	
1,2,3,7,8-PECDF		42.0	5.70	0.03	1.26e+00	1.26e+00	
2,3,4,7,8-PECDF		31.1	5.70	0.3	9.33e+00	9.33e+00	
1,2,3,4,7,8-HXCDF		62.1	6.77	0.1	6.21e+00	6.21e+00	
1,2,3,6,7,8-HXCDF		56.5	6.77	0.1	5.65e+00	5.65e+00	
1,2,3,7,8,9-HXCDF	ND		6.77	0.1	0.00e+00	3.39e-01	
2,3,4,6,7,8-HXCDF		27.6	6.77	0.1	2.76e+00	2.76e+00	
1,2,3,4,6,7,8-HPCDF		555	5.39	0.01	5.55e+00	5.55e+00	
1,2,3,4,7,8,9-HPCDF		37.2	5.39	0.01	3.72e-01	3.72e-01	
OCDF		999	6.57	0.0003	3.00e-01	3.00e-01	
			TOTAL TEQ		6820	6820	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN055
Sample Collection:
09-Dec-2006 16:05

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-55 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.06 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	11-Mar-2007 **Time:** 16:40:53	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_104 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_104 S: 1
		% Moisture:	78.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		3190	2.51	0.78	1.001
1,2,3,7,8-PECDD [3]		101	2.72	0.68	1.000
1,2,3,4,7,8-HXCDD		55.1	3.97	1.18	1.000
1,2,3,6,7,8-HXCDD		203	3.97	1.28	1.000
1,2,3,7,8,9-HXCDD		160	3.97	1.30	1.010
1,2,3,4,6,7,8-HPCDD		3490	5.13	1.03	1.000
OCDD		36500	3.56	0.90	1.000
2,3,7,8-TCDF		1060	3.60	0.79	1.001
1,2,3,7,8-PECDF		25.4	2.39	1.42	1.000
2,3,4,7,8-PECDF		25.4	2.39	1.44	1.000
1,2,3,4,7,8-HXCDF		38.9	2.44	1.27	1.000
1,2,3,6,7,8-HXCDF		42.8	2.44	1.26	1.000
1,2,3,7,8,9-HXCDF		4.57	2.44	1.28	1.000
2,3,4,6,7,8-HXCDF		24.6	2.44	1.34	1.000
1,2,3,4,6,7,8-HPCDF		451	1.94	1.02	1.000
1,2,3,4,7,8,9-HPCDF		29.2	1.94	1.07	1.000
OCDF		933	2.07	0.89	1.002
TOTAL TETRA-DIOXINS		3570	2.51		
TOTAL PENTA-DIOXINS		853	2.72		
TOTAL HEXA-DIOXINS		2120	3.97		
TOTAL HEPTA-DIOXINS		7490	5.13		
TOTAL TETRA-FURANS		2060	3.60		
TOTAL PENTA-FURANS		1390	2.39		
TOTAL HEXA-FURANS		869	2.44		
TOTAL HEPTA-FURANS		1210	1.94		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-55_Form1A_SJ650664.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN055
Sample Collection:
09-Dec-2006 16:05

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-55 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.06 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	11-Mar-2007 **Time:** 16:40:53	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_104 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_104 S: 1
		% Moisture:	78.9

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	7300	73.0	0.82	1.013
13C-1,2,3,7,8-PECDD [4]		10000	7620	76.2	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		10000	8700	87.0	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8780	87.8	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8900	89.0	1.09	1.094
13C-OCDD		20000	14600	72.9	0.93	1.178
13C-2,3,7,8-TCDF		10000	7320	73.2	0.77	0.966
13C-1,2,3,7,8-PECDF		10000	7030	70.3	1.56	1.283
13C-2,3,4,7,8-PECDF		10000	7280	72.8	1.48	1.349
13C-1,2,3,4,7,8-HXCDF		10000	9410	94.1	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9280	92.8	0.55	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8590	85.9	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9190	91.9	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	8750	87.5	0.48	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8540	85.4	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	826	82.6		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-55_Form2_SJ650664.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN055
Sample Collection:
09-Dec-2006 16:05

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-55 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.06 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	10-Mar-2007 **Time:** 13:58:16	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_051 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_050 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_051 S: 2
		% Moisture:	78.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1120	10.0	0.78	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-55_Form1A_SJ648899.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN055

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 16:05
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	4.06 g (dry)	**Lab Sample I.D.:**	L9585-55 R
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_051 S: 7** **DX72_104 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3190	2.51	1	3.19e+03	3.19e+03	
1,2,3,7,8-PECDD		101	2.72	1	1.01e+02	1.01e+02	
1,2,3,4,7,8-HXCDD		55.1	3.97	0.1	5.51e+00	5.51e+00	
1,2,3,6,7,8-HXCDD		203	3.97	0.1	2.03e+01	2.03e+01	
1,2,3,7,8,9-HXCDD		160	3.97	0.1	1.60e+01	1.60e+01	
1,2,3,4,6,7,8-HPCDD		3490	5.13	0.01	3.49e+01	3.49e+01	
OCDD		36500	3.56	0.0001	3.65e+00	3.65e+00	
2,3,7,8-TCDF		1120	10.0	0.1	1.12e+02	1.12e+02	
1,2,3,7,8-PECDF		25.4	2.39	0.05	1.27e+00	1.27e+00	
2,3,4,7,8-PECDF		25.4	2.39	0.5	1.27e+01	1.27e+01	
1,2,3,4,7,8-HXCDF		38.9	2.44	0.1	3.89e+00	3.89e+00	
1,2,3,6,7,8-HXCDF		42.8	2.44	0.1	4.28e+00	4.28e+00	
1,2,3,7,8,9-HXCDF		4.57	2.44	0.1	4.57e-01	4.57e-01	
2,3,4,6,7,8-HXCDF		24.6	2.44	0.1	2.46e+00	2.46e+00	
1,2,3,4,6,7,8-HPCDF		451	1.94	0.01	4.51e+00	4.51e+00	
1,2,3,4,7,8,9-HPCDF		29.2	1.94	0.01	2.92e-01	2.92e-01	
OCDF		933	2.07	0.0001	9.33e-02	9.33e-02	
			TOTAL TEQ		3510	3510	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3190	2.51	1	3.19e+03	3.19e+03	
1,2,3,7,8-PECDD		101	2.72	1	1.01e+02	1.01e+02	
1,2,3,4,7,8-HXCDD		55.1	3.97	0.1	5.51e+00	5.51e+00	
1,2,3,6,7,8-HXCDD		203	3.97	0.1	2.03e+01	2.03e+01	
1,2,3,7,8,9-HXCDD		160	3.97	0.1	1.60e+01	1.60e+01	
1,2,3,4,6,7,8-HPCDD		3490	5.13	0.01	3.49e+01	3.49e+01	
OCDD		36500	3.56	0.0003	1.10e+01	1.10e+01	
2,3,7,8-TCDF		1120	10.0	0.1	1.12e+02	1.12e+02	
1,2,3,7,8-PECDF		25.4	2.39	0.03	7.62e-01	7.62e-01	
2,3,4,7,8-PECDF		25.4	2.39	0.3	7.62e+00	7.62e+00	
1,2,3,4,7,8-HXCDF		38.9	2.44	0.1	3.89e+00	3.89e+00	
1,2,3,6,7,8-HXCDF		42.8	2.44	0.1	4.28e+00	4.28e+00	
1,2,3,7,8,9-HXCDF		4.57	2.44	0.1	4.57e-01	4.57e-01	
2,3,4,6,7,8-HXCDF		24.6	2.44	0.1	2.46e+00	2.46e+00	
1,2,3,4,6,7,8-HPCDF		451	1.94	0.01	4.51e+00	4.51e+00	
1,2,3,4,7,8,9-HPCDF		29.2	1.94	0.01	2.92e-01	2.92e-01	
OCDF		933	2.07	0.0003	2.80e-01	2.80e-01	
			TOTAL TEQ		3520	3520	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Mar-2007 13:51:00; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-55_TEQ_SJ648899.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN058
Sample Collection:
10-Dec-2006 14:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-58 NK
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.29 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	13-Mar-2007 **Time:** 18:41:27	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_108A S: 11**
Dilution Factor:	50	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_108A S: 1
		% Moisture:	13.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	361000	94.9	0.78	1.001
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	378000	94.9		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-58_Form1A_SJ649464.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN058
Sample Collection:
10-Dec-2006 14:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-58
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.29 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 05:19:17	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_051 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_051 S: 1
		% Moisture:	13.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD [3]		2000	2.62	0.65	1.000
1,2,3,4,7,8-HXCDD		757	4.57	1.24	1.000
1,2,3,6,7,8-HXCDD		5610	4.57	1.27	1.000
1,2,3,7,8,9-HXCDD		3350	4.57	1.25	1.010
1,2,3,4,6,7,8-HPCDD		24600	21.1	1.05	1.000
OCDD		25200	5.20	0.90	1.000
2,3,7,8-TCDF		7900	38.5	0.79	1.003
1,2,3,7,8-PECDF		60.4	10.3	1.73	1.001
2,3,4,7,8-PECDF		169	10.3	1.52	1.001
1,2,3,4,7,8-HXCDF		117	4.78	1.19	1.000
1,2,3,6,7,8-HXCDF		34.7	4.78	1.28	1.000
1,2,3,7,8,9-HXCDF	ND		4.78		
2,3,4,6,7,8-HXCDF		48.7	4.78	1.22	1.000
1,2,3,4,6,7,8-HPCDF		872	4.69	1.06	1.000
1,2,3,4,7,8,9-HPCDF		36.3	4.69	1.05	1.000
OCDF		1340	3.67	0.88	1.002
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS		21200	2.62		
TOTAL HEXA-DIOXINS		33800	4.57		
TOTAL HEPTA-DIOXINS		35300	21.1		
TOTAL TETRA-FURANS		40500	38.5		
TOTAL PENTA-FURANS		34600	10.3		
TOTAL HEXA-FURANS		4530	4.78		
TOTAL HEPTA-FURANS		1820	4.69		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; X = result reported separately; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN058
Sample Collection:
10-Dec-2006 14:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-58
Matrix:	SOLID	**Sample Size:**	5.29 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	16-Dec-2006
Extraction Date:	24-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	25-Feb-2007 **Time:** 05:19:17	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX7B_051 S: 11**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7B_050D S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_051 S: 1
Concentration Units:	pg absolute	**% Moisture:**	13.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]		10000	8270	82.7	0.67	1.382
13C-1,2,3,4,7,8-HXCDD		10000	8320	83.2	1.29	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8030	80.3	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7990	79.9	0.96	1.095
13C-OCDD		20000	13900	69.3	0.88	1.178
13C-2,3,7,8-TCDF		10000	9470	94.7	0.74	0.966
13C-1,2,3,7,8-PECDF		10000	9170	91.7	1.59	1.283
13C-2,3,4,7,8-PECDF		10000	8730	87.3	1.55	1.350
13C-1,2,3,4,7,8-HXCDF		10000	9100	91.0	0.55	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9200	92.0	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8940	89.4	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		10000	8790	87.9	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	8360	83.6	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8220	82.2	0.43	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	NQ					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately; NQ = data not quantifiable.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-58_Form2_SJ649474.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN058
Sample Collection:
10-Dec-2006 14:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-58
Matrix:	SOLID	**Sample Size:**	5.29 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	08-Jan-2007
Extraction Date:	24-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 03:43:08	**GC Column ID:**	DB225
Extract Volume (uL):	100	**Sample Data Filename:**	**DB73_028 S: 14**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_028 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_028 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	13.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		2020	4.27	0.70	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 15:14:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB225_L9585-58_Form1A_SJ650210.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN058

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 14:30
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.29 g (dry)	**Lab Sample I.D.:**	L9585-58
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_028 S: 14** **DX72_108A S: 11** **DX7B_051 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		361000	94.9	1	3.61e+05	3.61e+05	
1,2,3,7,8-PECDD		2000	2.62	1	2.00e+03	2.00e+03	
1,2,3,4,7,8-HXCDD		757	4.57	0.1	7.57e+01	7.57e+01	
1,2,3,6,7,8-HXCDD		5610	4.57	0.1	5.61e+02	5.61e+02	
1,2,3,7,8,9-HXCDD		3350	4.57	0.1	3.35e+02	3.35e+02	
1,2,3,4,6,7,8-HPCDD		24600	21.1	0.01	2.46e+02	2.46e+02	
OCDD		25200	5.20	0.0001	2.52e+00	2.52e+00	
2,3,7,8-TCDF		2020	4.27	0.1	2.02e+02	2.02e+02	
1,2,3,7,8-PECDF		60.4	10.3	0.05	3.02e+00	3.02e+00	
2,3,4,7,8-PECDF		169	10.3	0.5	8.45e+01	8.45e+01	
1,2,3,4,7,8-HXCDF		117	4.78	0.1	1.17e+01	1.17e+01	
1,2,3,6,7,8-HXCDF		34.7	4.78	0.1	3.47e+00	3.47e+00	
1,2,3,7,8,9-HXCDF	ND		4.78	0.1	0.00e+00	2.39e-01	
2,3,4,6,7,8-HXCDF		48.7	4.78	0.1	4.87e+00	4.87e+00	
1,2,3,4,6,7,8-HPCDF		872	4.69	0.01	8.72e+00	8.72e+00	
1,2,3,4,7,8,9-HPCDF		36.3	4.69	0.01	3.63e-01	3.63e-01	
OCDF		1340	3.67	0.0001	1.34e-01	1.34e-01	
			TOTAL TEQ		365000	365000	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		361000	94.9	1	3.61e+05	3.61e+05	
1,2,3,7,8-PECDD		2000	2.62	1	2.00e+03	2.00e+03	
1,2,3,4,7,8-HXCDD		757	4.57	0.1	7.57e+01	7.57e+01	
1,2,3,6,7,8-HXCDD		5610	4.57	0.1	5.61e+02	5.61e+02	
1,2,3,7,8,9-HXCDD		3350	4.57	0.1	3.35e+02	3.35e+02	
1,2,3,4,6,7,8-HPCDD		24600	21.1	0.01	2.46e+02	2.46e+02	
OCDD		25200	5.20	0.0003	7.56e+00	7.56e+00	
2,3,7,8-TCDF		2020	4.27	0.1	2.02e+02	2.02e+02	
1,2,3,7,8-PECDF		60.4	10.3	0.03	1.81e+00	1.81e+00	
2,3,4,7,8-PECDF		169	10.3	0.3	5.07e+01	5.07e+01	
1,2,3,4,7,8-HXCDF		117	4.78	0.1	1.17e+01	1.17e+01	
1,2,3,6,7,8-HXCDF		34.7	4.78	0.1	3.47e+00	3.47e+00	
1,2,3,7,8,9-HXCDF	ND		4.78	0.1	0.00e+00	2.39e-01	
2,3,4,6,7,8-HXCDF		48.7	4.78	0.1	4.87e+00	4.87e+00	
1,2,3,4,6,7,8-HPCDF		872	4.69	0.01	8.72e+00	8.72e+00	
1,2,3,4,7,8,9-HPCDF		36.3	4.69	0.01	3.63e-01	3.63e-01	
OCDF		1340	3.67	0.0003	4.02e-01	4.02e-01	
			TOTAL TEQ		365000	365000	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN059
Sample Collection:
10-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-59 NK
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.31 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	13-Mar-2007 **Time:** 19:36:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_108A S: 12**
Dilution Factor:	50	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_108A S: 1
		% Moisture:	15.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	330000	99.9	0.77	1.001
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	346000	99.9		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-59_Form1A_SJ649465.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN059
Sample Collection:
10-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-59
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.31 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 06:14:21	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_051 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_051 S: 1
		% Moisture:	15.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD [3]		1670	2.95	0.63	1.001
1,2,3,4,7,8-HXCDD		626	3.79	1.22	1.000
1,2,3,6,7,8-HXCDD		4140	3.79	1.29	1.000
1,2,3,7,8,9-HXCDD		2840	3.79	1.28	1.010
1,2,3,4,6,7,8-HPCDD		21900	16.6	1.04	1.000
OCDD		24300	15.1	0.89	1.000
2,3,7,8-TCDF		7890	17.4	0.79	1.003
1,2,3,7,8-PECDF	NDR	43.7	8.04	2.05	1.001
2,3,4,7,8-PECDF		166	8.04	1.56	1.000
1,2,3,4,7,8-HXCDF		98.8	5.23	1.28	1.000
1,2,3,6,7,8-HXCDF		32.7	5.23	1.11	1.000
1,2,3,7,8,9-HXCDF	ND		5.23		
2,3,4,6,7,8-HXCDF		41.5	5.23	1.12	1.000
1,2,3,4,6,7,8-HPCDF		908	3.05	1.05	1.000
1,2,3,4,7,8,9-HPCDF		41.0	3.05	0.96	1.000
OCDF		1470	3.10	0.91	1.002
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS		18600	2.95		
TOTAL HEXA-DIOXINS		29700	3.79		
TOTAL HEPTA-DIOXINS		31500	16.6		
TOTAL TETRA-FURANS		36700	17.4		
TOTAL PENTA-FURANS		28300	8.04		
TOTAL HEXA-FURANS		3920	5.23		
TOTAL HEPTA-FURANS		1840	3.05		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN059
Sample Collection:
10-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-59
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.31 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 06:14:21	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_051 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_051 S: 1
		% Moisture:	15.2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]		10000	7910	79.1	0.62	1.382
13C-1,2,3,4,7,8-HXCDD		10000	8130	81.3	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8210	82.1	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7830	78.3	1.00	1.095
13C-OCDD		20000	12700	63.3	0.91	1.178
13C-2,3,7,8-TCDF		10000	9510	95.1	0.76	0.966
13C-1,2,3,7,8-PECDF		10000	8510	85.1	1.60	1.283
13C-2,3,4,7,8-PECDF		10000	8080	80.8	1.58	1.350
13C-1,2,3,4,7,8-HXCDF		10000	9250	92.5	0.55	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9060	90.6	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8950	89.5	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		10000	8820	88.2	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	7900	79.0	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7730	77.3	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	NQ					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately; NQ = data not quantifiable.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9585-59_Form2_SJ649475.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN059
Sample Collection:
10-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-59
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.31 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 04:18:47	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_028 S: 15**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_028 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_028 S: 2
		% Moisture:	15.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1460	5.39	0.72	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN059

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 14:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.31 g (dry)	**Lab Sample I.D.:**	L9585-59
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_028 S: 15** **DX72_108A S: 12** **DX7B_051 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		330000	99.9	1	3.30e+05	3.30e+05	
1,2,3,7,8-PECDD		1670	2.95	1	1.67e+03	1.67e+03	
1,2,3,4,7,8-HXCDD		626	3.79	0.1	6.26e+01	6.26e+01	
1,2,3,6,7,8-HXCDD		4140	3.79	0.1	4.14e+02	4.14e+02	
1,2,3,7,8,9-HXCDD		2840	3.79	0.1	2.84e+02	2.84e+02	
1,2,3,4,6,7,8-HPCDD		21900	16.6	0.01	2.19e+02	2.19e+02	
OCDD		24300	15.1	0.0001	2.43e+00	2.43e+00	
2,3,7,8-TCDF		1460	5.39	0.1	1.46e+02	1.46e+02	
1,2,3,7,8-PECDF	ND		8.04	0.05	0.00e+00	2.01e-01	
2,3,4,7,8-PECDF		166	8.04	0.5	8.30e+01	8.30e+01	
1,2,3,4,7,8-HXCDF		98.8	5.23	0.1	9.88e+00	9.88e+00	
1,2,3,6,7,8-HXCDF		32.7	5.23	0.1	3.27e+00	3.27e+00	
1,2,3,7,8,9-HXCDF	ND		5.23	0.1	0.00e+00	2.62e-01	
2,3,4,6,7,8-HXCDF		41.5	5.23	0.1	4.15e+00	4.15e+00	
1,2,3,4,6,7,8-HPCDF		908	3.05	0.01	9.08e+00	9.08e+00	
1,2,3,4,7,8,9-HPCDF		41.0	3.05	0.01	4.10e-01	4.10e-01	
OCDF		1470	3.10	0.0001	1.47e-01	1.47e-01	
			TOTAL TEQ		333000	333000	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		330000	99.9	1	3.30e+05	3.30e+05	
1,2,3,7,8-PECDD		1670	2.95	1	1.67e+03	1.67e+03	
1,2,3,4,7,8-HXCDD		626	3.79	0.1	6.26e+01	6.26e+01	
1,2,3,6,7,8-HXCDD		4140	3.79	0.1	4.14e+02	4.14e+02	
1,2,3,7,8,9-HXCDD		2840	3.79	0.1	2.84e+02	2.84e+02	
1,2,3,4,6,7,8-HPCDD		21900	16.6	0.01	2.19e+02	2.19e+02	
OCDD		24300	15.1	0.0003	7.29e+00	7.29e+00	
2,3,7,8-TCDF		1460	5.39	0.1	1.46e+02	1.46e+02	
1,2,3,7,8-PECDF	ND		8.04	0.03	0.00e+00	1.21e-01	
2,3,4,7,8-PECDF		166	8.04	0.3	4.98e+01	4.98e+01	
1,2,3,4,7,8-HXCDF		98.8	5.23	0.1	9.88e+00	9.88e+00	
1,2,3,6,7,8-HXCDF		32.7	5.23	0.1	3.27e+00	3.27e+00	
1,2,3,7,8,9-HXCDF	ND		5.23	0.1	0.00e+00	2.62e-01	
2,3,4,6,7,8-HXCDF		41.5	5.23	0.1	4.15e+00	4.15e+00	
1,2,3,4,6,7,8-HPCDF		908	3.05	0.01	9.08e+00	9.08e+00	
1,2,3,4,7,8,9-HPCDF		41.0	3.05	0.01	4.10e-01	4.10e-01	
OCDF		1470	3.10	0.0003	4.41e-01	4.41e-01	
			TOTAL TEQ		333000	333000	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 19-Mar-2007 15:18:15; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-59_TEQ_SJ650211.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-1
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-115
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	3.55 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	11-Mar-2007 **Time:** 17:35:21	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_104 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_104 S: 1
		% Moisture:	67.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		3730	3.24	0.79	1.001
1,2,3,7,8-PECDD [3]		86.9	3.86	0.68	1.001
1,2,3,4,7,8-HXCDD		41.5	3.32	1.10	1.000
1,2,3,6,7,8-HXCDD		147	3.32	1.19	1.000
1,2,3,7,8,9-HXCDD		116	3.32	1.16	1.010
1,2,3,4,6,7,8-HPCDD		1790	6.19	1.02	1.000
OCDD		22400	4.31	0.90	1.000
2,3,7,8-TCDF		1660	11.2	0.77	1.001
1,2,3,7,8-PECDF	NDR	15.4	3.05	1.96	1.000
2,3,4,7,8-PECDF		18.2	3.05	1.35	1.000
1,2,3,4,7,8-HXCDF	NDR	18.7	2.93	1.52	1.000
1,2,3,6,7,8-HXCDF		14.0	2.93	1.09	1.000
1,2,3,7,8,9-HXCDF	ND		2.93		
2,3,4,6,7,8-HXCDF		10.5	2.93	1.20	1.001
1,2,3,4,6,7,8-HPCDF		160	2.21	1.06	1.000
1,2,3,4,7,8,9-HPCDF	NDR	7.49	2.21	1.31	1.000
OCDF		198	2.37	0.89	1.002
TOTAL TETRA-DIOXINS		4160	3.24		
TOTAL PENTA-DIOXINS		731	3.86		
TOTAL HEXA-DIOXINS		1430	3.32		
TOTAL HEPTA-DIOXINS		3780	6.19		
TOTAL TETRA-FURANS		2630	11.2		
TOTAL PENTA-FURANS		1170	3.05		
TOTAL HEXA-FURANS		382	2.93		
TOTAL HEPTA-FURANS		337	2.21		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Mar-2007 13:45:42; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-115_Form1A_SJ650665.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-1
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-115
Matrix:	SOLID	**Sample Size:**	3.55 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	10-Mar-2007
Extraction Date:	06-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	11-Mar-2007 **Time:** 17:35:21	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX72_104 S: 11**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_102 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_104 S: 1
Concentration Units:	pg absolute	**% Moisture:**	67.4

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	7160	71.6	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		10000	7260	72.6	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		10000	8660	86.6	1.32	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8860	88.6	1.28	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	9100	91.0	1.07	1.095
13C-OCDD		20000	15600	77.8	0.92	1.178
13C-2,3,7,8-TCDF		10000	7230	72.3	0.78	0.966
13C-1,2,3,7,8-PECDF		10000	7160	71.6	1.56	1.283
13C-2,3,4,7,8-PECDF		10000	7190	71.9	1.59	1.350
13C-1,2,3,4,7,8-HXCDF		10000	9730	97.3	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9470	94.7	0.54	0.959
13C-1,2,3,7,8,9-HXCDF		10000	8790	87.9	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9430	94.3	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9030	90.3	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8770	87.7	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	819	81.9		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-1
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-115
Matrix:	SOLID	**Sample Size:**	3.55 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	08-Jan-2007
Extraction Date:	06-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Mar-2007 **Time:** 14:33:56	**GC Column ID:**	DB225
Extract Volume (uL):	100	**Sample Data Filename:**	**DB73_051 S: 8**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_050 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_051 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	67.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1680	10.1	0.76	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Mar-2007 13:49:08; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB225_L9585-115_Form1A_SJ648900.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN062-1

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 11:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	3.55 g (dry)	**Lab Sample I.D.:**	L9585-115
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_051 S: 8** **DX72_104 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3730	3.24	1	3.73e+03	3.73e+03	
1,2,3,7,8-PECDD		86.9	3.86	1	8.69e+01	8.69e+01	
1,2,3,4,7,8-HXCDD		41.5	3.32	0.1	4.15e+00	4.15e+00	
1,2,3,6,7,8-HXCDD		147	3.32	0.1	1.47e+01	1.47e+01	
1,2,3,7,8,9-HXCDD		116	3.32	0.1	1.16e+01	1.16e+01	
1,2,3,4,6,7,8-HPCDD		1790	6.19	0.01	1.79e+01	1.79e+01	
OCDD		22400	4.31	0.0001	2.24e+00	2.24e+00	
2,3,7,8-TCDF		1680	10.1	0.1	1.68e+02	1.68e+02	
1,2,3,7,8-PECDF	ND		3.05	0.05	0.00e+00	7.63e-02	
2,3,4,7,8-PECDF		18.2	3.05	0.5	9.10e+00	9.10e+00	
1,2,3,4,7,8-HXCDF	ND		2.93	0.1	0.00e+00	1.47e-01	
1,2,3,6,7,8-HXCDF		14.0	2.93	0.1	1.40e+00	1.40e+00	
1,2,3,7,8,9-HXCDF	ND		2.93	0.1	0.00e+00	1.47e-01	
2,3,4,6,7,8-HXCDF		10.5	2.93	0.1	1.05e+00	1.05e+00	
1,2,3,4,6,7,8-HPCDF		160	2.21	0.01	1.60e+00	1.60e+00	
1,2,3,4,7,8,9-HPCDF	ND		2.21	0.01	0.00e+00	1.11e-02	
OCDF		198	2.37	0.0001	1.98e-02	1.98e-02	
			TOTAL TEQ		4050	4050	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3730	3.24	1	3.73e+03	3.73e+03	
1,2,3,7,8-PECDD		86.9	3.86	1	8.69e+01	8.69e+01	
1,2,3,4,7,8-HXCDD		41.5	3.32	0.1	4.15e+00	4.15e+00	
1,2,3,6,7,8-HXCDD		147	3.32	0.1	1.47e+01	1.47e+01	
1,2,3,7,8,9-HXCDD		116	3.32	0.1	1.16e+01	1.16e+01	
1,2,3,4,6,7,8-HPCDD		1790	6.19	0.01	1.79e+01	1.79e+01	
OCDD		22400	4.31	0.0003	6.72e+00	6.72e+00	
2,3,7,8-TCDF		1680	10.1	0.1	1.68e+02	1.68e+02	
1,2,3,7,8-PECDF	ND		3.05	0.03	0.00e+00	4.58e-02	
2,3,4,7,8-PECDF		18.2	3.05	0.3	5.46e+00	5.46e+00	
1,2,3,4,7,8-HXCDF	ND		2.93	0.1	0.00e+00	1.47e-01	
1,2,3,6,7,8-HXCDF		14.0	2.93	0.1	1.40e+00	1.40e+00	
1,2,3,7,8,9-HXCDF	ND		2.93	0.1	0.00e+00	1.47e-01	
2,3,4,6,7,8-HXCDF		10.5	2.93	0.1	1.05e+00	1.05e+00	
1,2,3,4,6,7,8-HPCDF		160	2.21	0.01	1.60e+00	1.60e+00	
1,2,3,4,7,8,9-HPCDF	ND		2.21	0.01	0.00e+00	1.11e-02	
OCDF		198	2.37	0.0003	5.94e-02	5.94e-02	
			TOTAL TEQ		4050	4050	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Mar-2007 13:51:00; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-115_TEQ_SJ648900.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-2
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-116
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.42 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	12-Mar-2007 **Time:** 00:06:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_105 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_105 S: 1
		% Moisture:	61.3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		674	2.32	0.81	1.001
1,2,3,7,8-PECDD [3]		16.7	2.41	0.66	1.000
1,2,3,4,7,8-HXCDD	NDR	12.7	2.91	1.49	1.000
1,2,3,6,7,8-HXCDD		42.4	2.91	1.09	1.000
1,2,3,7,8,9-HXCDD		60.4	2.91	1.13	1.010
1,2,3,4,6,7,8-HPCDD		991	3.14	1.06	1.000
OCDD		14600	1.02	0.90	1.000
2,3,7,8-TCDF		320	3.19	0.81	1.001
1,2,3,7,8-PECDF	NDR	3.00	1.97	2.10	1.001
2,3,4,7,8-PECDF	NDR	2.63	1.97	1.19	1.000
1,2,3,4,7,8-HXCDF	NDR	3.73	2.05	0.66	1.001
1,2,3,6,7,8-HXCDF	NDR	3.89	2.05	2.04	1.000
1,2,3,7,8,9-HXCDF	ND		2.05		
2,3,4,6,7,8-HXCDF		2.41	2.05	1.30	1.001
1,2,3,4,6,7,8-HPCDF		28.9	1.30	1.18	1.001
1,2,3,4,7,8,9-HPCDF	ND		1.30		
OCDF		41.1	1.27	0.78	1.002
TOTAL TETRA-DIOXINS		819	2.32		
TOTAL PENTA-DIOXINS		170	2.41		
TOTAL HEXA-DIOXINS		718	2.91		
TOTAL HEPTA-DIOXINS		2130	3.14		
TOTAL TETRA-FURANS		457	3.19		
TOTAL PENTA-FURANS		192	1.97		
TOTAL HEXA-FURANS		53.2	2.05		
TOTAL HEPTA-FURANS		61.1	1.30		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Mar-2007 13:45:42; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-116_Form1A_SJ650666.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-2
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-116
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.42 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	12-Mar-2007 **Time:** 00:06:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_105 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_105 S: 1
		% Moisture:	61.3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	5800	58.0	0.85	1.013
13C-1,2,3,7,8-PECDD [4]		10000	7010	70.1	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		10000	8270	82.7	1.29	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8360	83.6	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8800	88.0	1.02	1.094
13C-OCDD		20000	14800	74.2	0.92	1.178
13C-2,3,7,8-TCDF		10000	4930	49.3	0.86	0.966
13C-1,2,3,7,8-PECDF		10000	6270	62.7	1.58	1.283
13C-2,3,4,7,8-PECDF		10000	6830	68.3	1.56	1.350
13C-1,2,3,4,7,8-HXCDF		10000	9020	90.2	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		10000	8900	89.0	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8180	81.8	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		10000	8830	88.3	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	8640	86.4	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8170	81.7	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	641	64.1		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Mar-2007 13:45:42; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-116_Form2_SJ650666.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-2
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-116
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.42 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	10-Mar-2007 **Time:** 15:09:34	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_051 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_050 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_051 S: 2
		% Moisture:	61.3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		334	8.23	0.81	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Mar-2007 13:49:08; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB225_L9585-116_Form1A_SJ648901.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN062-2

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 11:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.42 g (dry)	**Lab Sample I.D.:**	L9585-116
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_051 S: 9** **DX72_105 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		674	2.32	1	6.74e+02	6.74e+02	
1,2,3,7,8-PECDD		16.7	2.41	1	1.67e+01	1.67e+01	
1,2,3,4,7,8-HXCDD	ND		2.91	0.1	0.00e+00	1.46e-01	
1,2,3,6,7,8-HXCDD		42.4	2.91	0.1	4.24e+00	4.24e+00	
1,2,3,7,8,9-HXCDD		60.4	2.91	0.1	6.04e+00	6.04e+00	
1,2,3,4,6,7,8-HPCDD		991	3.14	0.01	9.91e+00	9.91e+00	
OCDD		14600	1.02	0.0001	1.46e+00	1.46e+00	
2,3,7,8-TCDF		334	8.23	0.1	3.34e+01	3.34e+01	
1,2,3,7,8-PECDF	ND		1.97	0.05	0.00e+00	4.93e-02	
2,3,4,7,8-PECDF	ND		1.97	0.5	0.00e+00	4.93e-01	
1,2,3,4,7,8-HXCDF	ND		2.05	0.1	0.00e+00	1.03e-01	
1,2,3,6,7,8-HXCDF	ND		2.05	0.1	0.00e+00	1.03e-01	
1,2,3,7,8,9-HXCDF	ND		2.05	0.1	0.00e+00	1.03e-01	
2,3,4,6,7,8-HXCDF		2.41	2.05	0.1	2.41e-01	2.41e-01	
1,2,3,4,6,7,8-HPCDF		28.9	1.30	0.01	2.89e-01	2.89e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.30	0.01	0.00e+00	6.50e-03	
OCDF		41.1	1.27	0.0001	4.11e-03	4.11e-03	
			TOTAL TEQ		746	747	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		674	2.32	1	6.74e+02	6.74e+02	
1,2,3,7,8-PECDD		16.7	2.41	1	1.67e+01	1.67e+01	
1,2,3,4,7,8-HXCDD	ND		2.91	0.1	0.00e+00	1.46e-01	
1,2,3,6,7,8-HXCDD		42.4	2.91	0.1	4.24e+00	4.24e+00	
1,2,3,7,8,9-HXCDD		60.4	2.91	0.1	6.04e+00	6.04e+00	
1,2,3,4,6,7,8-HPCDD		991	3.14	0.01	9.91e+00	9.91e+00	
OCDD		14600	1.02	0.0003	4.38e+00	4.38e+00	
2,3,7,8-TCDF		334	8.23	0.1	3.34e+01	3.34e+01	
1,2,3,7,8-PECDF	ND		1.97	0.03	0.00e+00	2.96e-02	
2,3,4,7,8-PECDF	ND		1.97	0.3	0.00e+00	2.96e-01	
1,2,3,4,7,8-HXCDF	ND		2.05	0.1	0.00e+00	1.03e-01	
1,2,3,6,7,8-HXCDF	ND		2.05	0.1	0.00e+00	1.03e-01	
1,2,3,7,8,9-HXCDF	ND		2.05	0.1	0.00e+00	1.03e-01	
2,3,4,6,7,8-HXCDF		2.41	2.05	0.1	2.41e-01	2.41e-01	
1,2,3,4,6,7,8-HPCDF		28.9	1.30	0.01	2.89e-01	2.89e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.30	0.01	0.00e+00	6.50e-03	
OCDF		41.1	1.27	0.0003	1.23e-02	1.23e-02	
			TOTAL TEQ		749	750	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Mar-2007 13:51:00; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-116_TEQ_SJ648901.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-3
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-117 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.01 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	16-Mar-2007 **Time:** 12:45:32	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_114A S: 4**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_114A S: 1
		% Moisture:	45.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		22.3	0.474	0.78	1.001
1,2,3,7,8-PECDD [3]		2.74	0.481	0.56	1.001
1,2,3,4,7,8-HXCDD		7.40	0.495	1.13	1.000
1,2,3,6,7,8-HXCDD		16.1	0.495	1.30	1.000
1,2,3,7,8,9-HXCDD		32.0	0.495	1.29	1.010
1,2,3,4,6,7,8-HPCDD		625	1.39	1.04	1.000
OCDD		7650	0.474	0.90	1.000
2,3,7,8-TCDF		8.29	0.340	0.79	1.001
1,2,3,7,8-PECDF	ND		0.511		
2,3,4,7,8-PECDF	ND		0.511		
1,2,3,4,7,8-HXCDF		0.628	0.453	1.25	1.000
1,2,3,6,7,8-HXCDF	NDR	0.571	0.453	2.15	1.000
1,2,3,7,8,9-HXCDF	ND		0.453		
2,3,4,6,7,8-HXCDF	NDR	0.518	0.453	1.46	1.000
1,2,3,4,6,7,8-HPCDF		2.00	0.433	0.94	1.000
1,2,3,4,7,8,9-HPCDF		0.760	0.433	0.96	1.000
OCDF		5.26	0.262	0.81	1.002
TOTAL TETRA-DIOXINS		121	0.474		
TOTAL PENTA-DIOXINS		79.1	0.481		
TOTAL HEXA-DIOXINS		441	0.495		
TOTAL HEPTA-DIOXINS		1380	1.39		
TOTAL TETRA-FURANS		20.1	0.340		
TOTAL PENTA-FURANS		4.66	0.511		
TOTAL HEXA-FURANS		0.628	0.453		
TOTAL HEPTA-FURANS		5.17	0.433		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-3
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-117 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.01 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	16-Mar-2007 **Time:** 12:45:32	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_114A S: 4**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_114A S: 1
		% Moisture:	45.2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	6710	67.1	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		10000	8080	80.8	0.62	1.382
13C-1,2,3,4,7,8-HXCDD		10000	8930	89.3	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8970	89.7	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	9690	96.9	1.05	1.095
13C-OCDD		20000	15800	78.9	0.90	1.179
13C-2,3,7,8-TCDF		10000	6660	66.6	0.80	0.966
13C-1,2,3,7,8-PECDF		10000	7090	70.9	1.58	1.283
13C-2,3,4,7,8-PECDF		10000	7410	74.1	1.57	1.350
13C-1,2,3,4,7,8-HXCDF		10000	9530	95.3	0.54	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9630	96.3	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9080	90.8	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9560	95.6	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9210	92.1	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8950	89.5	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	712	71.2		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Mar-2007 13:45:42; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-117_Form2_SJ651260.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-3
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-117 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.01 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	16-Mar-2007 **Time:** 22:23:00	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_054 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_050 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_054 S: 2
		% Moisture:	45.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	NDR	4.32	1.34	0.59	1.001

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Mar-2007 13:49:08; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB225_L9585-117_Form1A_SJ651275.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN062-3

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 11:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.01 g (dry)	**Lab Sample I.D.:**	L9585-117 M
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_054 S: 5** **DX72_114A S: 4**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		22.3	0.474	1	2.23e+01	2.23e+01	
1,2,3,7,8-PECDD		2.74	0.481	1	2.74e+00	2.74e+00	
1,2,3,4,7,8-HXCDD		7.40	0.495	0.1	7.40e-01	7.40e-01	
1,2,3,6,7,8-HXCDD		16.1	0.495	0.1	1.61e+00	1.61e+00	
1,2,3,7,8,9-HXCDD		32.0	0.495	0.1	3.20e+00	3.20e+00	
1,2,3,4,6,7,8-HPCDD		625	1.39	0.01	6.25e+00	6.25e+00	
OCDD		7650	0.474	0.0001	7.65e-01	7.65e-01	
2,3,7,8-TCDF	ND		1.34	0.1	0.00e+00	6.70e-02	
1,2,3,7,8-PECDF	ND		0.511	0.05	0.00e+00	1.28e-02	
2,3,4,7,8-PECDF	ND		0.511	0.5	0.00e+00	1.28e-01	
1,2,3,4,7,8-HXCDF		0.628	0.453	0.1	6.28e-02	6.28e-02	
1,2,3,6,7,8-HXCDF	ND		0.453	0.1	0.00e+00	2.27e-02	
1,2,3,7,8,9-HXCDF	ND		0.453	0.1	0.00e+00	2.27e-02	
2,3,4,6,7,8-HXCDF	ND		0.453	0.1	0.00e+00	2.27e-02	
1,2,3,4,6,7,8-HPCDF		2.00	0.433	0.01	2.00e-02	2.00e-02	
1,2,3,4,7,8,9-HPCDF		0.760	0.433	0.01	7.60e-03	7.60e-03	
OCDF		5.26	0.262	0.0001	5.26e-04	5.26e-04	
			TOTAL TEQ		37.7	38.0	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		22.3	0.474	1	2.23e+01	2.23e+01	
1,2,3,7,8-PECDD		2.74	0.481	1	2.74e+00	2.74e+00	
1,2,3,4,7,8-HXCDD		7.40	0.495	0.1	7.40e-01	7.40e-01	
1,2,3,6,7,8-HXCDD		16.1	0.495	0.1	1.61e+00	1.61e+00	
1,2,3,7,8,9-HXCDD		32.0	0.495	0.1	3.20e+00	3.20e+00	
1,2,3,4,6,7,8-HPCDD		625	1.39	0.01	6.25e+00	6.25e+00	
OCDD		7650	0.474	0.0003	2.30e+00	2.30e+00	
2,3,7,8-TCDF	ND		1.34	0.1	0.00e+00	6.70e-02	
1,2,3,7,8-PECDF	ND		0.511	0.03	0.00e+00	7.67e-03	
2,3,4,7,8-PECDF	ND		0.511	0.3	0.00e+00	7.67e-02	
1,2,3,4,7,8-HXCDF		0.628	0.453	0.1	6.28e-02	6.28e-02	
1,2,3,6,7,8-HXCDF	ND		0.453	0.1	0.00e+00	2.27e-02	
1,2,3,7,8,9-HXCDF	ND		0.453	0.1	0.00e+00	2.27e-02	
2,3,4,6,7,8-HXCDF	ND		0.453	0.1	0.00e+00	2.27e-02	
1,2,3,4,6,7,8-HPCDF		2.00	0.433	0.01	2.00e-02	2.00e-02	
1,2,3,4,7,8,9-HPCDF		0.760	0.433	0.01	7.60e-03	7.60e-03	
OCDF		5.26	0.262	0.0003	1.58e-03	1.58e-03	
			TOTAL TEQ		39.2	39.4	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Mar-2007 13:51:00; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-117_TEQ_SJ651260.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-4
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-118 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.45 g (dry)
Extraction Date:	15-Feb-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	16-Mar-2007 **Time:** 13:40:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_114A S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_105 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_114A S: 1
		% Moisture:	32.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		6.15	0.399	0.70	1.001
1,2,3,7,8-PECDD [3]		1.86	0.328	0.55	1.001
1,2,3,4,7,8-HXCDD		5.31	0.634	1.27	1.000
1,2,3,6,7,8-HXCDD		12.2	0.634	1.41	1.000
1,2,3,7,8,9-HXCDD		23.7	0.634	1.36	1.010
1,2,3,4,6,7,8-HPCDD		467	0.918	1.05	1.000
OCDD		5670	0.443	0.90	1.000
2,3,7,8-TCDF		2.75	0.262	0.75	1.001
1,2,3,7,8-PECDF	ND		0.341		
2,3,4,7,8-PECDF		0.396	0.341	1.51	1.000
1,2,3,4,7,8-HXCDF	ND		0.375		
1,2,3,6,7,8-HXCDF	ND		0.375		
1,2,3,7,8,9-HXCDF	ND		0.375		
2,3,4,6,7,8-HXCDF	ND		0.375		
1,2,3,4,6,7,8-HPCDF	NDR	0.870	0.480	1.41	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.480		
OCDF		2.36	0.293	0.90	1.002
TOTAL TETRA-DIOXINS		88.1	0.399		
TOTAL PENTA-DIOXINS		74.2	0.328		
TOTAL HEXA-DIOXINS		351	0.634		
TOTAL HEPTA-DIOXINS		1040	0.918		
TOTAL TETRA-FURANS		12.6	0.262		
TOTAL PENTA-FURANS		1.11	0.341		
TOTAL HEXA-FURANS		0.646	0.375		
TOTAL HEPTA-FURANS	ND		0.480		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Mar-2007 09:42:39; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-118_Form1A_SJ651265.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-4
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-118 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.45 g (dry)
Extraction Date:	15-Feb-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	16-Mar-2007 **Time:** 13:40:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_114A S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_105 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_114A S: 1
		% Moisture:	32.1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	8340	83.4	0.78	1.012
13C-1,2,3,7,8-PECDD [4]		10000	8600	86.0	0.64	1.381
13C-1,2,3,4,7,8-HXCDD		10000	9760	97.6	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9970	99.7	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	10200	102	1.06	1.095
13C-OCDD		20000	17600	88.0	0.90	1.179
13C-2,3,7,8-TCDF		10000	8240	82.4	0.79	0.966
13C-1,2,3,7,8-PECDF		10000	7950	79.5	1.60	1.283
13C-2,3,4,7,8-PECDF		10000	8150	81.5	1.58	1.350
13C-1,2,3,4,7,8-HXCDF		10000	10900	109	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		10000	10800	108	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9960	99.6	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		10000	10700	107	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	10000	100	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	9580	95.8	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	861	86.1		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Mar-2007 09:42:39; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9585-118_Form2_SJ651265.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-4
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-118 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.45 g (dry)
Extraction Date:	15-Feb-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	16-Mar-2007 **Time:** 22:58:39	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_054 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	N/A
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_054 S: 2
		% Moisture:	32.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		2.32	0.598	0.84	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Mar-2007 09:46:33; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB225_L9585-118_Form1A_SJ651279.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN062-4

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 11:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.45 g (dry)	**Lab Sample I.D.:**	L9585-118 M
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_054 S: 6** **DX72_114A S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.15	0.399	1	6.15e+00	6.15e+00	
1,2,3,7,8-PECDD		1.86	0.328	1	1.86e+00	1.86e+00	
1,2,3,4,7,8-HXCDD		5.31	0.634	0.1	5.31e-01	5.31e-01	
1,2,3,6,7,8-HXCDD		12.2	0.634	0.1	1.22e+00	1.22e+00	
1,2,3,7,8,9-HXCDD		23.7	0.634	0.1	2.37e+00	2.37e+00	
1,2,3,4,6,7,8-HPCDD		467	0.918	0.01	4.67e+00	4.67e+00	
OCDD		5670	0.443	0.0001	5.67e-01	5.67e-01	
2,3,7,8-TCDF		2.32	0.598	0.1	2.32e-01	2.32e-01	
1,2,3,7,8-PECDF	ND		0.341	0.05	0.00e+00	8.53e-03	
2,3,4,7,8-PECDF		0.396	0.341	0.5	1.98e-01	1.98e-01	
1,2,3,4,7,8-HXCDF	ND		0.375	0.1	0.00e+00	1.88e-02	
1,2,3,6,7,8-HXCDF	ND		0.375	0.1	0.00e+00	1.88e-02	
1,2,3,7,8,9-HXCDF	ND		0.375	0.1	0.00e+00	1.88e-02	
2,3,4,6,7,8-HXCDF	ND		0.375	0.1	0.00e+00	1.88e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.480	0.01	0.00e+00	2.40e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.480	0.01	0.00e+00	2.40e-03	
OCDF		2.36	0.293	0.0001	2.36e-04	2.36e-04	
			TOTAL TEQ		17.8	17.9	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.15	0.399	1	6.15e+00	6.15e+00	
1,2,3,7,8-PECDD		1.86	0.328	1	1.86e+00	1.86e+00	
1,2,3,4,7,8-HXCDD		5.31	0.634	0.1	5.31e-01	5.31e-01	
1,2,3,6,7,8-HXCDD		12.2	0.634	0.1	1.22e+00	1.22e+00	
1,2,3,7,8,9-HXCDD		23.7	0.634	0.1	2.37e+00	2.37e+00	
1,2,3,4,6,7,8-HPCDD		467	0.918	0.01	4.67e+00	4.67e+00	
OCDD		5670	0.443	0.0003	1.70e+00	1.70e+00	
2,3,7,8-TCDF		2.32	0.598	0.1	2.32e-01	2.32e-01	
1,2,3,7,8-PECDF	ND		0.341	0.03	0.00e+00	5.12e-03	
2,3,4,7,8-PECDF		0.396	0.341	0.3	1.19e-01	1.19e-01	
1,2,3,4,7,8-HXCDF	ND		0.375	0.1	0.00e+00	1.88e-02	
1,2,3,6,7,8-HXCDF	ND		0.375	0.1	0.00e+00	1.88e-02	
1,2,3,7,8,9-HXCDF	ND		0.375	0.1	0.00e+00	1.88e-02	
2,3,4,6,7,8-HXCDF	ND		0.375	0.1	0.00e+00	1.88e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.480	0.01	0.00e+00	2.40e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.480	0.01	0.00e+00	2.40e-03	
OCDF		2.36	0.293	0.0003	7.08e-04	7.08e-04	
			TOTAL TEQ		18.9	18.9	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Mar-2007 09:49:01; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-118_TEQ_SJ651265.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-5
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-119 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.47 g (dry)
Extraction Date:	15-Feb-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	16-Mar-2007 **Time:** 14:34:35	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_114A S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_105 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_114A S: 1
		% Moisture:	30.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		6.45	0.393	0.69	1.001
1,2,3,7,8-PECDD [3]		2.08	0.341	0.64	1.001
1,2,3,4,7,8-HXCDD		5.99	1.05	1.19	1.000
1,2,3,6,7,8-HXCDD		14.1	1.05	1.35	1.001
1,2,3,7,8,9-HXCDD		25.3	1.05	1.28	1.010
1,2,3,4,6,7,8-HPCDD		490	1.34	1.04	1.000
OCDD		5200	0.632	0.89	1.000
2,3,7,8-TCDF		2.68	0.307	0.86	1.001
1,2,3,7,8-PECDF	ND		0.408		
2,3,4,7,8-PECDF	ND		0.408		
1,2,3,4,7,8-HXCDF	ND		0.496		
1,2,3,6,7,8-HXCDF	ND		0.496		
1,2,3,7,8,9-HXCDF	ND		0.496		
2,3,4,6,7,8-HXCDF	ND		0.496		
1,2,3,4,6,7,8-HPCDF		1.16	0.327	1.09	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.397	0.327	1.87	1.000
OCDF		2.57	0.483	0.86	1.002
TOTAL TETRA-DIOXINS		99.8	0.393		
TOTAL PENTA-DIOXINS		86.3	0.341		
TOTAL HEXA-DIOXINS		379	1.05		
TOTAL HEPTA-DIOXINS		1060	1.34		
TOTAL TETRA-FURANS		17.3	0.307		
TOTAL PENTA-FURANS	ND		0.408		
TOTAL HEXA-FURANS		0.589	0.496		
TOTAL HEPTA-FURANS		2.35	0.327		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-5
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-119 M
Matrix:	SOLID	**Sample Size:**	5.47 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	10-Mar-2007
Extraction Date:	15-Feb-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Mar-2007 **Time:** 14:34:35	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_114A S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_105 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_114A S: 1
Concentration Units:	pg absolute	**% Moisture:**	30.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	8000	80.0	0.81	1.013
13C-1,2,3,7,8-PECDD [4]		10000	8310	83.1	0.64	1.382
13C-1,2,3,4,7,8-HXCDD		10000	9330	93.3	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9400	94.0	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	9940	99.4	1.05	1.095
13C-OCDD		20000	17400	86.9	0.90	1.179
13C-2,3,7,8-TCDF		10000	8100	81.0	0.78	0.966
13C-1,2,3,7,8-PECDF		10000	7510	75.1	1.58	1.283
13C-2,3,4,7,8-PECDF		10000	7680	76.8	1.56	1.351
13C-1,2,3,4,7,8-HXCDF		10000	10300	103	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		10000	10100	101	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9460	94.6	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9800	98.0	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9840	98.4	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	9260	92.6	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	875	87.5		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-5
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-119 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.47 g (dry)
Extraction Date:	15-Feb-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	16-Mar-2007 **Time:** 23:34:19	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_054 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	N/A
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_054 S: 2
		% Moisture:	30.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		2.39	0.985	0.69	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-119_Form1A_SJ651280.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN062-5

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 11:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.47 g (dry)	**Lab Sample I.D.:**	L9585-119 M
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_054 S: 7** **DX72_114A S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.45	0.393	1	6.45e+00	6.45e+00	
1,2,3,7,8-PECDD		2.08	0.341	1	2.08e+00	2.08e+00	
1,2,3,4,7,8-HXCDD		5.99	1.05	0.1	5.99e-01	5.99e-01	
1,2,3,6,7,8-HXCDD		14.1	1.05	0.1	1.41e+00	1.41e+00	
1,2,3,7,8,9-HXCDD		25.3	1.05	0.1	2.53e+00	2.53e+00	
1,2,3,4,6,7,8-HPCDD		490	1.34	0.01	4.90e+00	4.90e+00	
OCDD		5200	0.632	0.0001	5.20e-01	5.20e-01	
2,3,7,8-TCDF		2.39	0.985	0.1	2.39e-01	2.39e-01	
1,2,3,7,8-PECDF	ND		0.408	0.05	0.00e+00	1.02e-02	
2,3,4,7,8-PECDF	ND		0.408	0.5	0.00e+00	1.02e-01	
1,2,3,4,7,8-HXCDF	ND		0.496	0.1	0.00e+00	2.48e-02	
1,2,3,6,7,8-HXCDF	ND		0.496	0.1	0.00e+00	2.48e-02	
1,2,3,7,8,9-HXCDF	ND		0.496	0.1	0.00e+00	2.48e-02	
2,3,4,6,7,8-HXCDF	ND		0.496	0.1	0.00e+00	2.48e-02	
1,2,3,4,6,7,8-HPCDF		1.16	0.327	0.01	1.16e-02	1.16e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.327	0.01	0.00e+00	1.64e-03	
OCDF		2.57	0.483	0.0001	2.57e-04	2.57e-04	
			TOTAL TEQ		18.7	19.0	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.45	0.393	1	6.45e+00	6.45e+00	
1,2,3,7,8-PECDD		2.08	0.341	1	2.08e+00	2.08e+00	
1,2,3,4,7,8-HXCDD		5.99	1.05	0.1	5.99e-01	5.99e-01	
1,2,3,6,7,8-HXCDD		14.1	1.05	0.1	1.41e+00	1.41e+00	
1,2,3,7,8,9-HXCDD		25.3	1.05	0.1	2.53e+00	2.53e+00	
1,2,3,4,6,7,8-HPCDD		490	1.34	0.01	4.90e+00	4.90e+00	
OCDD		5200	0.632	0.0003	1.56e+00	1.56e+00	
2,3,7,8-TCDF		2.39	0.985	0.1	2.39e-01	2.39e-01	
1,2,3,7,8-PECDF	ND		0.408	0.03	0.00e+00	6.12e-03	
2,3,4,7,8-PECDF	ND		0.408	0.3	0.00e+00	6.12e-02	
1,2,3,4,7,8-HXCDF	ND		0.496	0.1	0.00e+00	2.48e-02	
1,2,3,6,7,8-HXCDF	ND		0.496	0.1	0.00e+00	2.48e-02	
1,2,3,7,8,9-HXCDF	ND		0.496	0.1	0.00e+00	2.48e-02	
2,3,4,6,7,8-HXCDF	ND		0.496	0.1	0.00e+00	2.48e-02	
1,2,3,4,6,7,8-HPCDF		1.16	0.327	0.01	1.16e-02	1.16e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.327	0.01	0.00e+00	1.64e-03	
OCDF		2.57	0.483	0.0003	7.71e-04	7.71e-04	
			TOTAL TEQ		19.8	19.9	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Mar-2007 09:49:01; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-119_TEQ_SJ651266.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-6
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-120 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.10 g (dry)
Extraction Date:	15-Feb-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	16-Mar-2007 **Time:** 15:29:08	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_114A S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_105 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_114A S: 1
		% Moisture:	36.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		4.40	0.480	0.80	1.001
1,2,3,7,8-PECDD [3]		2.11	0.437	0.54	1.001
1,2,3,4,7,8-HXCDD		5.89	0.537	1.13	1.000
1,2,3,6,7,8-HXCDD		17.6	0.537	1.23	1.000
1,2,3,7,8,9-HXCDD		31.7	0.537	1.29	1.010
1,2,3,4,6,7,8-HPCDD		609	1.45	1.04	1.000
OCDD		6500	0.504	0.90	1.000
2,3,7,8-TCDF		1.75	0.407	0.77	1.001
1,2,3,7,8-PECDF	NDR	0.432	0.394	1.01	1.001
2,3,4,7,8-PECDF		0.430	0.394	1.53	1.001
1,2,3,4,7,8-HXCDF	NDR	0.401	0.373	2.34	1.001
1,2,3,6,7,8-HXCDF	ND		0.373		
1,2,3,7,8,9-HXCDF	ND		0.373		
2,3,4,6,7,8-HXCDF	ND		0.373		
1,2,3,4,6,7,8-HPCDF		0.923	0.302	1.15	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.302		
OCDF		1.91	0.277	0.95	1.001
TOTAL TETRA-DIOXINS		158	0.480		
TOTAL PENTA-DIOXINS		115	0.437		
TOTAL HEXA-DIOXINS		534	0.537		
TOTAL HEPTA-DIOXINS		1350	1.45		
TOTAL TETRA-FURANS		29.7	0.407		
TOTAL PENTA-FURANS		2.49	0.394		
TOTAL HEXA-FURANS	ND		0.373		
TOTAL HEPTA-FURANS		1.95	0.302		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Mar-2007 09:42:39; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-120_Form1A_SJ651267.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-6
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-120 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.10 g (dry)
Extraction Date:	15-Feb-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	16-Mar-2007 **Time:** 15:29:08	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_114A S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_105 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_114A S: 1
		% Moisture:	36.4

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	8180	81.8	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		10000	8500	85.0	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		10000	9600	96.0	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8960	89.6	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	10200	102	1.03	1.095
13C-OCDD		20000	17100	85.3	0.90	1.179
13C-2,3,7,8-TCDF		10000	8320	83.2	0.80	0.966
13C-1,2,3,7,8-PECDF		10000	7770	77.7	1.58	1.283
13C-2,3,4,7,8-PECDF		10000	7950	79.5	1.59	1.351
13C-1,2,3,4,7,8-HXCDF		10000	10400	104	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		10000	10300	103	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9480	94.8	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9950	99.5	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9610	96.1	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		10000	9380	93.8	0.45	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	871	87.1		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Mar-2007 09:42:39; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9585-120_Form2_SJ651267.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-6
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-120 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.10 g (dry)
Extraction Date:	15-Feb-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	17-Mar-2007 **Time:** 00:09:57	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_054 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	N/A
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_054 S: 2
		% Moisture:	36.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		1.32		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN062-6

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 11:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.10 g (dry)	**Lab Sample I.D.:**	L9585-120 M
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_054 S: 8** **DX72_114A S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.40	0.480	1	4.40e+00	4.40e+00	
1,2,3,7,8-PECDD		2.11	0.437	1	2.11e+00	2.11e+00	
1,2,3,4,7,8-HXCDD		5.89	0.537	0.1	5.89e-01	5.89e-01	
1,2,3,6,7,8-HXCDD		17.6	0.537	0.1	1.76e+00	1.76e+00	
1,2,3,7,8,9-HXCDD		31.7	0.537	0.1	3.17e+00	3.17e+00	
1,2,3,4,6,7,8-HPCDD		609	1.45	0.01	6.09e+00	6.09e+00	
OCDD		6500	0.504	0.0001	6.50e-01	6.50e-01	
2,3,7,8-TCDF	ND		1.32	0.1	0.00e+00	6.60e-02	
1,2,3,7,8-PECDF	ND		0.394	0.05	0.00e+00	9.85e-03	
2,3,4,7,8-PECDF		0.430	0.394	0.5	2.15e-01	2.15e-01	
1,2,3,4,7,8-HXCDF	ND		0.373	0.1	0.00e+00	1.87e-02	
1,2,3,6,7,8-HXCDF	ND		0.373	0.1	0.00e+00	1.87e-02	
1,2,3,7,8,9-HXCDF	ND		0.373	0.1	0.00e+00	1.87e-02	
2,3,4,6,7,8-HXCDF	ND		0.373	0.1	0.00e+00	1.87e-02	
1,2,3,4,6,7,8-HPCDF		0.923	0.302	0.01	9.23e-03	9.23e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.302	0.01	0.00e+00	1.51e-03	
OCDF		1.91	0.277	0.0001	1.91e-04	1.91e-04	
			TOTAL TEQ		19.0	19.1	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.40	0.480	1	4.40e+00	4.40e+00	
1,2,3,7,8-PECDD		2.11	0.437	1	2.11e+00	2.11e+00	
1,2,3,4,7,8-HXCDD		5.89	0.537	0.1	5.89e-01	5.89e-01	
1,2,3,6,7,8-HXCDD		17.6	0.537	0.1	1.76e+00	1.76e+00	
1,2,3,7,8,9-HXCDD		31.7	0.537	0.1	3.17e+00	3.17e+00	
1,2,3,4,6,7,8-HPCDD		609	1.45	0.01	6.09e+00	6.09e+00	
OCDD		6500	0.504	0.0003	1.95e+00	1.95e+00	
2,3,7,8-TCDF	ND		1.32	0.1	0.00e+00	6.60e-02	
1,2,3,7,8-PECDF	ND		0.394	0.03	0.00e+00	5.91e-03	
2,3,4,7,8-PECDF		0.430	0.394	0.3	1.29e-01	1.29e-01	
1,2,3,4,7,8-HXCDF	ND		0.373	0.1	0.00e+00	1.87e-02	
1,2,3,6,7,8-HXCDF	ND		0.373	0.1	0.00e+00	1.87e-02	
1,2,3,7,8,9-HXCDF	ND		0.373	0.1	0.00e+00	1.87e-02	
2,3,4,6,7,8-HXCDF	ND		0.373	0.1	0.00e+00	1.87e-02	
1,2,3,4,6,7,8-HPCDF		0.923	0.302	0.01	9.23e-03	9.23e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.302	0.01	0.00e+00	1.51e-03	
OCDF		1.91	0.277	0.0003	5.73e-04	5.73e-04	
			TOTAL TEQ		20.2	20.4	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-11
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-125 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.21 g (dry)
Extraction Date:	15-Feb-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	16-Mar-2007 **Time:** 16:23:41	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_114A S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_105 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_114A S: 1
		% Moisture:	39.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		5.91	0.435	0.77	1.001
1,2,3,7,8-PECDD [3]	NDR	2.74	0.479	0.81	1.000
1,2,3,4,7,8-HXCDD		7.64	0.741	1.38	1.000
1,2,3,6,7,8-HXCDD		22.5	0.741	1.36	1.000
1,2,3,7,8,9-HXCDD		40.3	0.741	1.31	1.010
1,2,3,4,6,7,8-HPCDD		784	1.61	1.03	1.000
OCDD		7520	0.495	0.89	1.000
2,3,7,8-TCDF		2.75	0.278	0.79	1.001
1,2,3,7,8-PECDF	ND		0.453		
2,3,4,7,8-PECDF	ND		0.453		
1,2,3,4,7,8-HXCDF		0.445	0.372	1.08	1.001
1,2,3,6,7,8-HXCDF	ND		0.372		
1,2,3,7,8,9-HXCDF	ND		0.372		
2,3,4,6,7,8-HXCDF	ND		0.372		
1,2,3,4,6,7,8-HPCDF		1.32	0.377	1.01	1.001
1,2,3,4,7,8,9-HPCDF	ND		0.377		
OCDF	NDR	2.64	0.388	1.42	1.001
TOTAL TETRA-DIOXINS		203	0.435		
TOTAL PENTA-DIOXINS		140	0.479		
TOTAL HEXA-DIOXINS		655	0.741		
TOTAL HEPTA-DIOXINS		1620	1.61		
TOTAL TETRA-FURANS		42.6	0.278		
TOTAL PENTA-FURANS		2.58	0.453		
TOTAL HEXA-FURANS		0.935	0.372		
TOTAL HEPTA-FURANS		2.55	0.377		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-125_Form1A_SJ651268.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-11
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-125 M
Matrix:	SOLID	**Sample Size:**	5.21 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	10-Mar-2007
Extraction Date:	15-Feb-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Mar-2007 **Time:** 16:23:41	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_114A S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_105 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_114A S: 1
Concentration Units:	pg absolute	**% Moisture:**	39.6

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	8000	80.0	0.79	1.012
13C-1,2,3,7,8-PECDD [4]		10000	8280	82.8	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		10000	9220	92.2	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9010	90.1	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	9920	99.2	1.04	1.095
13C-OCDD		20000	17300	86.5	0.89	1.179
13C-2,3,7,8-TCDF		10000	8100	81.0	0.80	0.966
13C-1,2,3,7,8-PECDF		10000	7480	74.8	1.56	1.283
13C-2,3,4,7,8-PECDF		10000	7630	76.3	1.57	1.350
13C-1,2,3,4,7,8-HXCDF		10000	9980	99.8	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9550	95.5	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9080	90.8	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9540	95.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9260	92.6	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		10000	9220	92.2	0.46	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	817	81.7		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Mar-2007 09:42:39; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9585-125_Form2_SJ651268.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-11
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-125 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.21 g (dry)
Extraction Date:	15-Feb-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	17-Mar-2007 **Time:** 00:45:37	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_054 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	N/A
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_054 S: 2
		% Moisture:	39.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	NDR	1.54	1.19	0.92	1.001

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-125_Form1A_SJ651282.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN062-11

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 11:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.21 g (dry)	**Lab Sample I.D.:**	L9585-125 M
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_054 S: 9** **DX72_114A S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5.91	0.435	1	5.91e+00	5.91e+00	
1,2,3,7,8-PECDD	ND		0.479	1	0.00e+00	2.40e-01	
1,2,3,4,7,8-HXCDD		7.64	0.741	0.1	7.64e-01	7.64e-01	
1,2,3,6,7,8-HXCDD		22.5	0.741	0.1	2.25e+00	2.25e+00	
1,2,3,7,8,9-HXCDD		40.3	0.741	0.1	4.03e+00	4.03e+00	
1,2,3,4,6,7,8-HPCDD		784	1.61	0.01	7.84e+00	7.84e+00	
OCDD		7520	0.495	0.0001	7.52e-01	7.52e-01	
2,3,7,8-TCDF	ND		1.19	0.1	0.00e+00	5.95e-02	
1,2,3,7,8-PECDF	ND		0.453	0.05	0.00e+00	1.13e-02	
2,3,4,7,8-PECDF	ND		0.453	0.5	0.00e+00	1.13e-01	
1,2,3,4,7,8-HXCDF		0.445	0.372	0.1	4.45e-02	4.45e-02	
1,2,3,6,7,8-HXCDF	ND		0.372	0.1	0.00e+00	1.86e-02	
1,2,3,7,8,9-HXCDF	ND		0.372	0.1	0.00e+00	1.86e-02	
2,3,4,6,7,8-HXCDF	ND		0.372	0.1	0.00e+00	1.86e-02	
1,2,3,4,6,7,8-HPCDF		1.32	0.377	0.01	1.32e-02	1.32e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.377	0.01	0.00e+00	1.89e-03	
OCDF	ND		0.388	0.0001	0.00e+00	1.94e-05	
			TOTAL TEQ		21.6	22.1	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5.91	0.435	1	5.91e+00	5.91e+00	
1,2,3,7,8-PECDD	ND		0.479	1	0.00e+00	2.40e-01	
1,2,3,4,7,8-HXCDD		7.64	0.741	0.1	7.64e-01	7.64e-01	
1,2,3,6,7,8-HXCDD		22.5	0.741	0.1	2.25e+00	2.25e+00	
1,2,3,7,8,9-HXCDD		40.3	0.741	0.1	4.03e+00	4.03e+00	
1,2,3,4,6,7,8-HPCDD		784	1.61	0.01	7.84e+00	7.84e+00	
OCDD		7520	0.495	0.0003	2.26e+00	2.26e+00	
2,3,7,8-TCDF	ND		1.19	0.1	0.00e+00	5.95e-02	
1,2,3,7,8-PECDF	ND		0.453	0.03	0.00e+00	6.80e-03	
2,3,4,7,8-PECDF	ND		0.453	0.3	0.00e+00	6.80e-02	
1,2,3,4,7,8-HXCDF		0.445	0.372	0.1	4.45e-02	4.45e-02	
1,2,3,6,7,8-HXCDF	ND		0.372	0.1	0.00e+00	1.86e-02	
1,2,3,7,8,9-HXCDF	ND		0.372	0.1	0.00e+00	1.86e-02	
2,3,4,6,7,8-HXCDF	ND		0.372	0.1	0.00e+00	1.86e-02	
1,2,3,4,6,7,8-HPCDF		1.32	0.377	0.01	1.32e-02	1.32e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.377	0.01	0.00e+00	1.89e-03	
OCDF	ND		0.388	0.0003	0.00e+00	5.82e-05	
			TOTAL TEQ		23.1	23.5	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Mar-2007 09:49:01; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-125_TEQ_SJ651268.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN063
Sample Collection:
10-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-60 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.99 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 01:58:40	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_090 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_047 S: 6,7
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_090 S: 1
		% Moisture:	17.3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		1190	1.34	0.78	1.001
1,2,3,7,8-PECDD [3]		3.60	1.41	0.69	1.000
1,2,3,4,7,8-HXCDD	ND		1.29		
1,2,3,6,7,8-HXCDD		4.86	1.29	1.08	1.000
1,2,3,7,8,9-HXCDD	NDR	2.09	1.29	0.96	1.010
1,2,3,4,6,7,8-HPCDD	NDR	12.8	0.788	0.77	1.000
OCDD		240	1.17	0.88	1.000
2,3,7,8-TCDF	NDR	13.2	1.02	0.94	1.001
1,2,3,7,8-PECDF	ND		1.21		
2,3,4,7,8-PECDF	ND		1.21		
1,2,3,4,7,8-HXCDF	ND		1.06		
1,2,3,6,7,8-HXCDF	ND		1.06		
1,2,3,7,8,9-HXCDF	ND		1.06		
2,3,4,6,7,8-HXCDF	ND		1.06		
1,2,3,4,6,7,8-HPCDF		1.87	0.777	1.02	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.777		
OCDF	NDR	3.38	0.884	1.37	1.002
TOTAL TETRA-DIOXINS		1230	1.34		
TOTAL PENTA-DIOXINS		34.1	1.41		
TOTAL HEXA-DIOXINS		44.7	1.29		
TOTAL HEPTA-DIOXINS		10.6	0.788		
TOTAL TETRA-FURANS		56.0	1.02		
TOTAL PENTA-FURANS		62.2	1.21		
TOTAL HEXA-FURANS		9.68	1.06		
TOTAL HEPTA-FURANS		3.67	0.777		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN063
Sample Collection:
10-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-60 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.99 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 01:58:40	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_090 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_047 S: 6,7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_090 S: 1
		% Moisture:	17.3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	8020	80.2	0.77	1.013
13C-1,2,3,7,8-PECDD [4]		10000	7960	79.6	0.62	1.382
13C-1,2,3,4,7,8-HXCDD		10000	9380	93.8	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9950	99.5	1.14	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8560	85.6	1.04	1.095
13C-OCDD		20000	11600	57.8	0.96	1.179
13C-2,3,7,8-TCDF		10000	8380	83.8	0.79	0.967
13C-1,2,3,7,8-PECDF		10000	8020	80.2	1.50	1.283
13C-2,3,4,7,8-PECDF		10000	8160	81.6	1.54	1.351
13C-1,2,3,4,7,8-HXCDF		10000	10100	101	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		10000	10200	102	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8380	83.8	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9500	95.0	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9070	90.7	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7930	79.3	0.48	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	912	91.2		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Mar-2007 10:04:48; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB5_L9585-60_Form2_SJ645963.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN063
Sample Collection:
10-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-60
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.99 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 16:57:16	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 17**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_027 S: 5,6
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_027 S: 2
		% Moisture:	17.3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	NDR	41.5	14.4	0.39	1.002

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Mar-2007 10:11:46; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB225_L9585-60_Form1A_SJ643831.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN063

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 15:20
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	4.99 g (dry)	**Lab Sample I.D.:**	L9585-60
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_027 S: 17** **DX72_090 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1190	1.34	1	1.19e+03	1.19e+03	
1,2,3,7,8-PECDD		3.60	1.41	1	3.60e+00	3.60e+00	
1,2,3,4,7,8-HXCDD	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,6,7,8-HXCDD		4.86	1.29	0.1	4.86e-01	4.86e-01	
1,2,3,7,8,9-HXCDD	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,4,6,7,8-HPCDD	ND		0.788	0.01	0.00e+00	3.94e-03	
OCDD		240	1.17	0.0001	2.40e-02	2.40e-02	
2,3,7,8-TCDF	ND		14.4	0.1	0.00e+00	7.20e-01	
1,2,3,7,8-PECDF	ND		1.21	0.05	0.00e+00	3.03e-02	
2,3,4,7,8-PECDF	ND		1.21	0.5	0.00e+00	3.03e-01	
1,2,3,4,7,8-HXCDF	ND		1.06	0.1	0.00e+00	5.30e-02	
1,2,3,6,7,8-HXCDF	ND		1.06	0.1	0.00e+00	5.30e-02	
1,2,3,7,8,9-HXCDF	ND		1.06	0.1	0.00e+00	5.30e-02	
2,3,4,6,7,8-HXCDF	ND		1.06	0.1	0.00e+00	5.30e-02	
1,2,3,4,6,7,8-HPCDF		1.87	0.777	0.01	1.87e-02	1.87e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.777	0.01	0.00e+00	3.89e-03	
OCDF	ND		0.884	0.0001	0.00e+00	4.42e-05	
			TOTAL TEQ		1190	1200	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1190	1.34	1	1.19e+03	1.19e+03	
1,2,3,7,8-PECDD		3.60	1.41	1	3.60e+00	3.60e+00	
1,2,3,4,7,8-HXCDD	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,6,7,8-HXCDD		4.86	1.29	0.1	4.86e-01	4.86e-01	
1,2,3,7,8,9-HXCDD	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,4,6,7,8-HPCDD	ND		0.788	0.01	0.00e+00	3.94e-03	
OCDD		240	1.17	0.0003	7.20e-02	7.20e-02	
2,3,7,8-TCDF	ND		14.4	0.1	0.00e+00	7.20e-01	
1,2,3,7,8-PECDF	ND		1.21	0.03	0.00e+00	1.82e-02	
2,3,4,7,8-PECDF	ND		1.21	0.3	0.00e+00	1.82e-01	
1,2,3,4,7,8-HXCDF	ND		1.06	0.1	0.00e+00	5.30e-02	
1,2,3,6,7,8-HXCDF	ND		1.06	0.1	0.00e+00	5.30e-02	
1,2,3,7,8,9-HXCDF	ND		1.06	0.1	0.00e+00	5.30e-02	
2,3,4,6,7,8-HXCDF	ND		1.06	0.1	0.00e+00	5.30e-02	
1,2,3,4,6,7,8-HPCDF		1.87	0.777	0.01	1.87e-02	1.87e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.777	0.01	0.00e+00	3.89e-03	
OCDF	ND		0.884	0.0003	0.00e+00	1.33e-04	
			TOTAL TEQ		1190	1200	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Mar-2007 10:17:14; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-60_TEQ_SJ643831.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN064
Sample Collection:
10-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-61
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.21 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 11:59:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_052 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_052 S: 1
		% Moisture:	16.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		8730	1.74	0.81	1.001
1,2,3,7,8-PECDD [3]		25.2	3.58	0.61	1.000
1,2,3,4,7,8-HXCDD	ND		3.54		
1,2,3,6,7,8-HXCDD		71.8	3.54	1.39	1.000
1,2,3,7,8,9-HXCDD	ND		3.54		
1,2,3,4,6,7,8-HPCDD	NDR	22.3	2.41	0.71	1.000
OCDD		973	3.91	0.88	1.000
2,3,7,8-TCDF		95.4	1.74	0.84	1.002
1,2,3,7,8-PECDF	ND		3.05		
2,3,4,7,8-PECDF	ND		3.05		
1,2,3,4,7,8-HXCDF	ND		2.15		
1,2,3,6,7,8-HXCDF	ND		2.15		
1,2,3,7,8,9-HXCDF	ND		2.15		
2,3,4,6,7,8-HXCDF	ND		2.15		
1,2,3,4,6,7,8-HPCDF	NDR	4.42	2.05	1.30	1.000
1,2,3,4,7,8,9-HPCDF	ND		2.05		
OCDF	ND		2.42		
TOTAL TETRA-DIOXINS		9050	1.74		
TOTAL PENTA-DIOXINS		388	3.58		
TOTAL HEXA-DIOXINS		751	3.54		
TOTAL HEPTA-DIOXINS		26.7	2.41		
TOTAL TETRA-FURANS		545	1.74		
TOTAL PENTA-FURANS		504	3.05		
TOTAL HEXA-FURANS		102	2.15		
TOTAL HEPTA-FURANS		4.16	2.05		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-61_Form1A_SJ650055.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN064
Sample Collection:
10-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-61
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.21 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 11:59:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_052 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_052 S: 1
		% Moisture:	16.6

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	8850	88.5	0.78	1.012
13C-1,2,3,7,8-PECDD [4]		10000	7990	79.9	0.66	1.381
13C-1,2,3,4,7,8-HXCDD		10000	8590	85.9	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8640	86.4	1.31	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8600	86.0	0.98	1.094
13C-OCDD		20000	13500	67.3	0.89	1.178
13C-2,3,7,8-TCDF		10000	9210	92.1	0.73	0.966
13C-1,2,3,7,8-PECDF		10000	9090	90.9	1.65	1.283
13C-2,3,4,7,8-PECDF		10000	8750	87.5	1.56	1.349
13C-1,2,3,4,7,8-HXCDF		10000	10200	102	0.54	0.954
13C-1,2,3,6,7,8-HXCDF		10000	10200	102	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9610	96.1	0.54	1.004
13C-2,3,4,6,7,8-HXCDF		10000	9610	96.1	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	8780	87.8	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8850	88.5	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	848	84.8		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9585-61_Form2_SJ650055.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN064
Sample Collection:
10-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-61
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.21 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 04:54:23	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_028 S: 16**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_028 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_028 S: 2
		% Moisture:	16.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		54.2	4.32	0.83	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 15:14:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB225_L9585-61_Form1A_SJ650212.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN064

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 15:40
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.21 g (dry)	**Lab Sample I.D.:**	L9585-61
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_028 S: 16** **DX7B_052 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		8730	1.74	1	8.73e+03	8.73e+03	
1,2,3,7,8-PECDD		25.2	3.58	1	2.52e+01	2.52e+01	
1,2,3,4,7,8-HXCDD	ND		3.54	0.1	0.00e+00	1.77e-01	
1,2,3,6,7,8-HXCDD		71.8	3.54	0.1	7.18e+00	7.18e+00	
1,2,3,7,8,9-HXCDD	ND		3.54	0.1	0.00e+00	1.77e-01	
1,2,3,4,6,7,8-HPCDD	ND		2.41	0.01	0.00e+00	1.21e-02	
OCDD		973	3.91	0.0001	9.73e-02	9.73e-02	
2,3,7,8-TCDF		54.2	4.32	0.1	5.42e+00	5.42e+00	
1,2,3,7,8-PECDF	ND		3.05	0.05	0.00e+00	7.63e-02	
2,3,4,7,8-PECDF	ND		3.05	0.5	0.00e+00	7.63e-01	
1,2,3,4,7,8-HXCDF	ND		2.15	0.1	0.00e+00	1.08e-01	
1,2,3,6,7,8-HXCDF	ND		2.15	0.1	0.00e+00	1.08e-01	
1,2,3,7,8,9-HXCDF	ND		2.15	0.1	0.00e+00	1.08e-01	
2,3,4,6,7,8-HXCDF	ND		2.15	0.1	0.00e+00	1.08e-01	
1,2,3,4,6,7,8-HPCDF	ND		2.05	0.01	0.00e+00	1.03e-02	
1,2,3,4,7,8,9-HPCDF	ND		2.05	0.01	0.00e+00	1.03e-02	
OCDF	ND		2.42	0.0001	0.00e+00	1.21e-04	
			TOTAL TEQ		8770	8770	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		8730	1.74	1	8.73e+03	8.73e+03	
1,2,3,7,8-PECDD		25.2	3.58	1	2.52e+01	2.52e+01	
1,2,3,4,7,8-HXCDD	ND		3.54	0.1	0.00e+00	1.77e-01	
1,2,3,6,7,8-HXCDD		71.8	3.54	0.1	7.18e+00	7.18e+00	
1,2,3,7,8,9-HXCDD	ND		3.54	0.1	0.00e+00	1.77e-01	
1,2,3,4,6,7,8-HPCDD	ND		2.41	0.01	0.00e+00	1.21e-02	
OCDD		973	3.91	0.0003	2.92e-01	2.92e-01	
2,3,7,8-TCDF		54.2	4.32	0.1	5.42e+00	5.42e+00	
1,2,3,7,8-PECDF	ND		3.05	0.03	0.00e+00	4.58e-02	
2,3,4,7,8-PECDF	ND		3.05	0.3	0.00e+00	4.58e-01	
1,2,3,4,7,8-HXCDF	ND		2.15	0.1	0.00e+00	1.08e-01	
1,2,3,6,7,8-HXCDF	ND		2.15	0.1	0.00e+00	1.08e-01	
1,2,3,7,8,9-HXCDF	ND		2.15	0.1	0.00e+00	1.08e-01	
2,3,4,6,7,8-HXCDF	ND		2.15	0.1	0.00e+00	1.08e-01	
1,2,3,4,6,7,8-HPCDF	ND		2.05	0.01	0.00e+00	1.03e-02	
1,2,3,4,7,8,9-HPCDF	ND		2.05	0.01	0.00e+00	1.03e-02	
OCDF	ND		2.42	0.0003	0.00e+00	3.63e-04	
			TOTAL TEQ		8770	8770	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 19-Mar-2007 15:18:15; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-61_TEQ_SJ650212.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN065
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-62
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.25 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 12:54:21	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_052 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_052 S: 1
		% Moisture:	5.93

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		27700	3.05	0.81	1.001
1,2,3,7,8-PECDD [3]		122	3.61	0.69	1.001
1,2,3,4,7,8-HXCDD		34.5	6.94	1.27	1.000
1,2,3,6,7,8-HXCDD		273	6.94	1.23	1.000
1,2,3,7,8,9-HXCDD		158	6.94	1.13	1.010
1,2,3,4,6,7,8-HPCDD		1370	5.83	1.06	1.000
OCDD		7070	3.53	0.92	1.000
2,3,7,8-TCDF		413	2.63	0.79	1.003
1,2,3,7,8-PECDF	ND		4.44		
2,3,4,7,8-PECDF		11.1	4.44	1.58	1.000
1,2,3,4,7,8-HXCDF	NDR	9.72	3.09	1.55	1.000
1,2,3,6,7,8-HXCDF	NDR	3.78	3.09	0.87	1.000
1,2,3,7,8,9-HXCDF	ND		3.09		
2,3,4,6,7,8-HXCDF	ND		3.09		
1,2,3,4,6,7,8-HPCDF		60.1	2.91	0.99	1.000
1,2,3,4,7,8,9-HPCDF	ND		2.91		
OCDF		77.9	3.63	1.00	1.002
TOTAL TETRA-DIOXINS		29100	3.05		
TOTAL PENTA-DIOXINS		1220	3.61		
TOTAL HEXA-DIOXINS		1870	6.94		
TOTAL HEPTA-DIOXINS		2230	5.83		
TOTAL TETRA-FURANS		2000	2.63		
TOTAL PENTA-FURANS		1900	4.44		
TOTAL HEXA-FURANS		374	3.09		
TOTAL HEPTA-FURANS		116	2.91		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN065
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-62
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.25 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 12:54:21	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_052 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_052 S: 1
		% Moisture:	5.93

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	9260	92.6	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		10000	8870	88.7	0.64	1.382
13C-1,2,3,4,7,8-HXCDD		10000	9040	90.4	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9390	93.9	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8760	87.6	0.97	1.094
13C-OCDD		20000	15200	76.0	0.89	1.178
13C-2,3,7,8-TCDF		10000	10500	105	0.73	0.966
13C-1,2,3,7,8-PECDF		10000	9700	97.0	1.53	1.283
13C-2,3,4,7,8-PECDF		10000	9510	95.1	1.55	1.350
13C-1,2,3,4,7,8-HXCDF		10000	10600	106	0.55	0.954
13C-1,2,3,6,7,8-HXCDF		10000	10500	105	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		10000	10200	102	0.51	1.004
13C-2,3,4,6,7,8-HXCDF		10000	10500	105	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9350	93.5	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	9150	91.5	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	883	88.3		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-62_Form2_SJ650056.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN065
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-62
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.23 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 05:30:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_028 S: 17**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_028 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_028 S: 2
		% Moisture:	5.93

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		162	6.03	0.71	1.000

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 15:14:56; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB225_L9585-62_Form1A_SJ650213.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN065

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 16:00
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.23 g (dry)	**Lab Sample I.D.:**	L9585-62
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_028 S: 17** **DX7B_052 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		27700	3.05	1	2.77e+04	2.77e+04	
1,2,3,7,8-PECDD		122	3.61	1	1.22e+02	1.22e+02	
1,2,3,4,7,8-HXCDD		34.5	6.94	0.1	3.45e+00	3.45e+00	
1,2,3,6,7,8-HXCDD		273	6.94	0.1	2.73e+01	2.73e+01	
1,2,3,7,8,9-HXCDD		158	6.94	0.1	1.58e+01	1.58e+01	
1,2,3,4,6,7,8-HPCDD		1370	5.83	0.01	1.37e+01	1.37e+01	
OCDD		7070	3.53	0.0001	7.07e-01	7.07e-01	
2,3,7,8-TCDF		162	6.03	0.1	1.62e+01	1.62e+01	
1,2,3,7,8-PECDF	ND		4.44	0.05	0.00e+00	1.11e-01	
2,3,4,7,8-PECDF		11.1	4.44	0.5	5.55e+00	5.55e+00	
1,2,3,4,7,8-HXCDF	ND		3.09	0.1	0.00e+00	1.55e-01	
1,2,3,6,7,8-HXCDF	ND		3.09	0.1	0.00e+00	1.55e-01	
1,2,3,7,8,9-HXCDF	ND		3.09	0.1	0.00e+00	1.55e-01	
2,3,4,6,7,8-HXCDF	ND		3.09	0.1	0.00e+00	1.55e-01	
1,2,3,4,6,7,8-HPCDF		60.1	2.91	0.01	6.01e-01	6.01e-01	
1,2,3,4,7,8,9-HPCDF	ND		2.91	0.01	0.00e+00	1.46e-02	
OCDF		77.9	3.63	0.0001	7.79e-03	7.79e-03	
			TOTAL TEQ		27900	27900	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		27700	3.05	1	2.77e+04	2.77e+04	
1,2,3,7,8-PECDD		122	3.61	1	1.22e+02	1.22e+02	
1,2,3,4,7,8-HXCDD		34.5	6.94	0.1	3.45e+00	3.45e+00	
1,2,3,6,7,8-HXCDD		273	6.94	0.1	2.73e+01	2.73e+01	
1,2,3,7,8,9-HXCDD		158	6.94	0.1	1.58e+01	1.58e+01	
1,2,3,4,6,7,8-HPCDD		1370	5.83	0.01	1.37e+01	1.37e+01	
OCDD		7070	3.53	0.0003	2.12e+00	2.12e+00	
2,3,7,8-TCDF		162	6.03	0.1	1.62e+01	1.62e+01	
1,2,3,7,8-PECDF	ND		4.44	0.03	0.00e+00	6.66e-02	
2,3,4,7,8-PECDF		11.1	4.44	0.3	3.33e+00	3.33e+00	
1,2,3,4,7,8-HXCDF	ND		3.09	0.1	0.00e+00	1.55e-01	
1,2,3,6,7,8-HXCDF	ND		3.09	0.1	0.00e+00	1.55e-01	
1,2,3,7,8,9-HXCDF	ND		3.09	0.1	0.00e+00	1.55e-01	
2,3,4,6,7,8-HXCDF	ND		3.09	0.1	0.00e+00	1.55e-01	
1,2,3,4,6,7,8-HPCDF		60.1	2.91	0.01	6.01e-01	6.01e-01	
1,2,3,4,7,8,9-HPCDF	ND		2.91	0.01	0.00e+00	1.46e-02	
OCDF		77.9	3.63	0.0003	2.34e-02	2.34e-02	
			TOTAL TEQ		27900	27900	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN066
Sample Collection:
10-Dec-2006 11:05

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-63 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.44 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	08-Mar-2007 **Time:** 15:03:04	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_098B S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_098B S: 1
		% Moisture:	17.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		858	0.944	0.79	1.001
1,2,3,7,8-PECDD [3]		16.2	1.00	0.70	1.001
1,2,3,4,7,8-HXCDD		11.1	1.06	1.22	1.000
1,2,3,6,7,8-HXCDD		58.5	1.06	1.13	1.000
1,2,3,7,8,9-HXCDD		33.1	1.06	1.33	1.010
1,2,3,4,6,7,8-HPCDD		637	1.55	1.05	1.000
OCDD		5240	2.57	0.89	1.000
2,3,7,8-TCDF		36.6	1.05	0.79	1.003
1,2,3,7,8-PECDF		4.78	1.12	1.43	1.001
2,3,4,7,8-PECDF		5.23	1.12	1.36	1.000
1,2,3,4,7,8-HXCDF		10.1	0.947	1.08	1.000
1,2,3,6,7,8-HXCDF		6.15	0.947	1.15	1.000
1,2,3,7,8,9-HXCDF	NDR	1.77	0.947	2.37	1.000
2,3,4,6,7,8-HXCDF		4.57	0.947	1.13	1.000
1,2,3,4,6,7,8-HPCDF		71.7	0.735	1.09	1.000
1,2,3,4,7,8,9-HPCDF	NDR	5.44	0.735	1.50	1.000
OCDF		132	0.703	0.95	1.002
TOTAL TETRA-DIOXINS		931	0.944		
TOTAL PENTA-DIOXINS		151	1.00		
TOTAL HEXA-DIOXINS		356	1.06		
TOTAL HEPTA-DIOXINS		1320	1.55		
TOTAL TETRA-FURANS		165	1.05		
TOTAL PENTA-FURANS		190	1.12		
TOTAL HEXA-FURANS		143	0.947		
TOTAL HEPTA-FURANS		171	0.735		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-63_Form1A_SJ650136.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN066
Sample Collection:
10-Dec-2006 11:05

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-63 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.44 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	08-Mar-2007 **Time:** 15:03:04	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_098B S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_098B S: 1
		% Moisture:	17.4

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	9120	91.2	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		10000	9290	92.9	0.65	1.382
13C-1,2,3,4,7,8-HXCDD		10000	10500	105	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		10000	10000	100	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	9270	92.7	1.05	1.094
13C-OCDD		20000	14600	73.1	0.93	1.178
13C-2,3,7,8-TCDF		10000	10300	103	0.79	0.966
13C-1,2,3,7,8-PECDF		10000	9790	97.9	1.56	1.283
13C-2,3,4,7,8-PECDF		10000	10100	101	1.58	1.350
13C-1,2,3,4,7,8-HXCDF		10000	11200	112	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		10000	11200	112	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9800	98.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		10000	10600	106	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	11400	114	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	9700	97.0	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	958	95.8		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9585-63_Form2_SJ650136.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN066
Sample Collection:
10-Dec-2006 11:05

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-63
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.44 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 06:05:39	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_028 S: 18**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_028 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_028 S: 2
		% Moisture:	17.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		20.6	4.38	0.69	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-63_Form1A_SJ650214.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN066

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 11:05
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.44 g (dry)	**Lab Sample I.D.:**	L9585-63
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_028 S: 18** **DX72_098B S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		858	0.944	1	8.58e+02	8.58e+02	
1,2,3,7,8-PECDD		16.2	1.00	1	1.62e+01	1.62e+01	
1,2,3,4,7,8-HXCDD		11.1	1.06	0.1	1.11e+00	1.11e+00	
1,2,3,6,7,8-HXCDD		58.5	1.06	0.1	5.85e+00	5.85e+00	
1,2,3,7,8,9-HXCDD		33.1	1.06	0.1	3.31e+00	3.31e+00	
1,2,3,4,6,7,8-HPCDD		637	1.55	0.01	6.37e+00	6.37e+00	
OCDD		5240	2.57	0.0001	5.24e-01	5.24e-01	
2,3,7,8-TCDF		20.6	4.38	0.1	2.06e+00	2.06e+00	
1,2,3,7,8-PECDF		4.78	1.12	0.05	2.39e-01	2.39e-01	
2,3,4,7,8-PECDF		5.23	1.12	0.5	2.62e+00	2.62e+00	
1,2,3,4,7,8-HXCDF		10.1	0.947	0.1	1.01e+00	1.01e+00	
1,2,3,6,7,8-HXCDF		6.15	0.947	0.1	6.15e-01	6.15e-01	
1,2,3,7,8,9-HXCDF	ND		0.947	0.1	0.00e+00	4.74e-02	
2,3,4,6,7,8-HXCDF		4.57	0.947	0.1	4.57e-01	4.57e-01	
1,2,3,4,6,7,8-HPCDF		71.7	0.735	0.01	7.17e-01	7.17e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.735	0.01	0.00e+00	3.68e-03	
OCDF		132	0.703	0.0001	1.32e-02	1.32e-02	
			TOTAL TEQ		899	899	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		858	0.944	1	8.58e+02	8.58e+02	
1,2,3,7,8-PECDD		16.2	1.00	1	1.62e+01	1.62e+01	
1,2,3,4,7,8-HXCDD		11.1	1.06	0.1	1.11e+00	1.11e+00	
1,2,3,6,7,8-HXCDD		58.5	1.06	0.1	5.85e+00	5.85e+00	
1,2,3,7,8,9-HXCDD		33.1	1.06	0.1	3.31e+00	3.31e+00	
1,2,3,4,6,7,8-HPCDD		637	1.55	0.01	6.37e+00	6.37e+00	
OCDD		5240	2.57	0.0003	1.57e+00	1.57e+00	
2,3,7,8-TCDF		20.6	4.38	0.1	2.06e+00	2.06e+00	
1,2,3,7,8-PECDF		4.78	1.12	0.03	1.43e-01	1.43e-01	
2,3,4,7,8-PECDF		5.23	1.12	0.3	1.57e+00	1.57e+00	
1,2,3,4,7,8-HXCDF		10.1	0.947	0.1	1.01e+00	1.01e+00	
1,2,3,6,7,8-HXCDF		6.15	0.947	0.1	6.15e-01	6.15e-01	
1,2,3,7,8,9-HXCDF	ND		0.947	0.1	0.00e+00	4.74e-02	
2,3,4,6,7,8-HXCDF		4.57	0.947	0.1	4.57e-01	4.57e-01	
1,2,3,4,6,7,8-HPCDF		71.7	0.735	0.01	7.17e-01	7.17e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.735	0.01	0.00e+00	3.68e-03	
OCDF		132	0.703	0.0003	3.96e-02	3.96e-02	
			TOTAL TEQ		899	899	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN067
Sample Collection:
10-Dec-2006 11:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-64
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.28 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 Time: 14:44:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_052 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_052 S: 1
		% Moisture:	20.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		4820	2.31	0.81	1.001
1,2,3,7,8-PECDD [3]		105	3.11	0.62	1.000
1,2,3,4,7,8-HXCDD		26.8	3.85	1.14	1.000
1,2,3,6,7,8-HXCDD		136	3.85	1.16	1.000
1,2,3,7,8,9-HXCDD		91.8	3.85	1.20	1.010
1,2,3,4,6,7,8-HPCDD		1600	7.47	1.01	1.000
OCDD		12700	2.14	0.89	1.000
2,3,7,8-TCDF		143	1.15	0.77	1.002
1,2,3,7,8-PECDF		8.42	3.05	1.43	1.001
2,3,4,7,8-PECDF	NDR	12.5	3.05	1.13	1.000
1,2,3,4,7,8-HXCDF	NDR	27.2	4.52	1.58	1.000
1,2,3,6,7,8-HXCDF	NDR	11.3	4.52	1.49	1.000
1,2,3,7,8,9-HXCDF	ND		4.52		
2,3,4,6,7,8-HXCDF		7.42	4.52	1.20	1.000
1,2,3,4,6,7,8-HPCDF		139	3.29	1.05	1.000
1,2,3,4,7,8,9-HPCDF		8.74	3.29	0.91	1.000
OCDF		309	2.90	0.85	1.002
TOTAL TETRA-DIOXINS		5170	2.31		
TOTAL PENTA-DIOXINS		616	3.11		
TOTAL HEXA-DIOXINS		999	3.85		
TOTAL HEPTA-DIOXINS		3130	7.47		
TOTAL TETRA-FURANS		649	1.15		
TOTAL PENTA-FURANS		731	3.05		
TOTAL HEXA-FURANS		382	4.52		
TOTAL HEPTA-FURANS		412	3.29		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN067
Sample Collection:
10-Dec-2006 11:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-64
Matrix:	SOLID	**Sample Size:**	5.28 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	16-Dec-2006
Extraction Date:	24-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	25-Feb-2007 **Time:** 14:44:31	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX7B_052 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7B_050D S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_052 S: 1
Concentration Units:	pg absolute	**% Moisture:**	20.6

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	9880	98.8	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		10000	9390	93.9	0.66	1.382
13C-1,2,3,4,7,8-HXCDD		10000	9810	98.1	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		10000	10100	101	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	9930	99.3	1.03	1.095
13C-OCDD		20000	16300	81.6	0.95	1.179
13C-2,3,7,8-TCDF		10000	10800	108	0.74	0.966
13C-1,2,3,7,8-PECDF		10000	10600	106	1.62	1.283
13C-2,3,4,7,8-PECDF		10000	10000	100	1.56	1.350
13C-1,2,3,4,7,8-HXCDF		10000	11400	114	0.55	0.954
13C-1,2,3,6,7,8-HXCDF		10000	11700	117	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		10000	10800	108	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		10000	11000	110	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	10200	102	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	10400	104	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	925	92.5		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9585-64_Form2_SJ650058.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN067
Sample Collection:
10-Dec-2006 11:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-64
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.28 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 06:41:17	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_028 S: 19**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_028 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_028 S: 2
		% Moisture:	20.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		74.9	4.01	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 15:14:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB225_L9585-64_Form1A_SJ650215.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN067

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 11:15
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.28 g (dry)	**Lab Sample I.D.:**	L9585-64
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_028 S: 19** **DX7B_052 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4820	2.31	1	4.82e+03	4.82e+03	
1,2,3,7,8-PECDD		105	3.11	1	1.05e+02	1.05e+02	
1,2,3,4,7,8-HXCDD		26.8	3.85	0.1	2.68e+00	2.68e+00	
1,2,3,6,7,8-HXCDD		136	3.85	0.1	1.36e+01	1.36e+01	
1,2,3,7,8,9-HXCDD		91.8	3.85	0.1	9.18e+00	9.18e+00	
1,2,3,4,6,7,8-HPCDD		1600	7.47	0.01	1.60e+01	1.60e+01	
OCDD		12700	2.14	0.0001	1.27e+00	1.27e+00	
2,3,7,8-TCDF		74.9	4.01	0.1	7.49e+00	7.49e+00	
1,2,3,7,8-PECDF		8.42	3.05	0.05	4.21e-01	4.21e-01	
2,3,4,7,8-PECDF	ND		3.05	0.5	0.00e+00	7.63e-01	
1,2,3,4,7,8-HXCDF	ND		4.52	0.1	0.00e+00	2.26e-01	
1,2,3,6,7,8-HXCDF	ND		4.52	0.1	0.00e+00	2.26e-01	
1,2,3,7,8,9-HXCDF	ND		4.52	0.1	0.00e+00	2.26e-01	
2,3,4,6,7,8-HXCDF		7.42	4.52	0.1	7.42e-01	7.42e-01	
1,2,3,4,6,7,8-HPCDF		139	3.29	0.01	1.39e+00	1.39e+00	
1,2,3,4,7,8,9-HPCDF		8.74	3.29	0.01	8.74e-02	8.74e-02	
OCDF		309	2.90	0.0001	3.09e-02	3.09e-02	
			TOTAL TEQ		4980	4980	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4820	2.31	1	4.82e+03	4.82e+03	
1,2,3,7,8-PECDD		105	3.11	1	1.05e+02	1.05e+02	
1,2,3,4,7,8-HXCDD		26.8	3.85	0.1	2.68e+00	2.68e+00	
1,2,3,6,7,8-HXCDD		136	3.85	0.1	1.36e+01	1.36e+01	
1,2,3,7,8,9-HXCDD		91.8	3.85	0.1	9.18e+00	9.18e+00	
1,2,3,4,6,7,8-HPCDD		1600	7.47	0.01	1.60e+01	1.60e+01	
OCDD		12700	2.14	0.0003	3.81e+00	3.81e+00	
2,3,7,8-TCDF		74.9	4.01	0.1	7.49e+00	7.49e+00	
1,2,3,7,8-PECDF		8.42	3.05	0.03	2.53e-01	2.53e-01	
2,3,4,7,8-PECDF	ND		3.05	0.3	0.00e+00	4.58e-01	
1,2,3,4,7,8-HXCDF	ND		4.52	0.1	0.00e+00	2.26e-01	
1,2,3,6,7,8-HXCDF	ND		4.52	0.1	0.00e+00	2.26e-01	
1,2,3,7,8,9-HXCDF	ND		4.52	0.1	0.00e+00	2.26e-01	
2,3,4,6,7,8-HXCDF		7.42	4.52	0.1	7.42e-01	7.42e-01	
1,2,3,4,6,7,8-HPCDF		139	3.29	0.01	1.39e+00	1.39e+00	
1,2,3,4,7,8,9-HPCDF		8.74	3.29	0.01	8.74e-02	8.74e-02	
OCDF		309	2.90	0.0003	9.27e-02	9.27e-02	
			TOTAL TEQ		4980	4980	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 19-Mar-2007 15:18:15; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-64_TEQ_SJ650215.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN068
Sample Collection:
10-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-65
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.24 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 15:39:34	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_052 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_052 S: 1
		% Moisture:	7.47

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD [3]		120	2.53	0.68	1.001
1,2,3,4,7,8-HXCDD		29.1	3.84	1.36	1.000
1,2,3,6,7,8-HXCDD		222	3.84	1.22	1.000
1,2,3,7,8,9-HXCDD		121	3.84	1.19	1.010
1,2,3,4,6,7,8-HPCDD		1050	4.23	1.01	1.000
OCDD		7920	2.88	0.90	1.000
2,3,7,8-TCDF		437	3.01	0.79	1.003
1,2,3,7,8-PECDF		6.93	3.75	1.34	1.001
2,3,4,7,8-PECDF	NDR	12.0	3.75	1.22	1.000
1,2,3,4,7,8-HXCDF	NDR	9.89	2.41	1.65	1.000
1,2,3,6,7,8-HXCDF		3.43	2.41	1.25	1.001
1,2,3,7,8,9-HXCDF	ND		2.41		
2,3,4,6,7,8-HXCDF	NDR	3.26	2.41	1.91	1.000
1,2,3,4,6,7,8-HPCDF		64.5	2.29	0.97	1.000
1,2,3,4,7,8,9-HPCDF		3.18	2.29	1.02	1.001
OCDF		89.7	2.00	0.92	1.002
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS		1010	2.53		
TOTAL HEXA-DIOXINS		1550	3.84		
TOTAL HEPTA-DIOXINS		1680	4.23		
TOTAL TETRA-FURANS		2080	3.01		
TOTAL PENTA-FURANS		2020	3.75		
TOTAL HEXA-FURANS		450	2.41		
TOTAL HEPTA-FURANS		128	2.29		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-65_Form1A_SJ650059.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN068
Sample Collection:
10-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-65
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.24 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 15:39:34	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_052 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_052 S: 1
		% Moisture:	7.47

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]		10000	10300	103	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		10000	9910	99.1	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		10000	10200	102	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	10000	100	0.99	1.094
13C-OCDD		20000	16600	82.8	0.89	1.178
13C-2,3,7,8-TCDF		10000	12000	120	0.76	0.966
13C-1,2,3,7,8-PECDF		10000	11200	112	1.61	1.283
13C-2,3,4,7,8-PECDF		10000	10700	107	1.54	1.350
13C-1,2,3,4,7,8-HXCDF		10000	11900	119	0.54	0.954
13C-1,2,3,6,7,8-HXCDF		10000	11700	117	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		10000	11400	114	0.55	1.004
13C-2,3,4,6,7,8-HXCDF		10000	10800	108	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	10500	105	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	10500	105	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	1070	107		1.014

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9585-65_Form2_SJ650059.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN068
Sample Collection:
10-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-65 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.24 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	08-Mar-2007 **Time:** 16:52:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	250	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_098B S: 7**
Dilution Factor:	2.5	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_098B S: 1
		% Moisture:	7.47

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	36800	2.70	0.78	1.001
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	38300	2.70		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-65_Form1A_SJ650138.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN068
Sample Collection:
10-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-65 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.24 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	08-Mar-2007 **Time:** 16:52:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	250	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_098B S: 7**
Dilution Factor:	2.5	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_098B S: 1
		% Moisture:	7.47

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	10000	10000	100	0.78	1.013
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	X					
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9585-65_Form2_SJ650138.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN068
Sample Collection:
10-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-65
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.24 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 13:45:43	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_029A S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_028 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_029A S: 2
		% Moisture:	7.47

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		198	3.70	0.65	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 15:14:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB225_L9585-65_Form1A_SJ650218.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN068

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 16:10
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.24 g (dry)	**Lab Sample I.D.:**	L9585-65
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_029A S: 6** **DX72_098B S: 7** **DX7B_052 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		36800	2.70	1	3.68e+04	3.68e+04	
1,2,3,7,8-PECDD		120	2.53	1	1.20e+02	1.20e+02	
1,2,3,4,7,8-HXCDD		29.1	3.84	0.1	2.91e+00	2.91e+00	
1,2,3,6,7,8-HXCDD		222	3.84	0.1	2.22e+01	2.22e+01	
1,2,3,7,8,9-HXCDD		121	3.84	0.1	1.21e+01	1.21e+01	
1,2,3,4,6,7,8-HPCDD		1050	4.23	0.01	1.05e+01	1.05e+01	
OCDD		7920	2.88	0.0001	7.92e-01	7.92e-01	
2,3,7,8-TCDF		198	3.70	0.1	1.98e+01	1.98e+01	
1,2,3,7,8-PECDF		6.93	3.75	0.05	3.47e-01	3.47e-01	
2,3,4,7,8-PECDF	ND		3.75	0.5	0.00e+00	9.38e-01	
1,2,3,4,7,8-HXCDF	ND		2.41	0.1	0.00e+00	1.21e-01	
1,2,3,6,7,8-HXCDF		3.43	2.41	0.1	3.43e-01	3.43e-01	
1,2,3,7,8,9-HXCDF	ND		2.41	0.1	0.00e+00	1.21e-01	
2,3,4,6,7,8-HXCDF	ND		2.41	0.1	0.00e+00	1.21e-01	
1,2,3,4,6,7,8-HPCDF		64.5	2.29	0.01	6.45e-01	6.45e-01	
1,2,3,4,7,8,9-HPCDF		3.18	2.29	0.01	3.18e-02	3.18e-02	
OCDF		89.7	2.00	0.0001	8.97e-03	8.97e-03	
			TOTAL TEQ		37000	37000	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		36800	2.70	1	3.68e+04	3.68e+04	
1,2,3,7,8-PECDD		120	2.53	1	1.20e+02	1.20e+02	
1,2,3,4,7,8-HXCDD		29.1	3.84	0.1	2.91e+00	2.91e+00	
1,2,3,6,7,8-HXCDD		222	3.84	0.1	2.22e+01	2.22e+01	
1,2,3,7,8,9-HXCDD		121	3.84	0.1	1.21e+01	1.21e+01	
1,2,3,4,6,7,8-HPCDD		1050	4.23	0.01	1.05e+01	1.05e+01	
OCDD		7920	2.88	0.0003	2.38e+00	2.38e+00	
2,3,7,8-TCDF		198	3.70	0.1	1.98e+01	1.98e+01	
1,2,3,7,8-PECDF		6.93	3.75	0.03	2.08e-01	2.08e-01	
2,3,4,7,8-PECDF	ND		3.75	0.3	0.00e+00	5.63e-01	
1,2,3,4,7,8-HXCDF	ND		2.41	0.1	0.00e+00	1.21e-01	
1,2,3,6,7,8-HXCDF		3.43	2.41	0.1	3.43e-01	3.43e-01	
1,2,3,7,8,9-HXCDF	ND		2.41	0.1	0.00e+00	1.21e-01	
2,3,4,6,7,8-HXCDF	ND		2.41	0.1	0.00e+00	1.21e-01	
1,2,3,4,6,7,8-HPCDF		64.5	2.29	0.01	6.45e-01	6.45e-01	
1,2,3,4,7,8,9-HPCDF		3.18	2.29	0.01	3.18e-02	3.18e-02	
OCDF		89.7	2.00	0.0003	2.69e-02	2.69e-02	
			TOTAL TEQ		37000	37000	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 19-Mar-2007 15:18:15; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-65_TEQ_SJ650218.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN069
Sample Collection:
10-Dec-2006 16:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-66
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.15 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 16:34:38	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_052 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_052 S: 1
		% Moisture:	16.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD [3]		1130	2.67	0.67	1.001
1,2,3,4,7,8-HXCDD		263	4.14	1.31	1.000
1,2,3,6,7,8-HXCDD		1800	4.14	1.25	1.000
1,2,3,7,8,9-HXCDD		1160	4.14	1.26	1.010
1,2,3,4,6,7,8-HPCDD		10700	12.3	1.04	1.000
OCDD		27600	3.28	0.89	1.000
2,3,7,8-TCDF		4300	11.7	0.79	1.004
1,2,3,7,8-PECDF	ND		4.54		
2,3,4,7,8-PECDF		65.5	4.54	1.38	1.000
1,2,3,4,7,8-HXCDF		47.8	3.00	1.23	1.000
1,2,3,6,7,8-HXCDF	NDR	15.7	3.00	1.72	1.000
1,2,3,7,8,9-HXCDF	ND		3.00		
2,3,4,6,7,8-HXCDF	NDR	22.4	3.00	1.54	1.000
1,2,3,4,6,7,8-HPCDF		401	3.22	0.99	1.000
1,2,3,4,7,8,9-HPCDF		16.7	3.22	1.00	1.000
OCDF		730	2.71	0.91	1.002
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS		8220	2.67		
TOTAL HEXA-DIOXINS		12100	4.14		
TOTAL HEPTA-DIOXINS		17900	12.3		
TOTAL TETRA-FURANS		19500	11.7		
TOTAL PENTA-FURANS		11900	4.54		
TOTAL HEXA-FURANS		1310	3.00		
TOTAL HEPTA-FURANS		786	3.22		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-66_Form1A_SJ650060.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN069
Sample Collection:
10-Dec-2006 16:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-66
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.15 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	25-Feb-2007 **Time:** 16:34:38	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_052 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_052 S: 1
		% Moisture:	16.1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]		10000	9880	98.8	0.64	1.382
13C-1,2,3,4,7,8-HXCDD		10000	10300	103	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		10000	10000	100	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	10100	101	1.01	1.095
13C-OCDD		20000	17200	86.1	0.89	1.179
13C-2,3,7,8-TCDF		10000	11600	116	0.74	0.966
13C-1,2,3,7,8-PECDF		10000	10800	108	1.58	1.283
13C-2,3,4,7,8-PECDF		10000	10200	102	1.61	1.350
13C-1,2,3,4,7,8-HXCDF		10000	11700	117	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		10000	11900	119	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		10000	11500	115	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		10000	11500	115	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	10100	101	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	10700	107	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	608	60.8		1.014

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-66_Form2_SJ650060.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN069
Sample Collection:
10-Dec-2006 16:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-66 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.15 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	08-Mar-2007 **Time:** 17:46:30	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	500	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_098B S: 8**
Dilution Factor:	5	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_098B S: 1
		% Moisture:	16.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	165000	6.78	0.78	1.001
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	175000	6.78		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9585-66_Form1A_SJ650139.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
06VN069
Sample Collection:
10-Dec-2006 16:25

Form 2

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-66 W
Matrix:	SOLID	**Sample Size:**	5.15 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	24-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	08-Mar-2007 **Time:** 17:46:30	**GC Column ID:**	DB5
Extract Volume (uL):	500	**Sample Data Filename:**	**DX72_098B S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7B_050D S: 5
Dilution Factor:	5	**Cal. Ver. Data Filename:**	DX72_098B S: 1
Concentration Units:	pg absolute	**% Moisture:**	16.1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	10000	11100	111	0.78	1.012
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	X					
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9585-66_Form2_SJ650139.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN069
Sample Collection:
10-Dec-2006 16:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-66
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.15 g (dry)
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 14:21:22	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_029A S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_028 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_029A S: 2
		% Moisture:	16.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		528	6.54	0.66	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 15:14:56; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB225_L9585-66_Form1A_SJ650220.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN069

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 16:25
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.15 g (dry)	**Lab Sample I.D.:**	L9585-66
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_029A S: 7** **DX72_098B S: 8** **DX7B_052 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		165000	6.78	1	1.65e+05	1.65e+05	
1,2,3,7,8-PECDD		1130	2.67	1	1.13e+03	1.13e+03	
1,2,3,4,7,8-HXCDD		263	4.14	0.1	2.63e+01	2.63e+01	
1,2,3,6,7,8-HXCDD		1800	4.14	0.1	1.80e+02	1.80e+02	
1,2,3,7,8,9-HXCDD		1160	4.14	0.1	1.16e+02	1.16e+02	
1,2,3,4,6,7,8-HPCDD		10700	12.3	0.01	1.07e+02	1.07e+02	
OCDD		27600	3.28	0.0001	2.76e+00	2.76e+00	
2,3,7,8-TCDF		528	6.54	0.1	5.28e+01	5.28e+01	
1,2,3,7,8-PECDF	ND		4.54	0.05	0.00e+00	1.14e-01	
2,3,4,7,8-PECDF		65.5	4.54	0.5	3.28e+01	3.28e+01	
1,2,3,4,7,8-HXCDF		47.8	3.00	0.1	4.78e+00	4.78e+00	
1,2,3,6,7,8-HXCDF	ND		3.00	0.1	0.00e+00	1.50e-01	
1,2,3,7,8,9-HXCDF	ND		3.00	0.1	0.00e+00	1.50e-01	
2,3,4,6,7,8-HXCDF	ND		3.00	0.1	0.00e+00	1.50e-01	
1,2,3,4,6,7,8-HPCDF		401	3.22	0.01	4.01e+00	4.01e+00	
1,2,3,4,7,8,9-HPCDF		16.7	3.22	0.01	1.67e-01	1.67e-01	
OCDF		730	2.71	0.0001	7.30e-02	7.30e-02	
			TOTAL TEQ		167000	167000	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		165000	6.78	1	1.65e+05	1.65e+05	
1,2,3,7,8-PECDD		1130	2.67	1	1.13e+03	1.13e+03	
1,2,3,4,7,8-HXCDD		263	4.14	0.1	2.63e+01	2.63e+01	
1,2,3,6,7,8-HXCDD		1800	4.14	0.1	1.80e+02	1.80e+02	
1,2,3,7,8,9-HXCDD		1160	4.14	0.1	1.16e+02	1.16e+02	
1,2,3,4,6,7,8-HPCDD		10700	12.3	0.01	1.07e+02	1.07e+02	
OCDD		27600	3.28	0.0003	8.28e+00	8.28e+00	
2,3,7,8-TCDF		528	6.54	0.1	5.28e+01	5.28e+01	
1,2,3,7,8-PECDF	ND		4.54	0.03	0.00e+00	6.81e-02	
2,3,4,7,8-PECDF		65.5	4.54	0.3	1.97e+01	1.97e+01	
1,2,3,4,7,8-HXCDF		47.8	3.00	0.1	4.78e+00	4.78e+00	
1,2,3,6,7,8-HXCDF	ND		3.00	0.1	0.00e+00	1.50e-01	
1,2,3,7,8,9-HXCDF	ND		3.00	0.1	0.00e+00	1.50e-01	
2,3,4,6,7,8-HXCDF	ND		3.00	0.1	0.00e+00	1.50e-01	
1,2,3,4,6,7,8-HPCDF		401	3.22	0.01	4.01e+00	4.01e+00	
1,2,3,4,7,8,9-HPCDF		16.7	3.22	0.01	1.67e-01	1.67e-01	
OCDF		730	2.71	0.0003	2.19e-01	2.19e-01	
			TOTAL TEQ		167000	167000	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 19-Mar-2007 15:18:15; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-66_TEQ_SJ650220.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
06VN070
Sample Collection:
11-Dec-2006 14:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-67 (A)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.21 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 13:30:00	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_048 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_048 S: 1
		% Moisture:	6.66

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		3350	2.88	0.80	1.001
1,2,3,7,8-PECDD [3]		71.2	3.88	0.61	1.001
1,2,3,4,7,8-HXCDD		54.1	6.53	1.30	1.000
1,2,3,6,7,8-HXCDD		386	6.53	1.25	1.000
1,2,3,7,8,9-HXCDD		235	6.53	1.28	1.010
1,2,3,4,6,7,8-HPCDD		1750	10.9	1.02	1.000
OCDD		24200	5.39	0.89	1.000
2,3,7,8-TCDF		252	3.02	0.79	1.003
1,2,3,7,8-PECDF	ND		5.75		
2,3,4,7,8-PECDF		9.39	5.75	1.70	1.001
1,2,3,4,7,8-HXCDF		7.40	3.99	1.18	1.000
1,2,3,6,7,8-HXCDF	ND		3.99		
1,2,3,7,8,9-HXCDF	ND		3.99		
2,3,4,6,7,8-HXCDF	ND		3.99		
1,2,3,4,6,7,8-HPCDF		61.3	6.17	0.91	1.000
1,2,3,4,7,8,9-HPCDF	ND		6.17		
OCDF		77.4	6.72	0.81	1.002
TOTAL TETRA-DIOXINS		3960	2.88		
TOTAL PENTA-DIOXINS		1250	3.88		
TOTAL HEXA-DIOXINS		2370	6.53		
TOTAL HEPTA-DIOXINS		2700	10.9		
TOTAL TETRA-FURANS		1280	3.02		
TOTAL PENTA-FURANS		951	5.75		
TOTAL HEXA-FURANS		209	3.99		
TOTAL HEPTA-FURANS		111	6.17		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-67_Form1A_SJ643770.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN070
Sample Collection:
11-Dec-2006 14:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-67 (A)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.21 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 13:30:00	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_048 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_048 S: 1
		% Moisture:	6.66

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	8760	87.6	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		10000	8850	88.5	0.65	1.381
13C-1,2,3,4,7,8-HXCDD		10000	8920	89.2	1.20	0.986
13C-1,2,3,6,7,8-HXCDD		10000	9230	92.3	1.28	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8920	89.2	0.97	1.094
13C-OCDD		20000	13800	69.2	0.92	1.178
13C-2,3,7,8-TCDF		10000	9860	98.6	0.77	0.966
13C-1,2,3,7,8-PECDF		10000	9560	95.6	1.58	1.283
13C-2,3,4,7,8-PECDF		10000	8990	89.9	1.56	1.349
13C-1,2,3,4,7,8-HXCDF		10000	10300	103	0.54	0.953
13C-1,2,3,6,7,8-HXCDF		10000	10200	102	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9560	95.6	0.54	1.004
13C-2,3,4,6,7,8-HXCDF		10000	9880	98.8	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9100	91.0	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8790	87.9	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	907	90.7		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-67_Form2_SJ643770.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN070
Sample Collection:
11-Dec-2006 14:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-67 (A)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.21 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 14:57:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_029A S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_029A S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_029A S: 2
		% Moisture:	6.66

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		65.8	6.06	0.67	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-67_Form1A_SJ643466.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN070

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 14:00
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.21 g (dry)	**Lab Sample I.D.:**	L9585-67 (A)
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_029A S: 8** **DX7B_048 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3350	2.88	1	3.35e+03	3.35e+03	
1,2,3,7,8-PECDD		71.2	3.88	1	7.12e+01	7.12e+01	
1,2,3,4,7,8-HXCDD		54.1	6.53	0.1	5.41e+00	5.41e+00	
1,2,3,6,7,8-HXCDD		386	6.53	0.1	3.86e+01	3.86e+01	
1,2,3,7,8,9-HXCDD		235	6.53	0.1	2.35e+01	2.35e+01	
1,2,3,4,6,7,8-HPCDD		1750	10.9	0.01	1.75e+01	1.75e+01	
OCDD		24200	5.39	0.0001	2.42e+00	2.42e+00	
2,3,7,8-TCDF		65.8	6.06	0.1	6.58e+00	6.58e+00	
1,2,3,7,8-PECDF	ND		5.75	0.05	0.00e+00	1.44e-01	
2,3,4,7,8-PECDF		9.39	5.75	0.5	4.70e+00	4.70e+00	
1,2,3,4,7,8-HXCDF		7.40	3.99	0.1	7.40e-01	7.40e-01	
1,2,3,6,7,8-HXCDF	ND		3.99	0.1	0.00e+00	2.00e-01	
1,2,3,7,8,9-HXCDF	ND		3.99	0.1	0.00e+00	2.00e-01	
2,3,4,6,7,8-HXCDF	ND		3.99	0.1	0.00e+00	2.00e-01	
1,2,3,4,6,7,8-HPCDF		61.3	6.17	0.01	6.13e-01	6.13e-01	
1,2,3,4,7,8,9-HPCDF	ND		6.17	0.01	0.00e+00	3.09e-02	
OCDF		77.4	6.72	0.0001	7.74e-03	7.74e-03	
			TOTAL TEQ		3520	3520	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3350	2.88	1	3.35e+03	3.35e+03	
1,2,3,7,8-PECDD		71.2	3.88	1	7.12e+01	7.12e+01	
1,2,3,4,7,8-HXCDD		54.1	6.53	0.1	5.41e+00	5.41e+00	
1,2,3,6,7,8-HXCDD		386	6.53	0.1	3.86e+01	3.86e+01	
1,2,3,7,8,9-HXCDD		235	6.53	0.1	2.35e+01	2.35e+01	
1,2,3,4,6,7,8-HPCDD		1750	10.9	0.01	1.75e+01	1.75e+01	
OCDD		24200	5.39	0.0003	7.26e+00	7.26e+00	
2,3,7,8-TCDF		65.8	6.06	0.1	6.58e+00	6.58e+00	
1,2,3,7,8-PECDF	ND		5.75	0.03	0.00e+00	8.63e-02	
2,3,4,7,8-PECDF		9.39	5.75	0.3	2.82e+00	2.82e+00	
1,2,3,4,7,8-HXCDF		7.40	3.99	0.1	7.40e-01	7.40e-01	
1,2,3,6,7,8-HXCDF	ND		3.99	0.1	0.00e+00	2.00e-01	
1,2,3,7,8,9-HXCDF	ND		3.99	0.1	0.00e+00	2.00e-01	
2,3,4,6,7,8-HXCDF	ND		3.99	0.1	0.00e+00	2.00e-01	
1,2,3,4,6,7,8-HPCDF		61.3	6.17	0.01	6.13e-01	6.13e-01	
1,2,3,4,7,8,9-HPCDF	ND		6.17	0.01	0.00e+00	3.09e-02	
OCDF		77.4	6.72	0.0003	2.32e-02	2.32e-02	
			TOTAL TEQ		3520	3520	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 12-Mar-2007 14:01:52; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-67_TEQ_SJ643466.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN070 (Duplicate)
Sample Collection:
11-Dec-2006 14:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	WG21085-103 (DUP L9585-67)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.20 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 14:24:59	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_048 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_048 S: 1
		% Moisture:	6.35

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		3540	2.61	0.82	1.001
1,2,3,7,8-PECDD [3]		81.0	4.36	0.63	1.000
1,2,3,4,7,8-HXCDD		49.3	5.55	1.36	1.000
1,2,3,6,7,8-HXCDD		430	5.55	1.31	1.000
1,2,3,7,8,9-HXCDD		245	5.55	1.27	1.010
1,2,3,4,6,7,8-HPCDD		1990	17.0	1.04	1.000
OCDD		24100	6.43	0.89	1.000
2,3,7,8-TCDF		268	3.13	0.76	1.003
1,2,3,7,8-PECDF	ND		3.48		
2,3,4,7,8-PECDF		8.19	3.48	1.70	1.000
1,2,3,4,7,8-HXCDF		9.05	4.01	1.25	1.000
1,2,3,6,7,8-HXCDF	ND		4.01		
1,2,3,7,8,9-HXCDF	ND		4.01		
2,3,4,6,7,8-HXCDF	ND		4.01		
1,2,3,4,6,7,8-HPCDF		74.1	10.6	0.91	1.000
1,2,3,4,7,8,9-HPCDF	ND		10.6		
OCDF		79.7	8.73	0.96	1.002
TOTAL TETRA-DIOXINS		4210	2.61		
TOTAL PENTA-DIOXINS		1440	4.36		
TOTAL HEXA-DIOXINS		2560	5.55		
TOTAL HEPTA-DIOXINS		3130	17.0		
TOTAL TETRA-FURANS		1420	3.13		
TOTAL PENTA-FURANS		1050	3.48		
TOTAL HEXA-FURANS		229	4.01		
TOTAL HEPTA-FURANS		130	10.6		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_WG21085-103_Form1A_SJ643771.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN070 (Duplicate)
Sample Collection:
11-Dec-2006 14:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	WG21085-103 (DUP L9585-67)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.20 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 14:24:59	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_048 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_048 S: 1
		% Moisture:	6.35

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	9110	91.1	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		10000	8710	87.1	0.64	1.381
13C-1,2,3,4,7,8-HXCDD		10000	8960	89.6	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9290	92.9	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8340	83.4	1.08	1.095
13C-OCDD		20000	13500	67.5	0.91	1.178
13C-2,3,7,8-TCDF		10000	9830	98.3	0.74	0.966
13C-1,2,3,7,8-PECDF		10000	9640	96.4	1.60	1.283
13C-2,3,4,7,8-PECDF		10000	9160	91.6	1.61	1.349
13C-1,2,3,4,7,8-HXCDF		10000	9760	97.6	0.54	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9970	99.7	0.55	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9270	92.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9730	97.3	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9150	91.5	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	9160	91.6	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	956	95.6		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_WG21085-103_Form2_SJ643771.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN070 (Duplicate)
Sample Collection:
11-Dec-2006 14:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	WG21085-103 (DUP L9585-67)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.20 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 15:32:40	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_029A S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_029A S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_029A S: 2
		% Moisture:	6.35

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		80.0	4.19	0.81	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:59:57; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB225_WG21085-103_Form1A_SJ643467.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN070 (Duplicate)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 14:00
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.20 g (dry)	**Lab Sample I.D.:**	WG21085-103 (DUP L9585-67)
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_029A S: 9** **DX7B_048 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3540	2.61	1	3.54e+03	3.54e+03	
1,2,3,7,8-PECDD		81.0	4.36	1	8.10e+01	8.10e+01	
1,2,3,4,7,8-HXCDD		49.3	5.55	0.1	4.93e+00	4.93e+00	
1,2,3,6,7,8-HXCDD		430	5.55	0.1	4.30e+01	4.30e+01	
1,2,3,7,8,9-HXCDD		245	5.55	0.1	2.45e+01	2.45e+01	
1,2,3,4,6,7,8-HPCDD		1990	17.0	0.01	1.99e+01	1.99e+01	
OCDD		24100	6.43	0.0001	2.41e+00	2.41e+00	
2,3,7,8-TCDF		80.0	4.19	0.1	8.00e+00	8.00e+00	
1,2,3,7,8-PECDF	ND		3.48	0.05	0.00e+00	8.70e-02	
2,3,4,7,8-PECDF		8.19	3.48	0.5	4.10e+00	4.10e+00	
1,2,3,4,7,8-HXCDF		9.05	4.01	0.1	9.05e-01	9.05e-01	
1,2,3,6,7,8-HXCDF	ND		4.01	0.1	0.00e+00	2.01e-01	
1,2,3,7,8,9-HXCDF	ND		4.01	0.1	0.00e+00	2.01e-01	
2,3,4,6,7,8-HXCDF	ND		4.01	0.1	0.00e+00	2.01e-01	
1,2,3,4,6,7,8-HPCDF		74.1	10.6	0.01	7.41e-01	7.41e-01	
1,2,3,4,7,8,9-HPCDF	ND		10.6	0.01	0.00e+00	5.30e-02	
OCDF		79.7	8.73	0.0001	7.97e-03	7.97e-03	
			TOTAL TEQ		3730	3730	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3540	2.61	1	3.54e+03	3.54e+03	
1,2,3,7,8-PECDD		81.0	4.36	1	8.10e+01	8.10e+01	
1,2,3,4,7,8-HXCDD		49.3	5.55	0.1	4.93e+00	4.93e+00	
1,2,3,6,7,8-HXCDD		430	5.55	0.1	4.30e+01	4.30e+01	
1,2,3,7,8,9-HXCDD		245	5.55	0.1	2.45e+01	2.45e+01	
1,2,3,4,6,7,8-HPCDD		1990	17.0	0.01	1.99e+01	1.99e+01	
OCDD		24100	6.43	0.0003	7.23e+00	7.23e+00	
2,3,7,8-TCDF		80.0	4.19	0.1	8.00e+00	8.00e+00	
1,2,3,7,8-PECDF	ND		3.48	0.03	0.00e+00	5.22e-02	
2,3,4,7,8-PECDF		8.19	3.48	0.3	2.46e+00	2.46e+00	
1,2,3,4,7,8-HXCDF		9.05	4.01	0.1	9.05e-01	9.05e-01	
1,2,3,6,7,8-HXCDF	ND		4.01	0.1	0.00e+00	2.01e-01	
1,2,3,7,8,9-HXCDF	ND		4.01	0.1	0.00e+00	2.01e-01	
2,3,4,6,7,8-HXCDF	ND		4.01	0.1	0.00e+00	2.01e-01	
1,2,3,4,6,7,8-HPCDF		74.1	10.6	0.01	7.41e-01	7.41e-01	
1,2,3,4,7,8,9-HPCDF	ND		10.6	0.01	0.00e+00	5.30e-02	
OCDF		79.7	8.73	0.0003	2.39e-02	2.39e-02	
			TOTAL TEQ		3730	3730	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 12-Mar-2007 14:01:52; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21085-103_TEQ_SJ643467.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS REPORT
RELATIVE PERCENT DIFFERENCE

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. DANDI 1283

Contract No.: 2607

Client ID: 06VN070

Concentration Units: pg/g (dry weight basis)

COMPOUND	L9585-67 (A)		WG21085-103		MEAN	RELATIVE PERCENT DIFFERENCE
	LAB FLAG [1]	CONC. FOUND	LAB FLAG [1]	CONC. FOUND		
2,3,7,8-TCDD		3350		3540	3440	5.42
1,2,3,7,8-PECDD		71.2		81.0	76.1	12.9
1,2,3,4,7,8-HXCDD		54.1		49.3	51.7	9.25
1,2,3,6,7,8-HXCDD		386		430	408	10.8
1,2,3,7,8,9-HXCDD		235		245	240	4.41
1,2,3,4,6,7,8-HPCDD		1750		1990	1870	13.3
OCDD		24200		24100	24200	0.612
2,3,7,8-TCDF		65.8		80.0	72.9	19.6
1,2,3,7,8-PECDF	ND		ND			
2,3,4,7,8-PECDF		9.39		8.19	8.79	13.6
1,2,3,4,7,8-HXCDF		7.40		9.05	8.23	20.1
1,2,3,6,7,8-HXCDF	ND		ND			
1,2,3,7,8,9-HXCDF	ND		ND			
2,3,4,6,7,8-HXCDF	ND		ND			
1,2,3,4,6,7,8-HPCDF		61.3		74.1	67.7	18.9
1,2,3,4,7,8,9-HPCDF	ND		ND			
OCDF		77.4		79.7	78.5	2.91

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: RPD.xsl; Created: 12-Mar-2007 14:01:05; Application: XMLTransformer-1.7.33;
Report Filename: RPD_DIOXINS_1613-RPD_WG21085-103_L9585-67_.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN072
Sample Collection:
11-Dec-2006 14:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-69
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.58 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 15:20:03	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_048 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_048 S: 1
		% Moisture:	54.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		25700	2.81	0.81	1.001
1,2,3,7,8-PECDD [3]		1410	3.85	0.61	1.000
1,2,3,4,7,8-HXCDD		106	7.21	1.32	1.000
1,2,3,6,7,8-HXCDD		448	7.21	1.29	1.000
1,2,3,7,8,9-HXCDD		262	7.21	1.30	1.010
1,2,3,4,6,7,8-HPCDD		2360	7.32	1.06	1.000
OCDD		12900	2.90	0.89	1.000
2,3,7,8-TCDF		5070	15.7	0.78	1.001
1,2,3,7,8-PECDF		61.7	4.20	1.55	1.001
2,3,4,7,8-PECDF		76.6	4.20	1.60	1.000
1,2,3,4,7,8-HXCDF		20.1	2.81	1.25	1.000
1,2,3,6,7,8-HXCDF		14.5	2.81	1.20	1.000
1,2,3,7,8,9-HXCDF	ND		2.81		
2,3,4,6,7,8-HXCDF		10.0	2.81	1.15	1.000
1,2,3,4,6,7,8-HPCDF		106	3.92	0.99	1.000
1,2,3,4,7,8,9-HPCDF	NDR	4.85	3.92	0.81	1.000
OCDF		94.1	3.11	0.88	1.002
TOTAL TETRA-DIOXINS		29100	2.81		
TOTAL PENTA-DIOXINS		7560	3.85		
TOTAL HEXA-DIOXINS		3820	7.21		
TOTAL HEPTA-DIOXINS		4320	7.32		
TOTAL TETRA-FURANS		9690	15.7		
TOTAL PENTA-FURANS		6180	4.20		
TOTAL HEXA-FURANS		1070	2.81		
TOTAL HEPTA-FURANS		199	3.92		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN072
Sample Collection:
11-Dec-2006 14:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-69
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.58 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 15:20:03	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_048 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_048 S: 1
		% Moisture:	54.2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	8580	85.8	0.84	1.013
13C-1,2,3,7,8-PECDD [4]		10000	8270	82.7	0.65	1.382
13C-1,2,3,4,7,8-HXCDD		10000	8170	81.7	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8700	87.0	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7800	78.0	1.01	1.094
13C-OCDD		20000	12100	60.6	0.91	1.178
13C-2,3,7,8-TCDF		10000	9540	95.4	0.76	0.966
13C-1,2,3,7,8-PECDF		10000	9110	91.1	1.58	1.283
13C-2,3,4,7,8-PECDF		10000	8920	89.2	1.55	1.350
13C-1,2,3,4,7,8-HXCDF		10000	9300	93.0	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9210	92.1	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8840	88.4	0.55	1.004
13C-2,3,4,6,7,8-HXCDF		10000	9310	93.1	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	8380	83.8	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8550	85.5	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	988	98.8		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-69_Form2_SJ643772.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN072
Sample Collection:
11-Dec-2006 14:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-69
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.58 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 16:08:19	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_029A S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_029A S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_029A S: 2
		% Moisture:	54.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		4760	4.27	0.71	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:59:57; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB225_L9585-69_Form1A_SJ643468.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN072

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 14:30
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.58 g (dry)	**Lab Sample I.D.:**	L9585-69
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_029A S: 10** **DX7B_048 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		25700	2.81	1	2.57e+04	2.57e+04	
1,2,3,7,8-PECDD		1410	3.85	1	1.41e+03	1.41e+03	
1,2,3,4,7,8-HXCDD		106	7.21	0.1	1.06e+01	1.06e+01	
1,2,3,6,7,8-HXCDD		448	7.21	0.1	4.48e+01	4.48e+01	
1,2,3,7,8,9-HXCDD		262	7.21	0.1	2.62e+01	2.62e+01	
1,2,3,4,6,7,8-HPCDD		2360	7.32	0.01	2.36e+01	2.36e+01	
OCDD		12900	2.90	0.0001	1.29e+00	1.29e+00	
2,3,7,8-TCDF		4760	4.27	0.1	4.76e+02	4.76e+02	
1,2,3,7,8-PECDF		61.7	4.20	0.05	3.09e+00	3.09e+00	
2,3,4,7,8-PECDF		76.6	4.20	0.5	3.83e+01	3.83e+01	
1,2,3,4,7,8-HXCDF		20.1	2.81	0.1	2.01e+00	2.01e+00	
1,2,3,6,7,8-HXCDF		14.5	2.81	0.1	1.45e+00	1.45e+00	
1,2,3,7,8,9-HXCDF	ND		2.81	0.1	0.00e+00	1.41e-01	
2,3,4,6,7,8-HXCDF		10.0	2.81	0.1	1.00e+00	1.00e+00	
1,2,3,4,6,7,8-HPCDF		106	3.92	0.01	1.06e+00	1.06e+00	
1,2,3,4,7,8,9-HPCDF	ND		3.92	0.01	0.00e+00	1.96e-02	
OCDF		94.1	3.11	0.0001	9.41e-03	9.41e-03	
			TOTAL TEQ		27700	27700	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		25700	2.81	1	2.57e+04	2.57e+04	
1,2,3,7,8-PECDD		1410	3.85	1	1.41e+03	1.41e+03	
1,2,3,4,7,8-HXCDD		106	7.21	0.1	1.06e+01	1.06e+01	
1,2,3,6,7,8-HXCDD		448	7.21	0.1	4.48e+01	4.48e+01	
1,2,3,7,8,9-HXCDD		262	7.21	0.1	2.62e+01	2.62e+01	
1,2,3,4,6,7,8-HPCDD		2360	7.32	0.01	2.36e+01	2.36e+01	
OCDD		12900	2.90	0.0003	3.87e+00	3.87e+00	
2,3,7,8-TCDF		4760	4.27	0.1	4.76e+02	4.76e+02	
1,2,3,7,8-PECDF		61.7	4.20	0.03	1.85e+00	1.85e+00	
2,3,4,7,8-PECDF		76.6	4.20	0.3	2.30e+01	2.30e+01	
1,2,3,4,7,8-HXCDF		20.1	2.81	0.1	2.01e+00	2.01e+00	
1,2,3,6,7,8-HXCDF		14.5	2.81	0.1	1.45e+00	1.45e+00	
1,2,3,7,8,9-HXCDF	ND		2.81	0.1	0.00e+00	1.41e-01	
2,3,4,6,7,8-HXCDF		10.0	2.81	0.1	1.00e+00	1.00e+00	
1,2,3,4,6,7,8-HPCDF		106	3.92	0.01	1.06e+00	1.06e+00	
1,2,3,4,7,8,9-HPCDF	ND		3.92	0.01	0.00e+00	1.96e-02	
OCDF		94.1	3.11	0.0003	2.82e-02	2.82e-02	
			TOTAL TEQ		27700	27700	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 12-Mar-2007 14:01:52; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-69_TEQ_SJ643468.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN073
Sample Collection:
13-Dec-2006 09:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-70 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.3 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 04:14:59	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_047 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_047 S: 1
		% Moisture:	14.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.212	0.0485	0.67	1.001
1,2,3,7,8-PECDD [3]	ND		0.0485		
1,2,3,4,7,8-HXCDD		0.062	0.0485	1.25	1.000
1,2,3,6,7,8-HXCDD	NDR	0.146	0.0485	1.55	1.000
1,2,3,7,8,9-HXCDD		0.257	0.0485	1.10	1.010
1,2,3,4,6,7,8-HPCDD		7.58	0.0573	1.03	1.000
OCDD		878	0.0485	0.89	1.000
2,3,7,8-TCDF		0.075	0.0485	0.84	1.002
1,2,3,7,8-PECDF	ND		0.0485		
2,3,4,7,8-PECDF		0.059	0.0485	1.70	1.000
1,2,3,4,7,8-HXCDF	ND		0.0485		
1,2,3,6,7,8-HXCDF	ND		0.0485		
1,2,3,7,8,9-HXCDF	ND		0.0485		
2,3,4,6,7,8-HXCDF	ND		0.0485		
1,2,3,4,6,7,8-HPCDF		0.196	0.0485	1.02	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.0485		
OCDF		0.555	0.0485	0.84	1.001
TOTAL TETRA-DIOXINS		0.266	0.0485		
TOTAL PENTA-DIOXINS		0.187	0.0485		
TOTAL HEXA-DIOXINS		1.38	0.0485		
TOTAL HEPTA-DIOXINS		18.3	0.0573		
TOTAL TETRA-FURANS		0.131	0.0485		
TOTAL PENTA-FURANS		0.293	0.0485		
TOTAL HEXA-FURANS		0.117	0.0485		
TOTAL HEPTA-FURANS		0.358	0.0485		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-70_Form1A_SJ642146.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN073
Sample Collection:
13-Dec-2006 09:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-70 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.3 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 04:14:59	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_047 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_047 S: 1
		% Moisture:	14.5

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1660	82.8	0.81	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1630	81.4	0.65	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1690	84.6	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1690	84.6	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1600	80.0	1.01	1.095
13C-OCDD		4000	2890	72.3	0.89	1.178
13C-2,3,7,8-TCDF		2000	1820	90.8	0.75	0.966
13C-1,2,3,7,8-PECDF		2000	1870	93.3	1.58	1.282
13C-2,3,4,7,8-PECDF		2000	1800	90.0	1.57	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1910	95.3	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1870	93.4	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1820	90.8	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1810	90.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1730	86.5	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1690	84.4	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	169	84.3		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-70_Form2_SJ642146.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN073
Sample Collection:
13-Dec-2006 09:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-70
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.3 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 05:13:00	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_026 S: 18**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_026 S: 2
		% Moisture:	14.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.0523		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:48:00; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB225_L9585-70_Form1A_SJ643400.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN073

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	13-Dec-2006 09:40
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.3 g (dry)	**Lab Sample I.D.:**	L9585-70
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_026 S: 18** **DX7B_047 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.212	0.0485	1	2.12e-01	2.12e-01	
1,2,3,7,8-PECDD	ND		0.0485	1	0.00e+00	2.43e-02	
1,2,3,4,7,8-HXCDD		0.062	0.0485	0.1	6.20e-03	6.20e-03	
1,2,3,6,7,8-HXCDD	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,7,8,9-HXCDD		0.257	0.0485	0.1	2.57e-02	2.57e-02	
1,2,3,4,6,7,8-HPCDD		7.58	0.0573	0.01	7.58e-02	7.58e-02	
OCDD		878	0.0485	0.0001	8.78e-02	8.78e-02	
2,3,7,8-TCDF	ND		0.0523	0.1	0.00e+00	2.62e-03	
1,2,3,7,8-PECDF	ND		0.0485	0.05	0.00e+00	1.21e-03	
2,3,4,7,8-PECDF		0.059	0.0485	0.5	2.95e-02	2.95e-02	
1,2,3,4,7,8-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,6,7,8-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,7,8,9-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
2,3,4,6,7,8-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,4,6,7,8-HPCDF		0.196	0.0485	0.01	1.96e-03	1.96e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0485	0.01	0.00e+00	2.43e-04	
OCDF		0.555	0.0485	0.0001	5.55e-05	5.55e-05	
			TOTAL TEQ		0.439	0.479	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.212	0.0485	1	2.12e-01	2.12e-01	
1,2,3,7,8-PECDD	ND		0.0485	1	0.00e+00	2.43e-02	
1,2,3,4,7,8-HXCDD		0.062	0.0485	0.1	6.20e-03	6.20e-03	
1,2,3,6,7,8-HXCDD	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,7,8,9-HXCDD		0.257	0.0485	0.1	2.57e-02	2.57e-02	
1,2,3,4,6,7,8-HPCDD		7.58	0.0573	0.01	7.58e-02	7.58e-02	
OCDD		878	0.0485	0.0003	2.63e-01	2.63e-01	
2,3,7,8-TCDF	ND		0.0523	0.1	0.00e+00	2.62e-03	
1,2,3,7,8-PECDF	ND		0.0485	0.03	0.00e+00	7.28e-04	
2,3,4,7,8-PECDF		0.059	0.0485	0.3	1.77e-02	1.77e-02	
1,2,3,4,7,8-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,6,7,8-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,7,8,9-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
2,3,4,6,7,8-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,4,6,7,8-HPCDF		0.196	0.0485	0.01	1.96e-03	1.96e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0485	0.01	0.00e+00	2.43e-04	
OCDF		0.555	0.0485	0.0003	1.67e-04	1.67e-04	
			TOTAL TEQ		0.603	0.643	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 07-Mar-2007 15:50:19; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613-TEQ_L9585-70_TEQ_SJ643400.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN074
Sample Collection:
11-Dec-2006 14:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-71
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.30 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 16:15:13	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_048 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_048 S: 1
		% Moisture:	12.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD [3]		896	4.55	0.64	1.001
1,2,3,4,7,8-HXCDD		216	5.24	1.35	1.000
1,2,3,6,7,8-HXCDD		1610	5.24	1.25	1.000
1,2,3,7,8,9-HXCDD		937	5.24	1.32	1.010
1,2,3,4,6,7,8-HPCDD		7260	11.5	1.03	1.000
OCDD		14600	5.70	0.88	1.000
2,3,7,8-TCDF		2850	17.8	0.78	1.002
1,2,3,7,8-PECDF		24.9	10.5	1.60	1.000
2,3,4,7,8-PECDF		122	10.5	1.48	1.000
1,2,3,4,7,8-HXCDF		75.8	6.98	1.26	1.000
1,2,3,6,7,8-HXCDF		17.6	6.98	1.21	1.000
1,2,3,7,8,9-HXCDF	ND		6.98		
2,3,4,6,7,8-HXCDF	NDR	21.6	6.98	0.84	1.000
1,2,3,4,6,7,8-HPCDF		419	4.41	1.03	1.000
1,2,3,4,7,8,9-HPCDF	NDR	14.7	4.41	1.39	1.000
OCDF		407	4.09	0.91	1.002
TOTAL TETRA-DIOXINS	OLR				
TOTAL PENTA-DIOXINS		7870	4.55		
TOTAL HEXA-DIOXINS		10900	5.24		
TOTAL HEPTA-DIOXINS		11400	11.5		
TOTAL TETRA-FURANS		16300	17.8		
TOTAL PENTA-FURANS		14500	10.5		
TOTAL HEXA-FURANS		2100	6.98		
TOTAL HEPTA-FURANS		805	4.41		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-71_Form1A_SJ643773.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN074
Sample Collection:
11-Dec-2006 14:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-71
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.30 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 16:15:13	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_048 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_048 S: 1
		% Moisture:	12.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]		10000	8830	88.3	0.68	1.381
13C-1,2,3,4,7,8-HXCDD		10000	8800	88.0	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9540	95.4	1.19	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8680	86.8	0.99	1.095
13C-OCDD		20000	13400	67.1	0.91	1.178
13C-2,3,7,8-TCDF		10000	10200	102	0.76	0.966
13C-1,2,3,7,8-PECDF		10000	9960	99.6	1.64	1.283
13C-2,3,4,7,8-PECDF		10000	9480	94.8	1.59	1.349
13C-1,2,3,4,7,8-HXCDF		10000	10300	103	0.55	0.954
13C-1,2,3,6,7,8-HXCDF		10000	10500	105	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9670	96.7	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9960	99.6	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	8850	88.5	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8910	89.1	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	779	77.9		1.013

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-71_Form2_SJ643773.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN074
Sample Collection:
11-Dec-2006 14:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-71 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.30 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 16:35:02	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	300	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_091 S: 11**
Dilution Factor:	3	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_091 S: 1
		% Moisture:	12.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	63200	11.2	0.78	1.001
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	68700	11.2		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-71_Form1A_SJ647033.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN074
Sample Collection:
11-Dec-2006 14:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-71 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.30 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 16:35:02	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	300	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_091 S: 11**
Dilution Factor:	3	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_091 S: 1
		% Moisture:	12.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	10000	9110	91.1	0.76	1.012
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	X					
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-71_Form2_SJ647033.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN074
Sample Collection:
11-Dec-2006 14:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-71
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.30 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 16:43:58	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_029A S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_029A S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_029A S: 2
		% Moisture:	12.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1270	4.57	0.72	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:59:57; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB225_L9585-71_Form1A_SJ643469.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN074

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 14:30
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.30 g (dry)	**Lab Sample I.D.:**	L9585-71
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_029A S: 11** **DX72_091 S: 11** **DX7B_048 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		63200	11.2	1	6.32e+04	6.32e+04	
1,2,3,7,8-PECDD		896	4.55	1	8.96e+02	8.96e+02	
1,2,3,4,7,8-HXCDD		216	5.24	0.1	2.16e+01	2.16e+01	
1,2,3,6,7,8-HXCDD		1610	5.24	0.1	1.61e+02	1.61e+02	
1,2,3,7,8,9-HXCDD		937	5.24	0.1	9.37e+01	9.37e+01	
1,2,3,4,6,7,8-HPCDD		7260	11.5	0.01	7.26e+01	7.26e+01	
OCDD		14600	5.70	0.0001	1.46e+00	1.46e+00	
2,3,7,8-TCDF		1270	4.57	0.1	1.27e+02	1.27e+02	
1,2,3,7,8-PECDF		24.9	10.5	0.05	1.25e+00	1.25e+00	
2,3,4,7,8-PECDF		122	10.5	0.5	6.10e+01	6.10e+01	
1,2,3,4,7,8-HXCDF		75.8	6.98	0.1	7.58e+00	7.58e+00	
1,2,3,6,7,8-HXCDF		17.6	6.98	0.1	1.76e+00	1.76e+00	
1,2,3,7,8,9-HXCDF	ND		6.98	0.1	0.00e+00	3.49e-01	
2,3,4,6,7,8-HXCDF	ND		6.98	0.1	0.00e+00	3.49e-01	
1,2,3,4,6,7,8-HPCDF		419	4.41	0.01	4.19e+00	4.19e+00	
1,2,3,4,7,8,9-HPCDF	ND		4.41	0.01	0.00e+00	2.21e-02	
OCDF		407	4.09	0.0001	4.07e-02	4.07e-02	
			TOTAL TEQ		64600	64600	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		63200	11.2	1	6.32e+04	6.32e+04	
1,2,3,7,8-PECDD		896	4.55	1	8.96e+02	8.96e+02	
1,2,3,4,7,8-HXCDD		216	5.24	0.1	2.16e+01	2.16e+01	
1,2,3,6,7,8-HXCDD		1610	5.24	0.1	1.61e+02	1.61e+02	
1,2,3,7,8,9-HXCDD		937	5.24	0.1	9.37e+01	9.37e+01	
1,2,3,4,6,7,8-HPCDD		7260	11.5	0.01	7.26e+01	7.26e+01	
OCDD		14600	5.70	0.0003	4.38e+00	4.38e+00	
2,3,7,8-TCDF		1270	4.57	0.1	1.27e+02	1.27e+02	
1,2,3,7,8-PECDF		24.9	10.5	0.03	7.47e-01	7.47e-01	
2,3,4,7,8-PECDF		122	10.5	0.3	3.66e+01	3.66e+01	
1,2,3,4,7,8-HXCDF		75.8	6.98	0.1	7.58e+00	7.58e+00	
1,2,3,6,7,8-HXCDF		17.6	6.98	0.1	1.76e+00	1.76e+00	
1,2,3,7,8,9-HXCDF	ND		6.98	0.1	0.00e+00	3.49e-01	
2,3,4,6,7,8-HXCDF	ND		6.98	0.1	0.00e+00	3.49e-01	
1,2,3,4,6,7,8-HPCDF		419	4.41	0.01	4.19e+00	4.19e+00	
1,2,3,4,7,8,9-HPCDF	ND		4.41	0.01	0.00e+00	2.21e-02	
OCDF		407	4.09	0.0003	1.22e-01	1.22e-01	
			TOTAL TEQ		64600	64600	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 12-Mar-2007 14:01:52; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-71_TEQ_SJ643469.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-72 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.19 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 02:53:08	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_090 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_047 S: 6,7
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_090 S: 1
		% Moisture:	5.90

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		5100	0.922	0.77	1.001
1,2,3,7,8-PECDD [3]		71.5	0.853	0.63	1.001
1,2,3,4,7,8-HXCDD	NDR	3.31	0.945	1.53	1.000
1,2,3,6,7,8-HXCDD	NDR	24.9	0.945	1.48	1.000
1,2,3,7,8,9-HXCDD		9.70	0.945	1.28	1.010
1,2,3,4,6,7,8-HPCDD		111	0.732	1.18	1.000
OCDD		1980	0.986	0.91	1.000
2,3,7,8-TCDF		228	1.76	0.75	1.003
1,2,3,7,8-PECDF	ND		0.988		
2,3,4,7,8-PECDF	NDR	8.45	0.988	1.97	1.000
1,2,3,4,7,8-HXCDF	NDR	5.66	0.754	0.92	1.000
1,2,3,6,7,8-HXCDF	NDR	1.83	0.754	1.60	1.000
1,2,3,7,8,9-HXCDF	ND		0.754		
2,3,4,6,7,8-HXCDF		2.04	0.754	1.16	1.000
1,2,3,4,6,7,8-HPCDF		28.5	0.634	0.99	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.45	0.634	1.26	1.000
OCDF		62.7	0.840	0.81	1.002
TOTAL TETRA-DIOXINS		5400	0.922		
TOTAL PENTA-DIOXINS		259	0.853		
TOTAL HEXA-DIOXINS		174	0.945		
TOTAL HEPTA-DIOXINS		204	0.732		
TOTAL TETRA-FURANS		1440	1.76		
TOTAL PENTA-FURANS		917	0.988		
TOTAL HEXA-FURANS		116	0.754		
TOTAL HEPTA-FURANS		57.2	0.634		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-72 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.19 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 02:53:08	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_090 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_047 S: 6,7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_090 S: 1
		% Moisture:	5.90

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	10700	107	0.79	1.012
13C-1,2,3,7,8-PECDD [4]		10000	9720	97.2	0.59	1.381
13C-1,2,3,4,7,8-HXCDD		10000	11200	112	1.20	0.987
13C-1,2,3,6,7,8-HXCDD		10000	10700	107	1.12	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	9570	95.7	1.09	1.095
13C-OCDD		20000	14500	72.3	0.89	1.179
13C-2,3,7,8-TCDF		10000	10400	104	0.79	0.966
13C-1,2,3,7,8-PECDF		10000	9730	97.3	1.54	1.283
13C-2,3,4,7,8-PECDF		10000	9730	97.3	1.64	1.350
13C-1,2,3,4,7,8-HXCDF		10000	11400	114	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		10000	11900	119	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		10000	10100	101	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		10000	11200	112	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	10300	103	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	9350	93.5	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		2000	1700	85.2		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Mar-2007 10:44:14; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB5_L9585-72_Form2_SJ645964.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-72
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.19 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 17:32:54	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 18**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_027 S: 5,6
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_027 S: 2
		% Moisture:	5.90

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		262	9.21	0.67	1.000

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Mar-2007 10:11:46; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB225_L9585-72_Form1A_SJ643832.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN075

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 08:20
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.19 g (dry)	**Lab Sample I.D.:**	L9585-72
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_027 S: 18** **DX72_090 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5100	0.922	1	5.10e+03	5.10e+03	
1,2,3,7,8-PECDD		71.5	0.853	1	7.15e+01	7.15e+01	
1,2,3,4,7,8-HXCDD	ND		0.945	0.1	0.00e+00	4.73e-02	
1,2,3,6,7,8-HXCDD	ND		0.945	0.1	0.00e+00	4.73e-02	
1,2,3,7,8,9-HXCDD		9.70	0.945	0.1	9.70e-01	9.70e-01	
1,2,3,4,6,7,8-HPCDD		111	0.732	0.01	1.11e+00	1.11e+00	
OCDD		1980	0.986	0.0001	1.98e-01	1.98e-01	
2,3,7,8-TCDF		262	9.21	0.1	2.62e+01	2.62e+01	
1,2,3,7,8-PECDF	ND		0.988	0.05	0.00e+00	2.47e-02	
2,3,4,7,8-PECDF	ND		0.988	0.5	0.00e+00	2.47e-01	
1,2,3,4,7,8-HXCDF	ND		0.754	0.1	0.00e+00	3.77e-02	
1,2,3,6,7,8-HXCDF	ND		0.754	0.1	0.00e+00	3.77e-02	
1,2,3,7,8,9-HXCDF	ND		0.754	0.1	0.00e+00	3.77e-02	
2,3,4,6,7,8-HXCDF		2.04	0.754	0.1	2.04e-01	2.04e-01	
1,2,3,4,6,7,8-HPCDF		28.5	0.634	0.01	2.85e-01	2.85e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.634	0.01	0.00e+00	3.17e-03	
OCDF		62.7	0.840	0.0001	6.27e-03	6.27e-03	
			TOTAL TEQ		5200	5200	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5100	0.922	1	5.10e+03	5.10e+03	
1,2,3,7,8-PECDD		71.5	0.853	1	7.15e+01	7.15e+01	
1,2,3,4,7,8-HXCDD	ND		0.945	0.1	0.00e+00	4.73e-02	
1,2,3,6,7,8-HXCDD	ND		0.945	0.1	0.00e+00	4.73e-02	
1,2,3,7,8,9-HXCDD		9.70	0.945	0.1	9.70e-01	9.70e-01	
1,2,3,4,6,7,8-HPCDD		111	0.732	0.01	1.11e+00	1.11e+00	
OCDD		1980	0.986	0.0003	5.94e-01	5.94e-01	
2,3,7,8-TCDF		262	9.21	0.1	2.62e+01	2.62e+01	
1,2,3,7,8-PECDF	ND		0.988	0.03	0.00e+00	1.48e-02	
2,3,4,7,8-PECDF	ND		0.988	0.3	0.00e+00	1.48e-01	
1,2,3,4,7,8-HXCDF	ND		0.754	0.1	0.00e+00	3.77e-02	
1,2,3,6,7,8-HXCDF	ND		0.754	0.1	0.00e+00	3.77e-02	
1,2,3,7,8,9-HXCDF	ND		0.754	0.1	0.00e+00	3.77e-02	
2,3,4,6,7,8-HXCDF		2.04	0.754	0.1	2.04e-01	2.04e-01	
1,2,3,4,6,7,8-HPCDF		28.5	0.634	0.01	2.85e-01	2.85e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.634	0.01	0.00e+00	3.17e-03	
OCDF		62.7	0.840	0.0003	1.88e-02	1.88e-02	
			TOTAL TEQ		5200	5200	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Mar-2007 10:17:14; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-72_TEQ_SJ643832.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN076
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-73
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.06 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 17:10:25	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_048 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_048 S: 1
		% Moisture:	8.67

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		773	2.96	0.81	1.001
1,2,3,7,8-PECDD [3]	NDR	13.2	4.85	0.88	1.001
1,2,3,4,7,8-HXCDD	ND		3.66		
1,2,3,6,7,8-HXCDD		5.55	3.66	1.24	1.000
1,2,3,7,8,9-HXCDD		6.15	3.66	1.37	1.010
1,2,3,4,6,7,8-HPCDD		193	7.81	1.08	1.000
OCDD		19600	5.67	0.90	1.000
2,3,7,8-TCDF		278	3.70	0.78	1.004
1,2,3,7,8-PECDF	ND		3.43		
2,3,4,7,8-PECDF	ND		3.43		
1,2,3,4,7,8-HXCDF	NDR	3.93	2.92	1.52	1.000
1,2,3,6,7,8-HXCDF	ND		2.92		
1,2,3,7,8,9-HXCDF	ND		2.92		
2,3,4,6,7,8-HXCDF	ND		2.92		
1,2,3,4,6,7,8-HPCDF		63.1	3.69	1.06	1.000
1,2,3,4,7,8,9-HPCDF	ND		3.69		
OCDF		237	3.76	0.93	1.002
TOTAL TETRA-DIOXINS		826	2.96		
TOTAL PENTA-DIOXINS		53.5	4.85		
TOTAL HEXA-DIOXINS		49.9	3.66		
TOTAL HEPTA-DIOXINS		370	7.81		
TOTAL TETRA-FURANS		2340	3.70		
TOTAL PENTA-FURANS		417	3.43		
TOTAL HEXA-FURANS		46.8	2.92		
TOTAL HEPTA-FURANS		135	3.69		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN076
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
		Lab Sample I.D.:	L9585-73
Matrix:	SOLID	**Sample Size:**	5.06 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	16-Dec-2006
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	23-Feb-2007 **Time:** 17:10:25	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX7B_048 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7B_048 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_048 S: 1
Concentration Units:	pg absolute	**% Moisture:**	8.67

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	8160	81.6	0.81	1.013
13C-1,2,3,7,8-PECDD [4]		10000	7920	79.2	0.65	1.381
13C-1,2,3,4,7,8-HXCDD		10000	7990	79.9	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		10000	7990	79.9	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7470	74.7	1.01	1.094
13C-OCDD		20000	12200	61.2	0.90	1.178
13C-2,3,7,8-TCDF		10000	9190	91.9	0.74	0.966
13C-1,2,3,7,8-PECDF		10000	8890	88.9	1.55	1.283
13C-2,3,4,7,8-PECDF		10000	8470	84.7	1.55	1.350
13C-1,2,3,4,7,8-HXCDF		10000	9290	92.9	0.54	0.953
13C-1,2,3,6,7,8-HXCDF		10000	9320	93.2	0.55	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8420	84.2	0.54	1.004
13C-2,3,4,6,7,8-HXCDF		10000	8840	88.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	8360	83.6	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7970	79.7	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	896	89.6		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-73_Form2_SJ643774.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN076
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-73
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.06 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 17:19:36	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_029A S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_029A S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_029A S: 2
		% Moisture:	8.67

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		5.17		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:59:57; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB225_L9585-73_Form1A_SJ643470.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN076

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 08:20
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.06 g (dry)	**Lab Sample I.D.:**	L9585-73
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_029A S: 12** **DX7B_048 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		773	2.96	1	7.73e+02	7.73e+02	
1,2,3,7,8-PECDD	ND		4.85	1	0.00e+00	2.43e+00	
1,2,3,4,7,8-HXCDD	ND		3.66	0.1	0.00e+00	1.83e-01	
1,2,3,6,7,8-HXCDD		5.55	3.66	0.1	5.55e-01	5.55e-01	
1,2,3,7,8,9-HXCDD		6.15	3.66	0.1	6.15e-01	6.15e-01	
1,2,3,4,6,7,8-HPCDD		193	7.81	0.01	1.93e+00	1.93e+00	
OCDD		19600	5.67	0.0001	1.96e+00	1.96e+00	
2,3,7,8-TCDF	ND		5.17	0.1	0.00e+00	2.59e-01	
1,2,3,7,8-PECDF	ND		3.43	0.05	0.00e+00	8.58e-02	
2,3,4,7,8-PECDF	ND		3.43	0.5	0.00e+00	8.58e-01	
1,2,3,4,7,8-HXCDF	ND		2.92	0.1	0.00e+00	1.46e-01	
1,2,3,6,7,8-HXCDF	ND		2.92	0.1	0.00e+00	1.46e-01	
1,2,3,7,8,9-HXCDF	ND		2.92	0.1	0.00e+00	1.46e-01	
2,3,4,6,7,8-HXCDF	ND		2.92	0.1	0.00e+00	1.46e-01	
1,2,3,4,6,7,8-HPCDF		63.1	3.69	0.01	6.31e-01	6.31e-01	
1,2,3,4,7,8,9-HPCDF	ND		3.69	0.01	0.00e+00	1.85e-02	
OCDF		237	3.76	0.0001	2.37e-02	2.37e-02	
			TOTAL TEQ		779	783	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		773	2.96	1	7.73e+02	7.73e+02	
1,2,3,7,8-PECDD	ND		4.85	1	0.00e+00	2.43e+00	
1,2,3,4,7,8-HXCDD	ND		3.66	0.1	0.00e+00	1.83e-01	
1,2,3,6,7,8-HXCDD		5.55	3.66	0.1	5.55e-01	5.55e-01	
1,2,3,7,8,9-HXCDD		6.15	3.66	0.1	6.15e-01	6.15e-01	
1,2,3,4,6,7,8-HPCDD		193	7.81	0.01	1.93e+00	1.93e+00	
OCDD		19600	5.67	0.0003	5.88e+00	5.88e+00	
2,3,7,8-TCDF	ND		5.17	0.1	0.00e+00	2.59e-01	
1,2,3,7,8-PECDF	ND		3.43	0.03	0.00e+00	5.15e-02	
2,3,4,7,8-PECDF	ND		3.43	0.3	0.00e+00	5.15e-01	
1,2,3,4,7,8-HXCDF	ND		2.92	0.1	0.00e+00	1.46e-01	
1,2,3,6,7,8-HXCDF	ND		2.92	0.1	0.00e+00	1.46e-01	
1,2,3,7,8,9-HXCDF	ND		2.92	0.1	0.00e+00	1.46e-01	
2,3,4,6,7,8-HXCDF	ND		2.92	0.1	0.00e+00	1.46e-01	
1,2,3,4,6,7,8-HPCDF		63.1	3.69	0.01	6.31e-01	6.31e-01	
1,2,3,4,7,8,9-HPCDF	ND		3.69	0.01	0.00e+00	1.85e-02	
OCDF		237	3.76	0.0003	7.11e-02	7.11e-02	
			TOTAL TEQ		783	787	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 12-Mar-2007 14:01:52; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-73_TEQ_SJ643470.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN077
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-74 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.27 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 10:13:34	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_091 S: 4**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_091 S: 1
		% Moisture:	14.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		9.12	4.09	0.69	1.001
1,2,3,7,8-PECDD [3]	ND		5.34		
1,2,3,4,7,8-HXCDD	ND		4.72		
1,2,3,6,7,8-HXCDD	ND		4.72		
1,2,3,7,8,9-HXCDD	NDR	7.97	4.72	1.02	1.009
1,2,3,4,6,7,8-HPCDD		225	6.65	0.99	1.000
OCDD		26100	5.21	0.89	1.000
2,3,7,8-TCDF	ND		3.62		
1,2,3,7,8-PECDF	ND		4.06		
2,3,4,7,8-PECDF	ND		4.06		
1,2,3,4,7,8-HXCDF	ND		4.36		
1,2,3,6,7,8-HXCDF	ND		4.36		
1,2,3,7,8,9-HXCDF	ND		4.36		
2,3,4,6,7,8-HXCDF	ND		4.36		
1,2,3,4,6,7,8-HPCDF	NDR	4.20	3.90	1.53	1.000
1,2,3,4,7,8,9-HPCDF	ND		3.90		
OCDF	NDR	20.9	6.05	1.04	1.001
TOTAL TETRA-DIOXINS		9.12	4.09		
TOTAL PENTA-DIOXINS	ND		5.34		
TOTAL HEXA-DIOXINS	ND		4.72		
TOTAL HEPTA-DIOXINS		466	6.65		
TOTAL TETRA-FURANS		14.1	3.62		
TOTAL PENTA-FURANS	ND		4.06		
TOTAL HEXA-FURANS	ND		4.36		
TOTAL HEPTA-FURANS	ND		3.90		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-74_Form1A_SJ647026.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN077
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-74 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.27 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 10:13:34	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_091 S:** 4
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_091 S: 1
		% Moisture:	14.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	7740	77.4	0.74	1.012
13C-1,2,3,7,8-PECDD [4]		10000	8280	82.8	0.61	1.380
13C-1,2,3,4,7,8-HXCDD		10000	9470	94.7	1.34	0.987
13C-1,2,3,6,7,8-HXCDD		10000	10400	104	1.28	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8540	85.4	1.07	1.095
13C-OCDD		20000	13900	69.7	0.87	1.179
13C-2,3,7,8-TCDF		10000	8290	82.9	0.80	0.966
13C-1,2,3,7,8-PECDF		10000	8050	80.5	1.51	1.283
13C-2,3,4,7,8-PECDF		10000	8250	82.5	1.58	1.350
13C-1,2,3,4,7,8-HXCDF		10000	9830	98.3	0.54	0.954
13C-1,2,3,6,7,8-HXCDF		10000	10200	102	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8110	81.1	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9360	93.6	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9350	93.5	0.40	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8200	82.0	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	750	75.0		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN077
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-74
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.27 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 17:55:14	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_029A S: 13**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_029A S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_029A S: 2
		% Moisture:	14.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		5.96		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:59:57; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB225_L9585-74_Form1A_SJ643471.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN077

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 08:20
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.27 g (dry)	**Lab Sample I.D.:**	L9585-74
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_029A S: 13** **DX72_091 S: 4**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		9.12	4.09	1	9.12e+00	9.12e+00	
1,2,3,7,8-PECDD	ND		5.34	1	0.00e+00	2.67e+00	
1,2,3,4,7,8-HXCDD	ND		4.72	0.1	0.00e+00	2.36e-01	
1,2,3,6,7,8-HXCDD	ND		4.72	0.1	0.00e+00	2.36e-01	
1,2,3,7,8,9-HXCDD	ND		4.72	0.1	0.00e+00	2.36e-01	
1,2,3,4,6,7,8-HPCDD		225	6.65	0.01	2.25e+00	2.25e+00	
OCDD		26100	5.21	0.0001	2.61e+00	2.61e+00	
2,3,7,8-TCDF	ND		5.96	0.1	0.00e+00	2.98e-01	
1,2,3,7,8-PECDF	ND		4.06	0.05	0.00e+00	1.02e-01	
2,3,4,7,8-PECDF	ND		4.06	0.5	0.00e+00	1.02e+00	
1,2,3,4,7,8-HXCDF	ND		4.36	0.1	0.00e+00	2.18e-01	
1,2,3,6,7,8-HXCDF	ND		4.36	0.1	0.00e+00	2.18e-01	
1,2,3,7,8,9-HXCDF	ND		4.36	0.1	0.00e+00	2.18e-01	
2,3,4,6,7,8-HXCDF	ND		4.36	0.1	0.00e+00	2.18e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.90	0.01	0.00e+00	1.95e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.90	0.01	0.00e+00	1.95e-02	
OCDF	ND		6.05	0.0001	0.00e+00	3.03e-04	
			TOTAL TEQ		14.0	19.7	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		9.12	4.09	1	9.12e+00	9.12e+00	
1,2,3,7,8-PECDD	ND		5.34	1	0.00e+00	2.67e+00	
1,2,3,4,7,8-HXCDD	ND		4.72	0.1	0.00e+00	2.36e-01	
1,2,3,6,7,8-HXCDD	ND		4.72	0.1	0.00e+00	2.36e-01	
1,2,3,7,8,9-HXCDD	ND		4.72	0.1	0.00e+00	2.36e-01	
1,2,3,4,6,7,8-HPCDD		225	6.65	0.01	2.25e+00	2.25e+00	
OCDD		26100	5.21	0.0003	7.83e+00	7.83e+00	
2,3,7,8-TCDF	ND		5.96	0.1	0.00e+00	2.98e-01	
1,2,3,7,8-PECDF	ND		4.06	0.03	0.00e+00	6.09e-02	
2,3,4,7,8-PECDF	ND		4.06	0.3	0.00e+00	6.09e-01	
1,2,3,4,7,8-HXCDF	ND		4.36	0.1	0.00e+00	2.18e-01	
1,2,3,6,7,8-HXCDF	ND		4.36	0.1	0.00e+00	2.18e-01	
1,2,3,7,8,9-HXCDF	ND		4.36	0.1	0.00e+00	2.18e-01	
2,3,4,6,7,8-HXCDF	ND		4.36	0.1	0.00e+00	2.18e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.90	0.01	0.00e+00	1.95e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.90	0.01	0.00e+00	1.95e-02	
OCDF	ND		6.05	0.0003	0.00e+00	9.08e-04	
			TOTAL TEQ		19.2	24.5	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 12-Mar-2007 14:01:52; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-74_TEQ_SJ643471.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN078
Sample Collection:
11-Dec-2006 10:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-75
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.67 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 19:00:40	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_048 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_048 S: 1
		% Moisture:	7.17

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD [3]		251	4.78	0.68	1.001
1,2,3,4,7,8-HXCDD	NDR	15.8	4.44	1.59	1.000
1,2,3,6,7,8-HXCDD		138	4.44	1.32	1.000
1,2,3,7,8,9-HXCDD		52.0	4.44	1.12	1.010
1,2,3,4,6,7,8-HPCDD		408	6.64	1.09	1.000
OCDD		3130	2.73	0.87	1.000
2,3,7,8-TCDF		1760	5.04	0.79	1.003
1,2,3,7,8-PECDF		14.0	5.88	1.56	1.001
2,3,4,7,8-PECDF		31.7	5.88	1.51	1.000
1,2,3,4,7,8-HXCDF	NDR	17.6	3.72	0.94	1.000
1,2,3,6,7,8-HXCDF	NDR	4.92	3.72	1.78	1.000
1,2,3,7,8,9-HXCDF	ND		3.72		
2,3,4,6,7,8-HXCDF	NDR	9.62	3.72	0.91	1.000
1,2,3,4,6,7,8-HPCDF		82.5	3.06	1.01	1.000
1,2,3,4,7,8,9-HPCDF		3.26	3.06	1.15	1.000
OCDF		65.0	4.16	0.82	1.002
TOTAL TETRA-DIOXINS	OLR				
TOTAL PENTA-DIOXINS		1370	4.78		
TOTAL HEXA-DIOXINS		1080	4.44		
TOTAL HEPTA-DIOXINS		754	6.64		
TOTAL TETRA-FURANS		7020	5.04		
TOTAL PENTA-FURANS		5780	5.88		
TOTAL HEXA-FURANS		687	3.72		
TOTAL HEPTA-FURANS		183	3.06		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-75_Form1A_SJ643776.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN078
Sample Collection:
11-Dec-2006 10:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-75
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.67 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 19:00:40	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_048 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_048 S: 1
		% Moisture:	7.17

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]		10000	8230	82.3	0.62	1.381
13C-1,2,3,4,7,8-HXCDD		10000	8640	86.4	1.29	0.986
13C-1,2,3,6,7,8-HXCDD		10000	8930	89.3	1.18	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7660	76.6	1.03	1.094
13C-OCDD		20000	11700	58.6	0.91	1.178
13C-2,3,7,8-TCDF		10000	9790	97.9	0.77	0.965
13C-1,2,3,7,8-PECDF		10000	9250	92.5	1.56	1.282
13C-2,3,4,7,8-PECDF		10000	8960	89.6	1.60	1.349
13C-1,2,3,4,7,8-HXCDF		10000	9580	95.8	0.55	0.953
13C-1,2,3,6,7,8-HXCDF		10000	9930	99.3	0.56	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9190	91.9	0.54	1.004
13C-2,3,4,6,7,8-HXCDF		10000	9290	92.9	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	8530	85.3	0.43	1.061
13C-1,2,3,4,7,8,9-HPCDF		10000	8240	82.4	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	852	85.2		1.013

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB5_L9585-75_Form2_SJ643776.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN078
Sample Collection:
11-Dec-2006 10:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-75 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.67 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 17:29:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	450	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_091 S: 12**
Dilution Factor:	4.5	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_091 S: 1
		% Moisture:	7.17

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	106000	21.2	0.77	1.001
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	110000	21.2		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-75_Form1A_SJ647034.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN078
Sample Collection:
11-Dec-2006 10:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-75 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.67 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 17:29:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	450	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_091 S: 12**
Dilution Factor:	4.5	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_091 S: 1
		% Moisture:	7.17

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	10000	8260	82.6	0.86	1.012
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	X					
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-75_Form2_SJ647034.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN078
Sample Collection:
11-Dec-2006 10:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-75
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.67 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	16-Feb-2007 **Time:** 00:14:37	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_030 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_029A S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_030 S: 2
		% Moisture:	7.17

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		462	4.19	0.70	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN078

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 10:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.67 g (dry)	**Lab Sample I.D.:**	L9585-75
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_030 S: 9** **DX72_091 S: 12** **DX7B_048 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		106000	21.2	1	1.06e+05	1.06e+05	
1,2,3,7,8-PECDD		251	4.78	1	2.51e+02	2.51e+02	
1,2,3,4,7,8-HXCDD	ND		4.44	0.1	0.00e+00	2.22e-01	
1,2,3,6,7,8-HXCDD		138	4.44	0.1	1.38e+01	1.38e+01	
1,2,3,7,8,9-HXCDD		52.0	4.44	0.1	5.20e+00	5.20e+00	
1,2,3,4,6,7,8-HPCDD		408	6.64	0.01	4.08e+00	4.08e+00	
OCDD		3130	2.73	0.0001	3.13e-01	3.13e-01	
2,3,7,8-TCDF		462	4.19	0.1	4.62e+01	4.62e+01	
1,2,3,7,8-PECDF		14.0	5.88	0.05	7.00e-01	7.00e-01	
2,3,4,7,8-PECDF		31.7	5.88	0.5	1.59e+01	1.59e+01	
1,2,3,4,7,8-HXCDF	ND		3.72	0.1	0.00e+00	1.86e-01	
1,2,3,6,7,8-HXCDF	ND		3.72	0.1	0.00e+00	1.86e-01	
1,2,3,7,8,9-HXCDF	ND		3.72	0.1	0.00e+00	1.86e-01	
2,3,4,6,7,8-HXCDF	ND		3.72	0.1	0.00e+00	1.86e-01	
1,2,3,4,6,7,8-HPCDF		82.5	3.06	0.01	8.25e-01	8.25e-01	
1,2,3,4,7,8,9-HPCDF		3.26	3.06	0.01	3.26e-02	3.26e-02	
OCDF		65.0	4.16	0.0001	6.50e-03	6.50e-03	
			TOTAL TEQ		106000	106000	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		106000	21.2	1	1.06e+05	1.06e+05	
1,2,3,7,8-PECDD		251	4.78	1	2.51e+02	2.51e+02	
1,2,3,4,7,8-HXCDD	ND		4.44	0.1	0.00e+00	2.22e-01	
1,2,3,6,7,8-HXCDD		138	4.44	0.1	1.38e+01	1.38e+01	
1,2,3,7,8,9-HXCDD		52.0	4.44	0.1	5.20e+00	5.20e+00	
1,2,3,4,6,7,8-HPCDD		408	6.64	0.01	4.08e+00	4.08e+00	
OCDD		3130	2.73	0.0003	9.39e-01	9.39e-01	
2,3,7,8-TCDF		462	4.19	0.1	4.62e+01	4.62e+01	
1,2,3,7,8-PECDF		14.0	5.88	0.03	4.20e-01	4.20e-01	
2,3,4,7,8-PECDF		31.7	5.88	0.3	9.51e+00	9.51e+00	
1,2,3,4,7,8-HXCDF	ND		3.72	0.1	0.00e+00	1.86e-01	
1,2,3,6,7,8-HXCDF	ND		3.72	0.1	0.00e+00	1.86e-01	
1,2,3,7,8,9-HXCDF	ND		3.72	0.1	0.00e+00	1.86e-01	
2,3,4,6,7,8-HXCDF	ND		3.72	0.1	0.00e+00	1.86e-01	
1,2,3,4,6,7,8-HPCDF		82.5	3.06	0.01	8.25e-01	8.25e-01	
1,2,3,4,7,8,9-HPCDF		3.26	3.06	0.01	3.26e-02	3.26e-02	
OCDF		65.0	4.16	0.0003	1.95e-02	1.95e-02	
			TOTAL TEQ		106000	106000	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 12-Mar-2007 14:01:52; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-75_TEQ_SJ643432.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN080
Sample Collection:
11-Dec-2006 10:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-77 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.3 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 11:35:43	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 4**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	31.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		3.35	0.0484	0.79	1.000
1,2,3,7,8-PECDD [3]		0.823	0.0484	0.70	1.000
1,2,3,4,7,8-HXCDD		1.27	0.0821	1.23	1.000
1,2,3,6,7,8-HXCDD		3.24	0.0821	1.26	1.000
1,2,3,7,8,9-HXCDD		4.31	0.0821	1.27	1.010
1,2,3,4,6,7,8-HPCDD		95.0	0.237	1.02	1.000
OCDD		1790	0.0711	0.89	1.000
2,3,7,8-TCDF		0.991	0.0484	0.76	1.001
1,2,3,7,8-PECDF		0.455	0.0484	1.42	1.000
2,3,4,7,8-PECDF		0.655	0.0484	1.46	1.000
1,2,3,4,7,8-HXCDF		1.18	0.0484	1.24	1.000
1,2,3,6,7,8-HXCDF		0.813	0.0484	1.20	1.000
1,2,3,7,8,9-HXCDF		0.073	0.0484	1.19	1.000
2,3,4,6,7,8-HXCDF		0.532	0.0484	1.33	1.000
1,2,3,4,6,7,8-HPCDF		6.77	0.0603	1.03	1.000
1,2,3,4,7,8,9-HPCDF		0.402	0.0603	1.02	1.000
OCDF		7.47	0.0484	0.89	1.002
TOTAL TETRA-DIOXINS		8.09	0.0484		
TOTAL PENTA-DIOXINS		10.0	0.0484		
TOTAL HEXA-DIOXINS		47.1	0.0821		
TOTAL HEPTA-DIOXINS		225	0.237		
TOTAL TETRA-FURANS		8.29	0.0484		
TOTAL PENTA-FURANS		11.3	0.0484		
TOTAL HEXA-FURANS		14.9	0.0484		
TOTAL HEPTA-FURANS		14.4	0.0603		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-77_Form1A_SJ642123.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
06VN080
Sample Collection:
11-Dec-2006 10:15

Form 2

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-77 i
Matrix:	SOLID	**Sample Size:**	10.3 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	16-Dec-2006
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Feb-2007 **Time:** 11:35:43	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7B_046A S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_089 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
Concentration Units:	pg absolute	**% Moisture:**	31.1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1640	81.8	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1590	79.7	0.65	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1710	85.6	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1740	87.0	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1600	80.2	1.01	1.094
13C-OCDD		4000	3120	77.9	0.90	1.178
13C-2,3,7,8-TCDF		2000	1840	91.9	0.76	0.966
13C-1,2,3,7,8-PECDF		2000	1740	87.0	1.60	1.282
13C-2,3,4,7,8-PECDF		2000	1660	83.0	1.56	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1860	93.1	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1830	91.4	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1750	87.5	0.53	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1800	90.0	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1680	83.9	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1710	85.7	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	166	83.0		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-77_Form2_SJ642123.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN080
Sample Collection:
11-Dec-2006 10:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-77
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.3 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 11:00:53	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_027 S: 2
		% Moisture:	31.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.551	0.0866	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-77_Form1A_SJ643191.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN080

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 10:15
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.3 g (dry)	**Lab Sample I.D.:**	L9585-77
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_027 S: 7** **DX7B_046A S: 4**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3.35	0.0484	1	3.35e+00	3.35e+00	
1,2,3,7,8-PECDD		0.823	0.0484	1	8.23e-01	8.23e-01	
1,2,3,4,7,8-HXCDD		1.27	0.0821	0.1	1.27e-01	1.27e-01	
1,2,3,6,7,8-HXCDD		3.24	0.0821	0.1	3.24e-01	3.24e-01	
1,2,3,7,8,9-HXCDD		4.31	0.0821	0.1	4.31e-01	4.31e-01	
1,2,3,4,6,7,8-HPCDD		95.0	0.237	0.01	9.50e-01	9.50e-01	
OCDD		1790	0.0711	0.0001	1.79e-01	1.79e-01	
2,3,7,8-TCDF		0.551	0.0866	0.1	5.51e-02	5.51e-02	
1,2,3,7,8-PECDF		0.455	0.0484	0.05	2.28e-02	2.28e-02	
2,3,4,7,8-PECDF		0.655	0.0484	0.5	3.28e-01	3.28e-01	
1,2,3,4,7,8-HXCDF		1.18	0.0484	0.1	1.18e-01	1.18e-01	
1,2,3,6,7,8-HXCDF		0.813	0.0484	0.1	8.13e-02	8.13e-02	
1,2,3,7,8,9-HXCDF		0.073	0.0484	0.1	7.30e-03	7.30e-03	
2,3,4,6,7,8-HXCDF		0.532	0.0484	0.1	5.32e-02	5.32e-02	
1,2,3,4,6,7,8-HPCDF		6.77	0.0603	0.01	6.77e-02	6.77e-02	
1,2,3,4,7,8,9-HPCDF		0.402	0.0603	0.01	4.02e-03	4.02e-03	
OCDF		7.47	0.0484	0.0001	7.47e-04	7.47e-04	
			TOTAL TEQ		6.92	6.92	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3.35	0.0484	1	3.35e+00	3.35e+00	
1,2,3,7,8-PECDD		0.823	0.0484	1	8.23e-01	8.23e-01	
1,2,3,4,7,8-HXCDD		1.27	0.0821	0.1	1.27e-01	1.27e-01	
1,2,3,6,7,8-HXCDD		3.24	0.0821	0.1	3.24e-01	3.24e-01	
1,2,3,7,8,9-HXCDD		4.31	0.0821	0.1	4.31e-01	4.31e-01	
1,2,3,4,6,7,8-HPCDD		95.0	0.237	0.01	9.50e-01	9.50e-01	
OCDD		1790	0.0711	0.0003	5.37e-01	5.37e-01	
2,3,7,8-TCDF		0.551	0.0866	0.1	5.51e-02	5.51e-02	
1,2,3,7,8-PECDF		0.455	0.0484	0.03	1.37e-02	1.37e-02	
2,3,4,7,8-PECDF		0.655	0.0484	0.3	1.97e-01	1.97e-01	
1,2,3,4,7,8-HXCDF		1.18	0.0484	0.1	1.18e-01	1.18e-01	
1,2,3,6,7,8-HXCDF		0.813	0.0484	0.1	8.13e-02	8.13e-02	
1,2,3,7,8,9-HXCDF		0.073	0.0484	0.1	7.30e-03	7.30e-03	
2,3,4,6,7,8-HXCDF		0.532	0.0484	0.1	5.32e-02	5.32e-02	
1,2,3,4,6,7,8-HPCDF		6.77	0.0603	0.01	6.77e-02	6.77e-02	
1,2,3,4,7,8,9-HPCDF		0.402	0.0603	0.01	4.02e-03	4.02e-03	
OCDF		7.47	0.0484	0.0003	2.24e-03	2.24e-03	
			TOTAL TEQ		7.14	7.14	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN081
Sample Collection:
11-Dec-2006 11:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-78 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.58 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 12:02:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_091 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_091 S: 1
		% Moisture:	45.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		8390	3.26	0.77	1.001
1,2,3,7,8-PECDD [3]		110	2.37	0.68	1.000
1,2,3,4,7,8-HXCDD		35.9	4.23	1.34	1.000
1,2,3,6,7,8-HXCDD		198	4.23	1.33	1.000
1,2,3,7,8,9-HXCDD		112	4.23	1.23	1.010
1,2,3,4,6,7,8-HPCDD		1040	3.36	1.03	1.000
OCDD		4280	1.88	0.90	1.000
2,3,7,8-TCDF		340	12.6	0.79	1.002
1,2,3,7,8-PECDF	NDR	7.11	2.59	1.87	1.000
2,3,4,7,8-PECDF		10.0	2.59	1.58	1.000
1,2,3,4,7,8-HXCDF	NDR	14.2	2.36	0.94	1.000
1,2,3,6,7,8-HXCDF	NDR	5.93	2.36	0.66	1.000
1,2,3,7,8,9-HXCDF	NDR	3.00	2.36	0.78	1.001
2,3,4,6,7,8-HXCDF		5.66	2.36	1.26	1.000
1,2,3,4,6,7,8-HPCDF		68.4	2.08	1.16	1.000
1,2,3,4,7,8,9-HPCDF		5.96	2.08	0.97	1.000
OCDF		99.7	2.20	0.78	1.002
TOTAL TETRA-DIOXINS		8880	3.26		
TOTAL PENTA-DIOXINS		811	2.37		
TOTAL HEXA-DIOXINS		1280	4.23		
TOTAL HEPTA-DIOXINS		1760	3.36		
TOTAL TETRA-FURANS		1370	12.6		
TOTAL PENTA-FURANS		1480	2.59		
TOTAL HEXA-FURANS		327	2.36		
TOTAL HEPTA-FURANS		153	2.08		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN081
Sample Collection:
11-Dec-2006 11:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-78 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.58 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 12:02:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_091 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_091 S: 1
		% Moisture:	45.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	8660	86.6	0.76	1.012
13C-1,2,3,7,8-PECDD [4]		10000	8370	83.7	0.59	1.380
13C-1,2,3,4,7,8-HXCDD		10000	9650	96.5	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9780	97.8	1.19	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8480	84.8	1.03	1.095
13C-OCDD		20000	12700	63.4	0.90	1.179
13C-2,3,7,8-TCDF		10000	8980	89.8	0.75	0.966
13C-1,2,3,7,8-PECDF		10000	7940	79.4	1.52	1.282
13C-2,3,4,7,8-PECDF		10000	8330	83.3	1.51	1.350
13C-1,2,3,4,7,8-HXCDF		10000	9660	96.6	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9530	95.3	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8220	82.2	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9460	94.6	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	8740	87.4	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7610	76.1	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	975	97.5		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN081
Sample Collection:
11-Dec-2006 11:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-78
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.58 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	16-Feb-2007 **Time:** 00:50:16	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_030 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_029A S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_030 S: 2
		% Moisture:	45.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		265	4.06	0.74	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-78_Form1A_SJ643433.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN081

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 11:00
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.58 g (dry)	**Lab Sample I.D.:**	L9585-78
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_030 S: 10** **DX72_091 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		8390	3.26	1	8.39e+03	8.39e+03	
1,2,3,7,8-PECDD		110	2.37	1	1.10e+02	1.10e+02	
1,2,3,4,7,8-HXCDD		35.9	4.23	0.1	3.59e+00	3.59e+00	
1,2,3,6,7,8-HXCDD		198	4.23	0.1	1.98e+01	1.98e+01	
1,2,3,7,8,9-HXCDD		112	4.23	0.1	1.12e+01	1.12e+01	
1,2,3,4,6,7,8-HPCDD		1040	3.36	0.01	1.04e+01	1.04e+01	
OCDD		4280	1.88	0.0001	4.28e-01	4.28e-01	
2,3,7,8-TCDF		265	4.06	0.1	2.65e+01	2.65e+01	
1,2,3,7,8-PECDF	ND		2.59	0.05	0.00e+00	6.48e-02	
2,3,4,7,8-PECDF		10.0	2.59	0.5	5.00e+00	5.00e+00	
1,2,3,4,7,8-HXCDF	ND		2.36	0.1	0.00e+00	1.18e-01	
1,2,3,6,7,8-HXCDF	ND		2.36	0.1	0.00e+00	1.18e-01	
1,2,3,7,8,9-HXCDF	ND		2.36	0.1	0.00e+00	1.18e-01	
2,3,4,6,7,8-HXCDF		5.66	2.36	0.1	5.66e-01	5.66e-01	
1,2,3,4,6,7,8-HPCDF		68.4	2.08	0.01	6.84e-01	6.84e-01	
1,2,3,4,7,8,9-HPCDF		5.96	2.08	0.01	5.96e-02	5.96e-02	
OCDF		99.7	2.20	0.0001	9.97e-03	9.97e-03	
			TOTAL TEQ		8580	8580	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		8390	3.26	1	8.39e+03	8.39e+03	
1,2,3,7,8-PECDD		110	2.37	1	1.10e+02	1.10e+02	
1,2,3,4,7,8-HXCDD		35.9	4.23	0.1	3.59e+00	3.59e+00	
1,2,3,6,7,8-HXCDD		198	4.23	0.1	1.98e+01	1.98e+01	
1,2,3,7,8,9-HXCDD		112	4.23	0.1	1.12e+01	1.12e+01	
1,2,3,4,6,7,8-HPCDD		1040	3.36	0.01	1.04e+01	1.04e+01	
OCDD		4280	1.88	0.0003	1.28e+00	1.28e+00	
2,3,7,8-TCDF		265	4.06	0.1	2.65e+01	2.65e+01	
1,2,3,7,8-PECDF	ND		2.59	0.03	0.00e+00	3.89e-02	
2,3,4,7,8-PECDF		10.0	2.59	0.3	3.00e+00	3.00e+00	
1,2,3,4,7,8-HXCDF	ND		2.36	0.1	0.00e+00	1.18e-01	
1,2,3,6,7,8-HXCDF	ND		2.36	0.1	0.00e+00	1.18e-01	
1,2,3,7,8,9-HXCDF	ND		2.36	0.1	0.00e+00	1.18e-01	
2,3,4,6,7,8-HXCDF		5.66	2.36	0.1	5.66e-01	5.66e-01	
1,2,3,4,6,7,8-HPCDF		68.4	2.08	0.01	6.84e-01	6.84e-01	
1,2,3,4,7,8,9-HPCDF		5.96	2.08	0.01	5.96e-02	5.96e-02	
OCDF		99.7	2.20	0.0003	2.99e-02	2.99e-02	
			TOTAL TEQ		8580	8580	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN083
Sample Collection:
11-Dec-2006 15:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-80 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.13 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 12:57:05	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_091 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_091 S: 1
		% Moisture:	6.85

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		61500	3.82	0.77	1.001
1,2,3,7,8-PECDD [3]		406	3.30	0.67	1.001
1,2,3,4,7,8-HXCDD		38.0	4.31	1.22	1.000
1,2,3,6,7,8-HXCDD		244	4.31	1.23	1.000
1,2,3,7,8,9-HXCDD		107	4.31	1.36	1.010
1,2,3,4,6,7,8-HPCDD		906	4.19	1.04	1.000
OCDD		10800	2.96	0.89	1.001
2,3,7,8-TCDF		3170	24.2	0.78	1.002
1,2,3,7,8-PECDF		31.4	4.77	1.49	1.001
2,3,4,7,8-PECDF	NDR	40.1	4.77	1.19	1.000
1,2,3,4,7,8-HXCDF		27.0	4.54	1.32	1.000
1,2,3,6,7,8-HXCDF		7.76	4.54	1.12	1.000
1,2,3,7,8,9-HXCDF	ND		4.54		
2,3,4,6,7,8-HXCDF		9.95	4.54	1.28	1.000
1,2,3,4,6,7,8-HPCDF		83.3	3.74	0.96	1.000
1,2,3,4,7,8,9-HPCDF	NDR	5.50	3.74	1.50	1.000
OCDF		77.8	3.30	1.01	1.002
TOTAL TETRA-DIOXINS		64600	3.82		
TOTAL PENTA-DIOXINS		1810	3.30		
TOTAL HEXA-DIOXINS		1420	4.31		
TOTAL HEPTA-DIOXINS		1460	4.19		
TOTAL TETRA-FURANS		14200	24.2		
TOTAL PENTA-FURANS		12900	4.77		
TOTAL HEXA-FURANS		1250	4.54		
TOTAL HEPTA-FURANS		183	3.74		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN083
Sample Collection:
11-Dec-2006 15:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-80 i
Matrix:	SOLID	**Sample Size:**	5.13 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Mar-2007 **Time:** 12:57:05	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX72_091 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7B_048 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_091 S: 1
Concentration Units:	pg absolute	**% Moisture:**	6.85

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	9020	90.2	0.83	1.012
13C-1,2,3,7,8-PECDD [4]		10000	7710	77.1	0.61	1.381
13C-1,2,3,4,7,8-HXCDD		10000	9780	97.8	1.32	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9770	97.7	1.16	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8090	80.9	1.06	1.095
13C-OCDD		20000	12700	63.5	0.88	1.179
13C-2,3,7,8-TCDF		10000	8490	84.9	0.79	0.966
13C-1,2,3,7,8-PECDF		10000	7560	75.6	1.56	1.282
13C-2,3,4,7,8-PECDF		10000	7830	78.3	1.52	1.349
13C-1,2,3,4,7,8-HXCDF		10000	9620	96.2	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9890	98.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8100	81.0	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9380	93.8	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	8900	89.0	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7420	74.2	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	1120	112		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-80_Form2_SJ647029.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN083
Sample Collection:
11-Dec-2006 15:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-80
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.13 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	16-Feb-2007 **Time:** 01:25:55	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_030 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_029A S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_030 S: 2
		% Moisture:	6.85

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		2070	5.87	0.73	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:59:57; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB225_L9585-80_Form1A_SJ643434.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN083

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 15:00
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.13 g (dry)	**Lab Sample I.D.:**	L9585-80
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_030 S: 11** **DX72_091 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		61500	3.82	1	6.15e+04	6.15e+04	
1,2,3,7,8-PECDD		406	3.30	1	4.06e+02	4.06e+02	
1,2,3,4,7,8-HXCDD		38.0	4.31	0.1	3.80e+00	3.80e+00	
1,2,3,6,7,8-HXCDD		244	4.31	0.1	2.44e+01	2.44e+01	
1,2,3,7,8,9-HXCDD		107	4.31	0.1	1.07e+01	1.07e+01	
1,2,3,4,6,7,8-HPCDD		906	4.19	0.01	9.06e+00	9.06e+00	
OCDD		10800	2.96	0.0001	1.08e+00	1.08e+00	
2,3,7,8-TCDF		2070	5.87	0.1	2.07e+02	2.07e+02	
1,2,3,7,8-PECDF		31.4	4.77	0.05	1.57e+00	1.57e+00	
2,3,4,7,8-PECDF	ND		4.77	0.5	0.00e+00	1.19e+00	
1,2,3,4,7,8-HXCDF		27.0	4.54	0.1	2.70e+00	2.70e+00	
1,2,3,6,7,8-HXCDF		7.76	4.54	0.1	7.76e-01	7.76e-01	
1,2,3,7,8,9-HXCDF	ND		4.54	0.1	0.00e+00	2.27e-01	
2,3,4,6,7,8-HXCDF		9.95	4.54	0.1	9.95e-01	9.95e-01	
1,2,3,4,6,7,8-HPCDF		83.3	3.74	0.01	8.33e-01	8.33e-01	
1,2,3,4,7,8,9-HPCDF	ND		3.74	0.01	0.00e+00	1.87e-02	
OCDF		77.8	3.30	0.0001	7.78e-03	7.78e-03	
			TOTAL TEQ		62200	62200	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		61500	3.82	1	6.15e+04	6.15e+04	
1,2,3,7,8-PECDD		406	3.30	1	4.06e+02	4.06e+02	
1,2,3,4,7,8-HXCDD		38.0	4.31	0.1	3.80e+00	3.80e+00	
1,2,3,6,7,8-HXCDD		244	4.31	0.1	2.44e+01	2.44e+01	
1,2,3,7,8,9-HXCDD		107	4.31	0.1	1.07e+01	1.07e+01	
1,2,3,4,6,7,8-HPCDD		906	4.19	0.01	9.06e+00	9.06e+00	
OCDD		10800	2.96	0.0003	3.24e+00	3.24e+00	
2,3,7,8-TCDF		2070	5.87	0.1	2.07e+02	2.07e+02	
1,2,3,7,8-PECDF		31.4	4.77	0.03	9.42e-01	9.42e-01	
2,3,4,7,8-PECDF	ND		4.77	0.3	0.00e+00	7.16e-01	
1,2,3,4,7,8-HXCDF		27.0	4.54	0.1	2.70e+00	2.70e+00	
1,2,3,6,7,8-HXCDF		7.76	4.54	0.1	7.76e-01	7.76e-01	
1,2,3,7,8,9-HXCDF	ND		4.54	0.1	0.00e+00	2.27e-01	
2,3,4,6,7,8-HXCDF		9.95	4.54	0.1	9.95e-01	9.95e-01	
1,2,3,4,6,7,8-HPCDF		83.3	3.74	0.01	8.33e-01	8.33e-01	
1,2,3,4,7,8,9-HPCDF	ND		3.74	0.01	0.00e+00	1.87e-02	
OCDF		77.8	3.30	0.0003	2.33e-02	2.33e-02	
			TOTAL TEQ		62200	62200	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 12-Mar-2007 14:01:52; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-80_TEQ_SJ643434.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN084
Sample Collection:
11-Dec-2006 15:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-81 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.69 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 13:51:37	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_091 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_091 S: 1
		% Moisture:	11.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		336	3.08	0.77	1.001
1,2,3,7,8-PECDD [3]		5.45	3.05	0.70	1.001
1,2,3,4,7,8-HXCDD	ND		3.39		
1,2,3,6,7,8-HXCDD	NDR	4.69	3.39	0.91	1.001
1,2,3,7,8,9-HXCDD	ND		3.39		
1,2,3,4,6,7,8-HPCDD		90.0	2.92	1.02	1.000
OCDD		9930	2.55	0.90	1.000
2,3,7,8-TCDF		255	4.83	0.76	1.003
1,2,3,7,8-PECDF	ND		3.79		
2,3,4,7,8-PECDF	ND		3.79		
1,2,3,4,7,8-HXCDF	ND		2.40		
1,2,3,6,7,8-HXCDF	ND		2.40		
1,2,3,7,8,9-HXCDF	ND		2.40		
2,3,4,6,7,8-HXCDF	ND		2.40		
1,2,3,4,6,7,8-HPCDF	ND		2.94		
1,2,3,4,7,8,9-HPCDF	ND		2.94		
OCDF	NDR	5.07	3.67	1.09	1.002
TOTAL TETRA-DIOXINS		360	3.08		
TOTAL PENTA-DIOXINS		14.9	3.05		
TOTAL HEXA-DIOXINS		24.2	3.39		
TOTAL HEPTA-DIOXINS		207	2.92		
TOTAL TETRA-FURANS		918	4.83		
TOTAL PENTA-FURANS		386	3.79		
TOTAL HEXA-FURANS		4.74	2.40		
TOTAL HEPTA-FURANS	ND		2.94		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-81_Form1A_SJ647030.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN084
Sample Collection:
11-Dec-2006 15:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-81 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.69 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 13:51:37	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_091 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_091 S: 1
		% Moisture:	11.6

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	8370	83.7	0.84	1.013
13C-1,2,3,7,8-PECDD [4]		10000	8360	83.6	0.64	1.380
13C-1,2,3,4,7,8-HXCDD		10000	9380	93.8	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9680	96.8	1.27	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7770	77.7	1.01	1.095
13C-OCDD		20000	12100	60.7	0.90	1.179
13C-2,3,7,8-TCDF		10000	8750	87.5	0.77	0.966
13C-1,2,3,7,8-PECDF		10000	8040	80.4	1.57	1.283
13C-2,3,4,7,8-PECDF		10000	8510	85.1	1.63	1.350
13C-1,2,3,4,7,8-HXCDF		10000	9650	96.5	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9990	99.9	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		10000	7960	79.6	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9260	92.6	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	8690	86.9	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7250	72.5	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	909	90.9		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB5_L9585-81_Form2_SJ647030.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN084

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 15:00
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.69 g (dry)	**Lab Sample I.D.:**	L9585-81
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_030 S: 12** **DX72_091 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		336	3.08	1	3.36e+02	3.36e+02	
1,2,3,7,8-PECDD		5.45	3.05	1	5.45e+00	5.45e+00	
1,2,3,4,7,8-HXCDD	ND		3.39	0.1	0.00e+00	1.70e-01	
1,2,3,6,7,8-HXCDD	ND		3.39	0.1	0.00e+00	1.70e-01	
1,2,3,7,8,9-HXCDD	ND		3.39	0.1	0.00e+00	1.70e-01	
1,2,3,4,6,7,8-HPCDD		90.0	2.92	0.01	9.00e-01	9.00e-01	
OCDD		9930	2.55	0.0001	9.93e-01	9.93e-01	
2,3,7,8-TCDF	ND		3.48	0.1	0.00e+00	1.74e-01	
1,2,3,7,8-PECDF	ND		3.79	0.05	0.00e+00	9.48e-02	
2,3,4,7,8-PECDF	ND		3.79	0.5	0.00e+00	9.48e-01	
1,2,3,4,7,8-HXCDF	ND		2.40	0.1	0.00e+00	1.20e-01	
1,2,3,6,7,8-HXCDF	ND		2.40	0.1	0.00e+00	1.20e-01	
1,2,3,7,8,9-HXCDF	ND		2.40	0.1	0.00e+00	1.20e-01	
2,3,4,6,7,8-HXCDF	ND		2.40	0.1	0.00e+00	1.20e-01	
1,2,3,4,6,7,8-HPCDF	ND		2.94	0.01	0.00e+00	1.47e-02	
1,2,3,4,7,8,9-HPCDF	ND		2.94	0.01	0.00e+00	1.47e-02	
OCDF	ND		3.67	0.0001	0.00e+00	1.84e-04	
			TOTAL TEQ		343	346	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		336	3.08	1	3.36e+02	3.36e+02	
1,2,3,7,8-PECDD		5.45	3.05	1	5.45e+00	5.45e+00	
1,2,3,4,7,8-HXCDD	ND		3.39	0.1	0.00e+00	1.70e-01	
1,2,3,6,7,8-HXCDD	ND		3.39	0.1	0.00e+00	1.70e-01	
1,2,3,7,8,9-HXCDD	ND		3.39	0.1	0.00e+00	1.70e-01	
1,2,3,4,6,7,8-HPCDD		90.0	2.92	0.01	9.00e-01	9.00e-01	
OCDD		9930	2.55	0.0003	2.98e+00	2.98e+00	
2,3,7,8-TCDF	ND		3.48	0.1	0.00e+00	1.74e-01	
1,2,3,7,8-PECDF	ND		3.79	0.03	0.00e+00	5.69e-02	
2,3,4,7,8-PECDF	ND		3.79	0.3	0.00e+00	5.69e-01	
1,2,3,4,7,8-HXCDF	ND		2.40	0.1	0.00e+00	1.20e-01	
1,2,3,6,7,8-HXCDF	ND		2.40	0.1	0.00e+00	1.20e-01	
1,2,3,7,8,9-HXCDF	ND		2.40	0.1	0.00e+00	1.20e-01	
2,3,4,6,7,8-HXCDF	ND		2.40	0.1	0.00e+00	1.20e-01	
1,2,3,4,6,7,8-HPCDF	ND		2.94	0.01	0.00e+00	1.47e-02	
1,2,3,4,7,8,9-HPCDF	ND		2.94	0.01	0.00e+00	1.47e-02	
OCDF	ND		3.67	0.0003	0.00e+00	5.51e-04	
			TOTAL TEQ		345	347	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 12-Mar-2007 14:01:52; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-81_TEQ_SJ643435.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN084
Sample Collection:
11-Dec-2006 15:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-81
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.69 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	16-Feb-2007 **Time:** 02:01:33	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_030 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_029A S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_030 S: 2
		% Moisture:	11.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		3.48		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:59:57; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB225_L9585-81_Form1A_SJ643435.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN085
Sample Collection:
11-Dec-2006 15:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-82 i
Matrix:	SOLID	**Sample Size:**	5.27 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Mar-2007 **Time:** 14:46:05	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX72_091 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7B_048 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_091 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	13.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		136	2.41	0.71	1.001
1,2,3,7,8-PECDD [3]	ND		4.23		
1,2,3,4,7,8-HXCDD	ND		3.90		
1,2,3,6,7,8-HXCDD	ND		3.90		
1,2,3,7,8,9-HXCDD		4.06	3.90	1.07	1.009
1,2,3,4,6,7,8-HPCDD		70.8	4.19	1.19	1.000
OCDD		8360	2.85	0.88	1.000
2,3,7,8-TCDF		43.6	2.52	0.80	1.004
1,2,3,7,8-PECDF	ND		3.39		
2,3,4,7,8-PECDF	ND		3.39		
1,2,3,4,7,8-HXCDF	ND		2.85		
1,2,3,6,7,8-HXCDF	ND		2.85		
1,2,3,7,8,9-HXCDF	ND		2.85		
2,3,4,6,7,8-HXCDF	ND		2.85		
1,2,3,4,6,7,8-HPCDF	ND		3.59		
1,2,3,4,7,8,9-HPCDF	ND		3.59		
OCDF	NDR	3.56	3.42	1.10	1.001
TOTAL TETRA-DIOXINS		141	2.41		
TOTAL PENTA-DIOXINS	ND		4.23		
TOTAL HEXA-DIOXINS		11.0	3.90		
TOTAL HEPTA-DIOXINS		143	4.19		
TOTAL TETRA-FURANS		143	2.52		
TOTAL PENTA-FURANS		74.9	3.39		
TOTAL HEXA-FURANS	ND		2.85		
TOTAL HEPTA-FURANS	ND		3.59		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-82_Form1A_SJ647031.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN085

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 15:00
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.27 g (dry)	**Lab Sample I.D.:**	L9585-82
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_030 S: 13** **DX72_091 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		136	2.41	1	1.36e+02	1.36e+02	
1,2,3,7,8-PECDD	ND		4.23	1	0.00e+00	2.12e+00	
1,2,3,4,7,8-HXCDD	ND		3.90	0.1	0.00e+00	1.95e-01	
1,2,3,6,7,8-HXCDD	ND		3.90	0.1	0.00e+00	1.95e-01	
1,2,3,7,8,9-HXCDD		4.06	3.90	0.1	4.06e-01	4.06e-01	
1,2,3,4,6,7,8-HPCDD		70.8	4.19	0.01	7.08e-01	7.08e-01	
OCDD		8360	2.85	0.0001	8.36e-01	8.36e-01	
2,3,7,8-TCDF	ND		3.88	0.1	0.00e+00	1.94e-01	
1,2,3,7,8-PECDF	ND		3.39	0.05	0.00e+00	8.48e-02	
2,3,4,7,8-PECDF	ND		3.39	0.5	0.00e+00	8.48e-01	
1,2,3,4,7,8-HXCDF	ND		2.85	0.1	0.00e+00	1.43e-01	
1,2,3,6,7,8-HXCDF	ND		2.85	0.1	0.00e+00	1.43e-01	
1,2,3,7,8,9-HXCDF	ND		2.85	0.1	0.00e+00	1.43e-01	
2,3,4,6,7,8-HXCDF	ND		2.85	0.1	0.00e+00	1.43e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.59	0.01	0.00e+00	1.80e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.59	0.01	0.00e+00	1.80e-02	
OCDF	ND		3.42	0.0001	0.00e+00	1.71e-04	
			TOTAL TEQ		138	142	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		136	2.41	1	1.36e+02	1.36e+02	
1,2,3,7,8-PECDD	ND		4.23	1	0.00e+00	2.12e+00	
1,2,3,4,7,8-HXCDD	ND		3.90	0.1	0.00e+00	1.95e-01	
1,2,3,6,7,8-HXCDD	ND		3.90	0.1	0.00e+00	1.95e-01	
1,2,3,7,8,9-HXCDD		4.06	3.90	0.1	4.06e-01	4.06e-01	
1,2,3,4,6,7,8-HPCDD		70.8	4.19	0.01	7.08e-01	7.08e-01	
OCDD		8360	2.85	0.0003	2.51e+00	2.51e+00	
2,3,7,8-TCDF	ND		3.88	0.1	0.00e+00	1.94e-01	
1,2,3,7,8-PECDF	ND		3.39	0.03	0.00e+00	5.09e-02	
2,3,4,7,8-PECDF	ND		3.39	0.3	0.00e+00	5.09e-01	
1,2,3,4,7,8-HXCDF	ND		2.85	0.1	0.00e+00	1.43e-01	
1,2,3,6,7,8-HXCDF	ND		2.85	0.1	0.00e+00	1.43e-01	
1,2,3,7,8,9-HXCDF	ND		2.85	0.1	0.00e+00	1.43e-01	
2,3,4,6,7,8-HXCDF	ND		2.85	0.1	0.00e+00	1.43e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.59	0.01	0.00e+00	1.80e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.59	0.01	0.00e+00	1.80e-02	
OCDF	ND		3.42	0.0003	0.00e+00	5.13e-04	
			TOTAL TEQ		140	143	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 12-Mar-2007 14:01:52; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-82_TEQ_SJ643436.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN085
Sample Collection:
11-Dec-2006 15:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-82 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.27 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 14:46:05	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_091 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_091 S: 1
		% Moisture:	13.1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	8490	84.9	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		10000	8120	81.2	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		10000	9740	97.4	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9840	98.4	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8590	85.9	1.04	1.095
13C-OCDD		20000	13000	65.1	0.86	1.179
13C-2,3,7,8-TCDF		10000	8870	88.7	0.81	0.966
13C-1,2,3,7,8-PECDF		10000	7750	77.5	1.55	1.283
13C-2,3,4,7,8-PECDF		10000	8240	82.4	1.59	1.351
13C-1,2,3,4,7,8-HXCDF		10000	9830	98.3	0.56	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9990	99.9	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8200	82.0	0.55	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9310	93.1	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	9020	90.2	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7980	79.8	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	823	82.3		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-82_Form2_SJ647031.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN085
Sample Collection:
11-Dec-2006 15:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-82
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.27 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	16-Feb-2007 **Time:** 02:37:11	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_030 S: 13**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_029A S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_030 S: 2
		% Moisture:	13.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		3.88		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:59:57; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB225_L9585-82_Form1A_SJ643436.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN087
Sample Collection:
13-Dec-2006 10:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-84
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.3 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 12:30:46	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	24.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		2.58	0.0485	0.82	1.001
1,2,3,7,8-PECDD [3]		0.652	0.0485	0.62	1.000
1,2,3,4,7,8-HXCDD		1.30	0.0812	1.27	1.000
1,2,3,6,7,8-HXCDD		2.13	0.0812	1.29	1.000
1,2,3,7,8,9-HXCDD		5.58	0.0812	1.30	1.010
1,2,3,4,6,7,8-HPCDD		103	0.376	1.05	1.000
OCDD		4180	0.0485	0.89	1.000
2,3,7,8-TCDF		0.607	0.0485	0.81	1.003
1,2,3,7,8-PECDF		0.199	0.0485	1.41	1.001
2,3,4,7,8-PECDF		0.306	0.0485	1.43	1.000
1,2,3,4,7,8-HXCDF		0.459	0.0485	1.33	1.001
1,2,3,6,7,8-HXCDF		0.307	0.0485	1.06	1.000
1,2,3,7,8,9-HXCDF		0.055	0.0485	1.31	1.000
2,3,4,6,7,8-HXCDF		0.360	0.0485	1.25	1.000
1,2,3,4,6,7,8-HPCDF		2.26	0.0604	1.05	1.000
1,2,3,4,7,8,9-HPCDF		0.188	0.0604	1.16	1.000
OCDF		3.39	0.0485	0.87	1.001
TOTAL TETRA-DIOXINS		9.05	0.0485		
TOTAL PENTA-DIOXINS		10.4	0.0485		
TOTAL HEXA-DIOXINS		55.1	0.0812		
TOTAL HEPTA-DIOXINS		283	0.376		
TOTAL TETRA-FURANS		4.16	0.0485		
TOTAL PENTA-FURANS		4.00	0.0485		
TOTAL HEXA-FURANS		4.42	0.0485		
TOTAL HEPTA-FURANS		4.27	0.0604		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-84_Form1A_SJ642124.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN087
Sample Collection:
13-Dec-2006 10:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-84
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.3 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 12:30:46	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	24.5

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1630	81.3	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1720	85.9	0.64	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1750	87.4	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1730	86.6	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1620	81.0	1.02	1.095
13C-OCDD		4000	3470	86.9	0.90	1.178
13C-2,3,7,8-TCDF		2000	1810	90.4	0.74	0.966
13C-1,2,3,7,8-PECDF		2000	1800	89.8	1.58	1.282
13C-2,3,4,7,8-PECDF		2000	1790	89.7	1.58	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1880	94.1	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1820	91.1	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1820	91.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1820	90.8	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1720	85.9	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1730	86.4	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	158	79.0		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB5_L9585-84_Form2_SJ642124.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN087
Sample Collection:
13-Dec-2006 10:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-84
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.3 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 11:36:32	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_027 S: 2
		% Moisture:	24.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.0915		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:48:00; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB225_L9585-84_Form1A_SJ643192.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN087

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	13-Dec-2006 10:20
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.3 g (dry)	**Lab Sample I.D.:**	L9585-84
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_027 S: 8** **DX7B_046A S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		2.58	0.0485	1	2.58e+00	2.58e+00	
1,2,3,7,8-PECDD		0.652	0.0485	1	6.52e-01	6.52e-01	
1,2,3,4,7,8-HXCDD		1.30	0.0812	0.1	1.30e-01	1.30e-01	
1,2,3,6,7,8-HXCDD		2.13	0.0812	0.1	2.13e-01	2.13e-01	
1,2,3,7,8,9-HXCDD		5.58	0.0812	0.1	5.58e-01	5.58e-01	
1,2,3,4,6,7,8-HPCDD		103	0.376	0.01	1.03e+00	1.03e+00	
OCDD		4180	0.0485	0.0001	4.18e-01	4.18e-01	
2,3,7,8-TCDF	ND		0.0915	0.1	0.00e+00	4.58e-03	
1,2,3,7,8-PECDF		0.199	0.0485	0.05	9.95e-03	9.95e-03	
2,3,4,7,8-PECDF		0.306	0.0485	0.5	1.53e-01	1.53e-01	
1,2,3,4,7,8-HXCDF		0.459	0.0485	0.1	4.59e-02	4.59e-02	
1,2,3,6,7,8-HXCDF		0.307	0.0485	0.1	3.07e-02	3.07e-02	
1,2,3,7,8,9-HXCDF		0.055	0.0485	0.1	5.50e-03	5.50e-03	
2,3,4,6,7,8-HXCDF		0.360	0.0485	0.1	3.60e-02	3.60e-02	
1,2,3,4,6,7,8-HPCDF		2.26	0.0604	0.01	2.26e-02	2.26e-02	
1,2,3,4,7,8,9-HPCDF		0.188	0.0604	0.01	1.88e-03	1.88e-03	
OCDF		3.39	0.0485	0.0001	3.39e-04	3.39e-04	
			TOTAL TEQ		5.89	5.89	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		2.58	0.0485	1	2.58e+00	2.58e+00	
1,2,3,7,8-PECDD		0.652	0.0485	1	6.52e-01	6.52e-01	
1,2,3,4,7,8-HXCDD		1.30	0.0812	0.1	1.30e-01	1.30e-01	
1,2,3,6,7,8-HXCDD		2.13	0.0812	0.1	2.13e-01	2.13e-01	
1,2,3,7,8,9-HXCDD		5.58	0.0812	0.1	5.58e-01	5.58e-01	
1,2,3,4,6,7,8-HPCDD		103	0.376	0.01	1.03e+00	1.03e+00	
OCDD		4180	0.0485	0.0003	1.25e+00	1.25e+00	
2,3,7,8-TCDF	ND		0.0915	0.1	0.00e+00	4.58e-03	
1,2,3,7,8-PECDF		0.199	0.0485	0.03	5.97e-03	5.97e-03	
2,3,4,7,8-PECDF		0.306	0.0485	0.3	9.18e-02	9.18e-02	
1,2,3,4,7,8-HXCDF		0.459	0.0485	0.1	4.59e-02	4.59e-02	
1,2,3,6,7,8-HXCDF		0.307	0.0485	0.1	3.07e-02	3.07e-02	
1,2,3,7,8,9-HXCDF		0.055	0.0485	0.1	5.50e-03	5.50e-03	
2,3,4,6,7,8-HXCDF		0.360	0.0485	0.1	3.60e-02	3.60e-02	
1,2,3,4,6,7,8-HPCDF		2.26	0.0604	0.01	2.26e-02	2.26e-02	
1,2,3,4,7,8,9-HPCDF		0.188	0.0604	0.01	1.88e-03	1.88e-03	
OCDF		3.39	0.0485	0.0003	1.02e-03	1.02e-03	
			TOTAL TEQ		6.66	6.66	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L9585-84_TEQ_SJ643192.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN088
Sample Collection:
13-Dec-2006 11:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-85
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 13:25:51	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	28.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		8.21	0.0483	0.82	1.001
1,2,3,7,8-PECDD [3]		1.27	0.0483	0.68	1.001
1,2,3,4,7,8-HXCDD		2.83	0.103	1.26	1.000
1,2,3,6,7,8-HXCDD		6.86	0.103	1.35	1.000
1,2,3,7,8,9-HXCDD		13.5	0.103	1.27	1.010
1,2,3,4,6,7,8-HPCDD		295	0.392	1.04	1.000
OCDD	OLR				
2,3,7,8-TCDF		1.43	0.0483	0.78	1.001
1,2,3,7,8-PECDF		0.403	0.0483	1.60	1.000
2,3,4,7,8-PECDF		0.437	0.0483	1.38	1.000
1,2,3,4,7,8-HXCDF		0.922	0.0483	1.36	1.000
1,2,3,6,7,8-HXCDF		0.626	0.0483	1.08	1.000
1,2,3,7,8,9-HXCDF		0.103	0.0483	1.16	1.000
2,3,4,6,7,8-HXCDF		0.458	0.0483	1.30	1.000
1,2,3,4,6,7,8-HPCDF		4.59	0.0733	1.05	1.000
1,2,3,4,7,8,9-HPCDF		0.333	0.0733	1.15	1.000
OCDF		7.32	0.0483	0.91	1.001
TOTAL TETRA-DIOXINS		49.4	0.0483		
TOTAL PENTA-DIOXINS		52.5	0.0483		
TOTAL HEXA-DIOXINS		210	0.103		
TOTAL HEPTA-DIOXINS		685	0.392		
TOTAL TETRA-FURANS		9.76	0.0483		
TOTAL PENTA-FURANS		7.05	0.0483		
TOTAL HEXA-FURANS		8.32	0.0483		
TOTAL HEPTA-FURANS		8.75	0.0733		

(1) Where applicable, custom lab flags have been used on this report; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-85_Form1A_SJ642125.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN088
Sample Collection:
13-Dec-2006 11:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-85
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 13:25:51	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	28.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1700	85.1	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1650	82.6	0.65	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1640	82.2	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1700	85.0	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1730	86.4	1.02	1.094
13C-OCDD		4000	3990	99.8	0.90	1.179
13C-2,3,7,8-TCDF		2000	1820	91.1	0.74	0.966
13C-1,2,3,7,8-PECDF		2000	1750	87.7	1.57	1.282
13C-2,3,4,7,8-PECDF		2000	1740	86.8	1.57	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1820	91.1	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1790	89.5	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1740	86.8	0.53	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1780	89.2	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1690	84.5	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1800	89.8	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	168	83.9		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB5_L9585-85_Form2_SJ642125.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN088
Sample Collection:
13-Dec-2006 11:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-85 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 15:32:21	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S: 9**
Dilution Factor:	5	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_089 S: 1
		% Moisture:	28.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	8480	0.206	0.89	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-85_Form1A_SJ645346.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN088
Sample Collection:
13-Dec-2006 11:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-85 W
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	03-Mar-2007 **Time:** 15:32:21	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX72_089 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_089 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	DX72_089 S: 1
Concentration Units:	pg absolute	**% Moisture:**	28.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	2970	74.2	0.87	1.179
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB5_L9585-85_Form2_SJ645346.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN088
Sample Collection:
13-Dec-2006 11:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-85
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 12:12:11	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_027 S: 2
		% Moisture:	28.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1.06	0.0987	0.67	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:48:00; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB225_L9585-85_Form1A_SJ643193.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN088

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	13-Dec-2006 11:10
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.4 g (dry)	**Lab Sample I.D.:**	L9585-85
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_027 S: 9** **DX72_089 S: 9** **DX7B_046A S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		8.21	0.0483	1	8.21e+00	8.21e+00	
1,2,3,7,8-PECDD		1.27	0.0483	1	1.27e+00	1.27e+00	
1,2,3,4,7,8-HXCDD		2.83	0.103	0.1	2.83e-01	2.83e-01	
1,2,3,6,7,8-HXCDD		6.86	0.103	0.1	6.86e-01	6.86e-01	
1,2,3,7,8,9-HXCDD		13.5	0.103	0.1	1.35e+00	1.35e+00	
1,2,3,4,6,7,8-HPCDD		295	0.392	0.01	2.95e+00	2.95e+00	
OCDD		8480	0.206	0.0001	8.48e-01	8.48e-01	
2,3,7,8-TCDF		1.06	0.0987	0.1	1.06e-01	1.06e-01	
1,2,3,7,8-PECDF		0.403	0.0483	0.05	2.02e-02	2.02e-02	
2,3,4,7,8-PECDF		0.437	0.0483	0.5	2.19e-01	2.19e-01	
1,2,3,4,7,8-HXCDF		0.922	0.0483	0.1	9.22e-02	9.22e-02	
1,2,3,6,7,8-HXCDF		0.626	0.0483	0.1	6.26e-02	6.26e-02	
1,2,3,7,8,9-HXCDF		0.103	0.0483	0.1	1.03e-02	1.03e-02	
2,3,4,6,7,8-HXCDF		0.458	0.0483	0.1	4.58e-02	4.58e-02	
1,2,3,4,6,7,8-HPCDF		4.59	0.0733	0.01	4.59e-02	4.59e-02	
1,2,3,4,7,8,9-HPCDF		0.333	0.0733	0.01	3.33e-03	3.33e-03	
OCDF		7.32	0.0483	0.0001	7.32e-04	7.32e-04	
			TOTAL TEQ		16.2	16.2	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		8.21	0.0483	1	8.21e+00	8.21e+00	
1,2,3,7,8-PECDD		1.27	0.0483	1	1.27e+00	1.27e+00	
1,2,3,4,7,8-HXCDD		2.83	0.103	0.1	2.83e-01	2.83e-01	
1,2,3,6,7,8-HXCDD		6.86	0.103	0.1	6.86e-01	6.86e-01	
1,2,3,7,8,9-HXCDD		13.5	0.103	0.1	1.35e+00	1.35e+00	
1,2,3,4,6,7,8-HPCDD		295	0.392	0.01	2.95e+00	2.95e+00	
OCDD		8480	0.206	0.0003	2.54e+00	2.54e+00	
2,3,7,8-TCDF		1.06	0.0987	0.1	1.06e-01	1.06e-01	
1,2,3,7,8-PECDF		0.403	0.0483	0.03	1.21e-02	1.21e-02	
2,3,4,7,8-PECDF		0.437	0.0483	0.3	1.31e-01	1.31e-01	
1,2,3,4,7,8-HXCDF		0.922	0.0483	0.1	9.22e-02	9.22e-02	
1,2,3,6,7,8-HXCDF		0.626	0.0483	0.1	6.26e-02	6.26e-02	
1,2,3,7,8,9-HXCDF		0.103	0.0483	0.1	1.03e-02	1.03e-02	
2,3,4,6,7,8-HXCDF		0.458	0.0483	0.1	4.58e-02	4.58e-02	
1,2,3,4,6,7,8-HPCDF		4.59	0.0733	0.01	4.59e-02	4.59e-02	
1,2,3,4,7,8,9-HPCDF		0.333	0.0733	0.01	3.33e-03	3.33e-03	
OCDF		7.32	0.0483	0.0003	2.20e-03	2.20e-03	
			TOTAL TEQ		17.8	17.8	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 07-Mar-2007 15:50:19; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-85_TEQ_SJ643193.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN090
Sample Collection:
13-Dec-2006 11:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-87
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.5 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 14:20:55	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	27.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		2.63	0.0756	0.76	1.001
1,2,3,7,8-PECDD [3]		1.61	0.101	0.65	1.000
1,2,3,4,7,8-HXCDD		4.10	0.203	1.14	1.000
1,2,3,6,7,8-HXCDD		18.0	0.203	1.29	1.000
1,2,3,7,8,9-HXCDD		20.9	0.203	1.29	1.010
1,2,3,4,6,7,8-HPCDD		477	0.711	1.04	1.000
OCDD		7210	0.158	0.89	1.000
2,3,7,8-TCDF		1.25	0.0739	0.80	1.001
1,2,3,7,8-PECDF		0.770	0.0897	1.51	1.000
2,3,4,7,8-PECDF		0.958	0.0897	1.53	1.000
1,2,3,4,7,8-HXCDF		2.84	0.0849	1.24	1.000
1,2,3,6,7,8-HXCDF		1.77	0.0849	1.17	1.000
1,2,3,7,8,9-HXCDF		0.237	0.0849	1.15	1.000
2,3,4,6,7,8-HXCDF		1.04	0.0849	1.05	1.000
1,2,3,4,6,7,8-HPCDF		23.3	0.211	1.04	1.000
1,2,3,4,7,8,9-HPCDF		1.94	0.211	1.16	1.000
OCDF		28.7	0.0558	0.88	1.002
TOTAL TETRA-DIOXINS		31.8	0.0756		
TOTAL PENTA-DIOXINS		51.8	0.101		
TOTAL HEXA-DIOXINS		247	0.203		
TOTAL HEPTA-DIOXINS		905	0.711		
TOTAL TETRA-FURANS		11.9	0.0739		
TOTAL PENTA-FURANS		18.9	0.0897		
TOTAL HEXA-FURANS		60.7	0.0849		
TOTAL HEPTA-FURANS		76.8	0.211		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-87_Form1A_SJ642126.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN090
Sample Collection:
13-Dec-2006 11:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-87
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.5 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 14:20:55	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	27.5

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	829	41.5	0.82	1.013
13C-1,2,3,7,8-PECDD [4]		2000	798	39.9	0.66	1.380
13C-1,2,3,4,7,8-HXCDD		2000	780	39.0	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	802	40.1	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	794	39.7	1.03	1.095
13C-OCDD		4000	1540	38.5	0.89	1.179
13C-2,3,7,8-TCDF		2000	881	44.0	0.74	0.966
13C-1,2,3,7,8-PECDF		2000	844	42.2	1.60	1.282
13C-2,3,4,7,8-PECDF		2000	835	41.8	1.56	1.349
13C-1,2,3,4,7,8-HXCDF		2000	883	44.1	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	844	42.2	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	818	40.9	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		2000	839	41.9	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	779	38.9	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	851	42.6	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	84.3	42.1		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN090
Sample Collection:
13-Dec-2006 11:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-87
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.5 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 12:47:50	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_027 S: 2
		% Moisture:	27.5

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.631	0.152	0.69	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-87_Form1A_SJ643194.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN090

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	13-Dec-2006 11:25
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.5 g (dry)	**Lab Sample I.D.:**	L9585-87
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_027 S: 10** **DX7B_046A S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		2.63	0.0756	1	2.63e+00	2.63e+00	
1,2,3,7,8-PECDD		1.61	0.101	1	1.61e+00	1.61e+00	
1,2,3,4,7,8-HXCDD		4.10	0.203	0.1	4.10e-01	4.10e-01	
1,2,3,6,7,8-HXCDD		18.0	0.203	0.1	1.80e+00	1.80e+00	
1,2,3,7,8,9-HXCDD		20.9	0.203	0.1	2.09e+00	2.09e+00	
1,2,3,4,6,7,8-HPCDD		477	0.711	0.01	4.77e+00	4.77e+00	
OCDD		7210	0.158	0.0001	7.21e-01	7.21e-01	
2,3,7,8-TCDF		0.631	0.152	0.1	6.31e-02	6.31e-02	
1,2,3,7,8-PECDF		0.770	0.0897	0.05	3.85e-02	3.85e-02	
2,3,4,7,8-PECDF		0.958	0.0897	0.5	4.79e-01	4.79e-01	
1,2,3,4,7,8-HXCDF		2.84	0.0849	0.1	2.84e-01	2.84e-01	
1,2,3,6,7,8-HXCDF		1.77	0.0849	0.1	1.77e-01	1.77e-01	
1,2,3,7,8,9-HXCDF		0.237	0.0849	0.1	2.37e-02	2.37e-02	
2,3,4,6,7,8-HXCDF		1.04	0.0849	0.1	1.04e-01	1.04e-01	
1,2,3,4,6,7,8-HPCDF		23.3	0.211	0.01	2.33e-01	2.33e-01	
1,2,3,4,7,8,9-HPCDF		1.94	0.211	0.01	1.94e-02	1.94e-02	
OCDF		28.7	0.0558	0.0001	2.87e-03	2.87e-03	
			TOTAL TEQ		15.5	15.5	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		2.63	0.0756	1	2.63e+00	2.63e+00	
1,2,3,7,8-PECDD		1.61	0.101	1	1.61e+00	1.61e+00	
1,2,3,4,7,8-HXCDD		4.10	0.203	0.1	4.10e-01	4.10e-01	
1,2,3,6,7,8-HXCDD		18.0	0.203	0.1	1.80e+00	1.80e+00	
1,2,3,7,8,9-HXCDD		20.9	0.203	0.1	2.09e+00	2.09e+00	
1,2,3,4,6,7,8-HPCDD		477	0.711	0.01	4.77e+00	4.77e+00	
OCDD		7210	0.158	0.0003	2.16e+00	2.16e+00	
2,3,7,8-TCDF		0.631	0.152	0.1	6.31e-02	6.31e-02	
1,2,3,7,8-PECDF		0.770	0.0897	0.03	2.31e-02	2.31e-02	
2,3,4,7,8-PECDF		0.958	0.0897	0.3	2.87e-01	2.87e-01	
1,2,3,4,7,8-HXCDF		2.84	0.0849	0.1	2.84e-01	2.84e-01	
1,2,3,6,7,8-HXCDF		1.77	0.0849	0.1	1.77e-01	1.77e-01	
1,2,3,7,8,9-HXCDF		0.237	0.0849	0.1	2.37e-02	2.37e-02	
2,3,4,6,7,8-HXCDF		1.04	0.0849	0.1	1.04e-01	1.04e-01	
1,2,3,4,6,7,8-HPCDF		23.3	0.211	0.01	2.33e-01	2.33e-01	
1,2,3,4,7,8,9-HPCDF		1.94	0.211	0.01	1.94e-02	1.94e-02	
OCDF		28.7	0.0558	0.0003	8.61e-03	8.61e-03	
			TOTAL TEQ		16.7	16.7	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 07-Mar-2007 15:50:19; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-87_TEQ_SJ643194.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN091
Sample Collection:
13-Dec-2006 11:50

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-88
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 15:16:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	9.11

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		1.26	0.0500	0.78	1.001
1,2,3,7,8-PECDD [3]		0.778	0.0500	0.65	1.000
1,2,3,4,7,8-HXCDD		1.10	0.0651	1.38	1.000
1,2,3,6,7,8-HXCDD		1.92	0.0651	1.22	1.000
1,2,3,7,8,9-HXCDD		2.59	0.0651	1.20	1.010
1,2,3,4,6,7,8-HPCDD		63.3	0.157	1.02	1.000
OCDD		4830	0.0500	0.89	1.000
2,3,7,8-TCDF		2.83	0.0500	0.77	1.003
1,2,3,7,8-PECDF		0.851	0.0500	1.61	1.001
2,3,4,7,8-PECDF		1.53	0.0500	1.60	1.000
1,2,3,4,7,8-HXCDF		1.87	0.0546	1.23	1.000
1,2,3,6,7,8-HXCDF		1.63	0.0546	1.17	1.000
1,2,3,7,8,9-HXCDF		0.117	0.0546	1.13	1.000
2,3,4,6,7,8-HXCDF		1.83	0.0546	1.31	1.000
1,2,3,4,6,7,8-HPCDF		9.71	0.0536	1.06	1.000
1,2,3,4,7,8,9-HPCDF		0.726	0.0536	0.93	1.000
OCDF		10.3	0.0500	0.89	1.002
TOTAL TETRA-DIOXINS		4.69	0.0500		
TOTAL PENTA-DIOXINS		7.96	0.0500		
TOTAL HEXA-DIOXINS		26.3	0.0651		
TOTAL HEPTA-DIOXINS		149	0.157		
TOTAL TETRA-FURANS		17.3	0.0500		
TOTAL PENTA-FURANS		19.5	0.0500		
TOTAL HEXA-FURANS		20.1	0.0546		
TOTAL HEPTA-FURANS		17.6	0.0536		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-88_Form1A_SJ642127.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN091
Sample Collection:
13-Dec-2006 11:50

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-88
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 15:16:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	9.11

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1550	77.5	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1550	77.3	0.65	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1670	83.5	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1720	86.1	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1620	81.1	1.02	1.094
13C-OCDD		4000	3310	82.8	0.90	1.178
13C-2,3,7,8-TCDF		2000	1730	86.4	0.75	0.966
13C-1,2,3,7,8-PECDF		2000	1670	83.4	1.59	1.282
13C-2,3,4,7,8-PECDF		2000	1620	81.0	1.59	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1820	91.2	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1800	90.2	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1680	84.2	0.53	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1780	89.1	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1650	82.3	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1860	92.8	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	154	77.1		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB5_L9585-88_Form2_SJ642127.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN091
Sample Collection:
13-Dec-2006 11:50

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-88
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 13:23:28	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_027 S: 2
		% Moisture:	9.11

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.893	0.0888	0.74	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:48:00; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB225_L9585-88_Form1A_SJ643195.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN091

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	13-Dec-2006 11:50
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.0 g (dry)	**Lab Sample I.D.:**	L9585-88
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_027 S: 11** **DX7B_046A S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1.26	0.0500	1	1.26e+00	1.26e+00	
1,2,3,7,8-PECDD		0.778	0.0500	1	7.78e-01	7.78e-01	
1,2,3,4,7,8-HXCDD		1.10	0.0651	0.1	1.10e-01	1.10e-01	
1,2,3,6,7,8-HXCDD		1.92	0.0651	0.1	1.92e-01	1.92e-01	
1,2,3,7,8,9-HXCDD		2.59	0.0651	0.1	2.59e-01	2.59e-01	
1,2,3,4,6,7,8-HPCDD		63.3	0.157	0.01	6.33e-01	6.33e-01	
OCDD		4830	0.0500	0.0001	4.83e-01	4.83e-01	
2,3,7,8-TCDF		0.893	0.0888	0.1	8.93e-02	8.93e-02	
1,2,3,7,8-PECDF		0.851	0.0500	0.05	4.26e-02	4.26e-02	
2,3,4,7,8-PECDF		1.53	0.0500	0.5	7.65e-01	7.65e-01	
1,2,3,4,7,8-HXCDF		1.87	0.0546	0.1	1.87e-01	1.87e-01	
1,2,3,6,7,8-HXCDF		1.63	0.0546	0.1	1.63e-01	1.63e-01	
1,2,3,7,8,9-HXCDF		0.117	0.0546	0.1	1.17e-02	1.17e-02	
2,3,4,6,7,8-HXCDF		1.83	0.0546	0.1	1.83e-01	1.83e-01	
1,2,3,4,6,7,8-HPCDF		9.71	0.0536	0.01	9.71e-02	9.71e-02	
1,2,3,4,7,8,9-HPCDF		0.726	0.0536	0.01	7.26e-03	7.26e-03	
OCDF		10.3	0.0500	0.0001	1.03e-03	1.03e-03	
			TOTAL TEQ		5.26	5.26	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1.26	0.0500	1	1.26e+00	1.26e+00	
1,2,3,7,8-PECDD		0.778	0.0500	1	7.78e-01	7.78e-01	
1,2,3,4,7,8-HXCDD		1.10	0.0651	0.1	1.10e-01	1.10e-01	
1,2,3,6,7,8-HXCDD		1.92	0.0651	0.1	1.92e-01	1.92e-01	
1,2,3,7,8,9-HXCDD		2.59	0.0651	0.1	2.59e-01	2.59e-01	
1,2,3,4,6,7,8-HPCDD		63.3	0.157	0.01	6.33e-01	6.33e-01	
OCDD		4830	0.0500	0.0003	1.45e+00	1.45e+00	
2,3,7,8-TCDF		0.893	0.0888	0.1	8.93e-02	8.93e-02	
1,2,3,7,8-PECDF		0.851	0.0500	0.03	2.55e-02	2.55e-02	
2,3,4,7,8-PECDF		1.53	0.0500	0.3	4.59e-01	4.59e-01	
1,2,3,4,7,8-HXCDF		1.87	0.0546	0.1	1.87e-01	1.87e-01	
1,2,3,6,7,8-HXCDF		1.63	0.0546	0.1	1.63e-01	1.63e-01	
1,2,3,7,8,9-HXCDF		0.117	0.0546	0.1	1.17e-02	1.17e-02	
2,3,4,6,7,8-HXCDF		1.83	0.0546	0.1	1.83e-01	1.83e-01	
1,2,3,4,6,7,8-HPCDF		9.71	0.0536	0.01	9.71e-02	9.71e-02	
1,2,3,4,7,8,9-HPCDF		0.726	0.0536	0.01	7.26e-03	7.26e-03	
OCDF		10.3	0.0500	0.0003	3.09e-03	3.09e-03	
			TOTAL TEQ		5.91	5.91	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 07-Mar-2007 15:50:19; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-88_TEQ_SJ643195.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN092
Sample Collection:
13-Dec-2006 12:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-89
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 16:11:11	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	8.01

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.649	0.0472	0.70	1.001
1,2,3,7,8-PECDD [3]		0.550	0.0472	0.70	1.000
1,2,3,4,7,8-HXCDD		0.752	0.0472	1.30	1.000
1,2,3,6,7,8-HXCDD		1.57	0.0472	1.24	1.000
1,2,3,7,8,9-HXCDD		2.08	0.0472	1.28	1.009
1,2,3,4,6,7,8-HPCDD		87.4	0.254	1.02	1.000
OCDD	OLR				
2,3,7,8-TCDF		2.35	0.0472	0.77	1.002
1,2,3,7,8-PECDF		0.837	0.0472	1.63	1.001
2,3,4,7,8-PECDF		1.23	0.0472	1.50	1.000
1,2,3,4,7,8-HXCDF		1.48	0.0472	1.31	1.000
1,2,3,6,7,8-HXCDF		1.13	0.0472	1.33	1.000
1,2,3,7,8,9-HXCDF		0.091	0.0472	1.37	1.000
2,3,4,6,7,8-HXCDF		1.04	0.0472	1.20	1.000
1,2,3,4,6,7,8-HPCDF		5.41	0.0721	1.03	1.001
1,2,3,4,7,8,9-HPCDF		0.546	0.0721	1.10	1.000
OCDF		8.23	0.0472	0.92	1.001
TOTAL TETRA-DIOXINS		4.08	0.0472		
TOTAL PENTA-DIOXINS		5.43	0.0472		
TOTAL HEXA-DIOXINS		17.4	0.0472		
TOTAL HEPTA-DIOXINS		181	0.254		
TOTAL TETRA-FURANS		14.1	0.0472		
TOTAL PENTA-FURANS		14.5	0.0472		
TOTAL HEXA-FURANS		12.9	0.0472		
TOTAL HEPTA-FURANS		9.34	0.0721		

(1) Where applicable, custom lab flags have been used on this report; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-89_Form1A_SJ642128.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN092
Sample Collection:
13-Dec-2006 12:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-89
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 16:11:11	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	8.01

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1690	84.4	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1740	87.1	0.65	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1810	90.4	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1740	87.1	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1690	84.4	1.02	1.095
13C-OCDD		4000	4370	109	0.90	1.179
13C-2,3,7,8-TCDF		2000	1890	94.5	0.75	0.966
13C-1,2,3,7,8-PECDF		2000	1850	92.3	1.58	1.282
13C-2,3,4,7,8-PECDF		2000	1780	89.0	1.58	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1870	93.7	0.54	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1840	91.9	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1790	89.7	0.53	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1890	94.7	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1730	86.3	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1810	90.5	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	186	93.0		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB5_L9585-89_Form2_SJ642128.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN092
Sample Collection:
13-Dec-2006 12:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-89 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 16:26:49	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S: 10**
Dilution Factor:	5	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_089 S: 1
		% Moisture:	8.01

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	13100	0.223	0.89	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-89_Form1A_SJ645347.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN092
Sample Collection:
13-Dec-2006 12:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-89 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 16:26:49	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S: 10**
Dilution Factor:	5	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_089 S: 1
		% Moisture:	8.01

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	3240	81.0	0.89	1.179
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-89_Form2_SJ645347.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN092
Sample Collection:
13-Dec-2006 12:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-89
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.6 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 13:59:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_027 S: 2
		% Moisture:	8.01

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.838	0.0472	0.80	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:48:00; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB225_L9585-89_Form1A_SJ643196.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN092

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	13-Dec-2006 12:10
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.6 g (dry)	**Lab Sample I.D.:**	L9585-89
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_027 S: 12** **DX72_089 S: 10** **DX7B_046A S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.649	0.0472	1	6.49e-01	6.49e-01	
1,2,3,7,8-PECDD		0.550	0.0472	1	5.50e-01	5.50e-01	
1,2,3,4,7,8-HXCDD		0.752	0.0472	0.1	7.52e-02	7.52e-02	
1,2,3,6,7,8-HXCDD		1.57	0.0472	0.1	1.57e-01	1.57e-01	
1,2,3,7,8,9-HXCDD		2.08	0.0472	0.1	2.08e-01	2.08e-01	
1,2,3,4,6,7,8-HPCDD		87.4	0.254	0.01	8.74e-01	8.74e-01	
OCDD		13100	0.223	0.0001	1.31e+00	1.31e+00	
2,3,7,8-TCDF		0.838	0.0472	0.1	8.38e-02	8.38e-02	
1,2,3,7,8-PECDF		0.837	0.0472	0.05	4.19e-02	4.19e-02	
2,3,4,7,8-PECDF		1.23	0.0472	0.5	6.15e-01	6.15e-01	
1,2,3,4,7,8-HXCDF		1.48	0.0472	0.1	1.48e-01	1.48e-01	
1,2,3,6,7,8-HXCDF		1.13	0.0472	0.1	1.13e-01	1.13e-01	
1,2,3,7,8,9-HXCDF		0.091	0.0472	0.1	9.10e-03	9.10e-03	
2,3,4,6,7,8-HXCDF		1.04	0.0472	0.1	1.04e-01	1.04e-01	
1,2,3,4,6,7,8-HPCDF		5.41	0.0721	0.01	5.41e-02	5.41e-02	
1,2,3,4,7,8,9-HPCDF		0.546	0.0721	0.01	5.46e-03	5.46e-03	
OCDF		8.23	0.0472	0.0001	8.23e-04	8.23e-04	
			TOTAL TEQ		5.00	5.00	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.649	0.0472	1	6.49e-01	6.49e-01	
1,2,3,7,8-PECDD		0.550	0.0472	1	5.50e-01	5.50e-01	
1,2,3,4,7,8-HXCDD		0.752	0.0472	0.1	7.52e-02	7.52e-02	
1,2,3,6,7,8-HXCDD		1.57	0.0472	0.1	1.57e-01	1.57e-01	
1,2,3,7,8,9-HXCDD		2.08	0.0472	0.1	2.08e-01	2.08e-01	
1,2,3,4,6,7,8-HPCDD		87.4	0.254	0.01	8.74e-01	8.74e-01	
OCDD		13100	0.223	0.0003	3.93e+00	3.93e+00	
2,3,7,8-TCDF		0.838	0.0472	0.1	8.38e-02	8.38e-02	
1,2,3,7,8-PECDF		0.837	0.0472	0.03	2.51e-02	2.51e-02	
2,3,4,7,8-PECDF		1.23	0.0472	0.3	3.69e-01	3.69e-01	
1,2,3,4,7,8-HXCDF		1.48	0.0472	0.1	1.48e-01	1.48e-01	
1,2,3,6,7,8-HXCDF		1.13	0.0472	0.1	1.13e-01	1.13e-01	
1,2,3,7,8,9-HXCDF		0.091	0.0472	0.1	9.10e-03	9.10e-03	
2,3,4,6,7,8-HXCDF		1.04	0.0472	0.1	1.04e-01	1.04e-01	
1,2,3,4,6,7,8-HPCDF		5.41	0.0721	0.01	5.41e-02	5.41e-02	
1,2,3,4,7,8,9-HPCDF		0.546	0.0721	0.01	5.46e-03	5.46e-03	
OCDF		8.23	0.0472	0.0003	2.47e-03	2.47e-03	
			TOTAL TEQ		7.36	7.36	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 07-Mar-2007 15:50:19; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-89_TEQ_SJ643196.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN093
Sample Collection:
13-Dec-2006 15:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-90
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	11.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 17:06:25	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	67.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		4.57	0.0438	0.81	1.001
1,2,3,7,8-PECDD [3]		4.53	0.0824	0.62	1.001
1,2,3,4,7,8-HXCDD		5.91	0.0930	1.35	1.000
1,2,3,6,7,8-HXCDD		16.4	0.0930	1.23	1.000
1,2,3,7,8,9-HXCDD		20.0	0.0930	1.23	1.010
1,2,3,4,6,7,8-HPCDD		402	0.314	1.04	1.000
OCDD	OLR				
2,3,7,8-TCDF		17.3	0.164	0.79	1.002
1,2,3,7,8-PECDF		6.71	0.0967	1.58	1.001
2,3,4,7,8-PECDF		8.90	0.0967	1.57	1.000
1,2,3,4,7,8-HXCDF		9.90	0.0954	1.27	1.000
1,2,3,6,7,8-HXCDF		11.3	0.0954	1.28	1.000
1,2,3,7,8,9-HXCDF		1.04	0.0954	1.08	1.000
2,3,4,6,7,8-HXCDF		10.0	0.0954	1.23	1.000
1,2,3,4,6,7,8-HPCDF		67.3	0.0871	1.03	1.000
1,2,3,4,7,8,9-HPCDF		5.16	0.0871	1.04	1.000
OCDF		77.3	0.0621	0.89	1.002
TOTAL TETRA-DIOXINS		65.2	0.0438		
TOTAL PENTA-DIOXINS		89.8	0.0824		
TOTAL HEXA-DIOXINS		265	0.0930		
TOTAL HEPTA-DIOXINS		962	0.314		
TOTAL TETRA-FURANS		126	0.164		
TOTAL PENTA-FURANS		129	0.0967		
TOTAL HEXA-FURANS		124	0.0954		
TOTAL HEPTA-FURANS		129	0.0871		

(1) Where applicable, custom lab flags have been used on this report; OLR = exceeds calibrated linear range, see dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-90_Form1A_SJ642129.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN093
Sample Collection:
13-Dec-2006 15:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-90
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	11.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 17:06:25	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	67.9

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1230	61.5	0.81	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1160	58.0	0.64	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1160	57.9	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1300	65.1	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1140	56.8	1.02	1.095
13C-OCDD		4000	2280	56.9	0.90	1.179
13C-2,3,7,8-TCDF		2000	1240	62.1	0.75	0.966
13C-1,2,3,7,8-PECDF		2000	1210	60.4	1.60	1.282
13C-2,3,4,7,8-PECDF		2000	1180	58.9	1.59	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1180	58.8	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1130	56.7	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1190	59.3	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1230	61.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1120	56.0	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1190	59.7	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	126	63.1		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN093
Sample Collection:
13-Dec-2006 15:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-90 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	11.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 17:21:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S: 11**
Dilution Factor:	5	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_089 S: 1
		% Moisture:	67.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD [3]	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	6650	1.87	0.89	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-90_Form1A_SJ645348.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN093
Sample Collection:
13-Dec-2006 15:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-90 W
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	11.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 17:21:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S: 11**
Dilution Factor:	5	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_089 S: 1
		% Moisture:	67.9

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	1840	45.9	0.90	1.179
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-90_Form2_SJ645348.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN093
Sample Collection:
13-Dec-2006 15:15

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-90
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	11.4 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 14:34:45	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 13**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_027 S: 2
		% Moisture:	67.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		7.12	0.268	0.76	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9585-90_Form1A_SJ643197.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN093

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	13-Dec-2006 15:15
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	11.4 g (dry)	**Lab Sample I.D.:**	L9585-90
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_027 S: 13** **DX72_089 S: 11** **DX7B_046A S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.57	0.0438	1	4.57e+00	4.57e+00	
1,2,3,7,8-PECDD		4.53	0.0824	1	4.53e+00	4.53e+00	
1,2,3,4,7,8-HXCDD		5.91	0.0930	0.1	5.91e-01	5.91e-01	
1,2,3,6,7,8-HXCDD		16.4	0.0930	0.1	1.64e+00	1.64e+00	
1,2,3,7,8,9-HXCDD		20.0	0.0930	0.1	2.00e+00	2.00e+00	
1,2,3,4,6,7,8-HPCDD		402	0.314	0.01	4.02e+00	4.02e+00	
OCDD		6650	1.87	0.0001	6.65e-01	6.65e-01	
2,3,7,8-TCDF		7.12	0.268	0.1	7.12e-01	7.12e-01	
1,2,3,7,8-PECDF		6.71	0.0967	0.05	3.36e-01	3.36e-01	
2,3,4,7,8-PECDF		8.90	0.0967	0.5	4.45e+00	4.45e+00	
1,2,3,4,7,8-HXCDF		9.90	0.0954	0.1	9.90e-01	9.90e-01	
1,2,3,6,7,8-HXCDF		11.3	0.0954	0.1	1.13e+00	1.13e+00	
1,2,3,7,8,9-HXCDF		1.04	0.0954	0.1	1.04e-01	1.04e-01	
2,3,4,6,7,8-HXCDF		10.0	0.0954	0.1	1.00e+00	1.00e+00	
1,2,3,4,6,7,8-HPCDF		67.3	0.0871	0.01	6.73e-01	6.73e-01	
1,2,3,4,7,8,9-HPCDF		5.16	0.0871	0.01	5.16e-02	5.16e-02	
OCDF		77.3	0.0621	0.0001	7.73e-03	7.73e-03	
			TOTAL TEQ		27.5	27.5	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.57	0.0438	1	4.57e+00	4.57e+00	
1,2,3,7,8-PECDD		4.53	0.0824	1	4.53e+00	4.53e+00	
1,2,3,4,7,8-HXCDD		5.91	0.0930	0.1	5.91e-01	5.91e-01	
1,2,3,6,7,8-HXCDD		16.4	0.0930	0.1	1.64e+00	1.64e+00	
1,2,3,7,8,9-HXCDD		20.0	0.0930	0.1	2.00e+00	2.00e+00	
1,2,3,4,6,7,8-HPCDD		402	0.314	0.01	4.02e+00	4.02e+00	
OCDD		6650	1.87	0.0003	2.00e+00	2.00e+00	
2,3,7,8-TCDF		7.12	0.268	0.1	7.12e-01	7.12e-01	
1,2,3,7,8-PECDF		6.71	0.0967	0.03	2.01e-01	2.01e-01	
2,3,4,7,8-PECDF		8.90	0.0967	0.3	2.67e+00	2.67e+00	
1,2,3,4,7,8-HXCDF		9.90	0.0954	0.1	9.90e-01	9.90e-01	
1,2,3,6,7,8-HXCDF		11.3	0.0954	0.1	1.13e+00	1.13e+00	
1,2,3,7,8,9-HXCDF		1.04	0.0954	0.1	1.04e-01	1.04e-01	
2,3,4,6,7,8-HXCDF		10.0	0.0954	0.1	1.00e+00	1.00e+00	
1,2,3,4,6,7,8-HPCDF		67.3	0.0871	0.01	6.73e-01	6.73e-01	
1,2,3,4,7,8,9-HPCDF		5.16	0.0871	0.01	5.16e-02	5.16e-02	
OCDF		77.3	0.0621	0.0003	2.32e-02	2.32e-02	
			TOTAL TEQ		26.9	26.9	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN099
Sample Collection:
14-Dec-2006 11:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-91 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 03:47:36	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_090 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_047 S: 6,7
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_090 S: 1
		% Moisture:	39.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		26.0	0.0483	0.78	1.001
1,2,3,7,8-PECDD [3]		3.01	0.0548	0.63	1.001
1,2,3,4,7,8-HXCDD		2.96	0.164	1.29	1.000
1,2,3,6,7,8-HXCDD		7.95	0.164	1.27	1.000
1,2,3,7,8,9-HXCDD		8.06	0.164	1.22	1.009
1,2,3,4,6,7,8-HPCDD		156	0.234	1.04	1.000
OCDD		2060	0.0483	0.89	1.000
2,3,7,8-TCDF		14.0	0.272	0.77	1.001
1,2,3,7,8-PECDF		1.73	0.0725	1.56	1.001
2,3,4,7,8-PECDF		2.30	0.0725	1.59	1.000
1,2,3,4,7,8-HXCDF		4.02	0.113	1.18	1.000
1,2,3,6,7,8-HXCDF		2.88	0.113	1.19	1.000
1,2,3,7,8,9-HXCDF		0.299	0.113	1.19	1.000
2,3,4,6,7,8-HXCDF		2.26	0.113	1.18	1.000
1,2,3,4,6,7,8-HPCDF		22.0	0.0484	1.06	1.000
1,2,3,4,7,8,9-HPCDF		1.79	0.0484	0.99	1.000
OCDF		35.8	0.0483	0.90	1.002
TOTAL TETRA-DIOXINS		40.1	0.0483		
TOTAL PENTA-DIOXINS		28.7	0.0548		
TOTAL HEXA-DIOXINS		82.2	0.164		
TOTAL HEPTA-DIOXINS		336	0.234		
TOTAL TETRA-FURANS		46.0	0.272		
TOTAL PENTA-FURANS		41.4	0.0725		
TOTAL HEXA-FURANS		41.5	0.113		
TOTAL HEPTA-FURANS		49.8	0.0484		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Mar-2007 10:04:48; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-91_Form1A_SJ645965.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN099
Sample Collection:
14-Dec-2006 11:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-91 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 03:47:36	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_090 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_047 S: 6,7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_090 S: 1
		% Moisture:	39.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1570	78.3	0.77	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1560	78.1	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1960	97.9	1.30	0.987
13C-1,2,3,6,7,8-HXCDD		2000	2030	101	1.15	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1700	84.9	1.03	1.095
13C-OCDD		4000	2660	66.6	0.90	1.179
13C-2,3,7,8-TCDF		2000	1620	80.8	0.78	0.966
13C-1,2,3,7,8-PECDF		2000	1540	76.9	1.55	1.283
13C-2,3,4,7,8-PECDF		2000	1620	81.0	1.52	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1960	98.0	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2030	102	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1760	88.1	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1970	98.7	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1790	89.4	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1630	81.7	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	156	78.1		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Mar-2007 10:04:48; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-91_Form2_SJ645965.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN099
Sample Collection:
14-Dec-2006 11:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-91
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 18:08:32	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 19**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_027 S: 5,6
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_027 S: 2
		% Moisture:	39.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		10.6	0.0619	0.69	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN099

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	14-Dec-2006 11:40
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.4 g (dry)	**Lab Sample I.D.:**	L9585-91
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_027 S: 19** **DX72_090 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		26.0	0.0483	1	2.60e+01	2.60e+01	
1,2,3,7,8-PECDD		3.01	0.0548	1	3.01e+00	3.01e+00	
1,2,3,4,7,8-HXCDD		2.96	0.164	0.1	2.96e-01	2.96e-01	
1,2,3,6,7,8-HXCDD		7.95	0.164	0.1	7.95e-01	7.95e-01	
1,2,3,7,8,9-HXCDD		8.06	0.164	0.1	8.06e-01	8.06e-01	
1,2,3,4,6,7,8-HPCDD		156	0.234	0.01	1.56e+00	1.56e+00	
OCDD		2060	0.0483	0.0001	2.06e-01	2.06e-01	
2,3,7,8-TCDF		10.6	0.0619	0.1	1.06e+00	1.06e+00	
1,2,3,7,8-PECDF		1.73	0.0725	0.05	8.65e-02	8.65e-02	
2,3,4,7,8-PECDF		2.30	0.0725	0.5	1.15e+00	1.15e+00	
1,2,3,4,7,8-HXCDF		4.02	0.113	0.1	4.02e-01	4.02e-01	
1,2,3,6,7,8-HXCDF		2.88	0.113	0.1	2.88e-01	2.88e-01	
1,2,3,7,8,9-HXCDF		0.299	0.113	0.1	2.99e-02	2.99e-02	
2,3,4,6,7,8-HXCDF		2.26	0.113	0.1	2.26e-01	2.26e-01	
1,2,3,4,6,7,8-HPCDF		22.0	0.0484	0.01	2.20e-01	2.20e-01	
1,2,3,4,7,8,9-HPCDF		1.79	0.0484	0.01	1.79e-02	1.79e-02	
OCDF		35.8	0.0483	0.0001	3.58e-03	3.58e-03	
			TOTAL TEQ		36.2	36.2	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		26.0	0.0483	1	2.60e+01	2.60e+01	
1,2,3,7,8-PECDD		3.01	0.0548	1	3.01e+00	3.01e+00	
1,2,3,4,7,8-HXCDD		2.96	0.164	0.1	2.96e-01	2.96e-01	
1,2,3,6,7,8-HXCDD		7.95	0.164	0.1	7.95e-01	7.95e-01	
1,2,3,7,8,9-HXCDD		8.06	0.164	0.1	8.06e-01	8.06e-01	
1,2,3,4,6,7,8-HPCDD		156	0.234	0.01	1.56e+00	1.56e+00	
OCDD		2060	0.0483	0.0003	6.18e-01	6.18e-01	
2,3,7,8-TCDF		10.6	0.0619	0.1	1.06e+00	1.06e+00	
1,2,3,7,8-PECDF		1.73	0.0725	0.03	5.19e-02	5.19e-02	
2,3,4,7,8-PECDF		2.30	0.0725	0.3	6.90e-01	6.90e-01	
1,2,3,4,7,8-HXCDF		4.02	0.113	0.1	4.02e-01	4.02e-01	
1,2,3,6,7,8-HXCDF		2.88	0.113	0.1	2.88e-01	2.88e-01	
1,2,3,7,8,9-HXCDF		0.299	0.113	0.1	2.99e-02	2.99e-02	
2,3,4,6,7,8-HXCDF		2.26	0.113	0.1	2.26e-01	2.26e-01	
1,2,3,4,6,7,8-HPCDF		22.0	0.0484	0.01	2.20e-01	2.20e-01	
1,2,3,4,7,8,9-HPCDF		1.79	0.0484	0.01	1.79e-02	1.79e-02	
OCDF		35.8	0.0483	0.0003	1.07e-02	1.07e-02	
			TOTAL TEQ		36.1	36.1	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Mar-2007 10:17:14; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-91_TEQ_SJ643833.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN100
Sample Collection:
14-Dec-2006 12:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-92
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.3 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 18:01:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	23.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		1.28	0.0485	0.83	1.001
1,2,3,7,8-PECDD [3]		0.615	0.0485	0.60	1.000
1,2,3,4,7,8-HXCDD		0.911	0.0867	1.35	1.000
1,2,3,6,7,8-HXCDD		2.60	0.0867	1.27	1.000
1,2,3,7,8,9-HXCDD		2.88	0.0867	1.31	1.010
1,2,3,4,6,7,8-HPCDD		63.2	0.186	1.04	1.000
OCDD		1030	0.0983	0.89	1.000
2,3,7,8-TCDF		0.741	0.0485	0.80	1.002
1,2,3,7,8-PECDF		0.332	0.0485	1.33	1.000
2,3,4,7,8-PECDF		0.391	0.0485	1.49	1.000
1,2,3,4,7,8-HXCDF		0.967	0.0485	1.30	1.000
1,2,3,6,7,8-HXCDF		0.622	0.0485	1.16	1.000
1,2,3,7,8,9-HXCDF	NDR	0.081	0.0485	1.60	1.000
2,3,4,6,7,8-HXCDF		0.537	0.0485	1.36	1.000
1,2,3,4,6,7,8-HPCDF		7.22	0.0561	1.00	1.000
1,2,3,4,7,8,9-HPCDF		0.462	0.0561	1.14	1.000
OCDF		12.4	0.0638	0.86	1.002
TOTAL TETRA-DIOXINS		3.22	0.0485		
TOTAL PENTA-DIOXINS		5.71	0.0485		
TOTAL HEXA-DIOXINS		23.7	0.0867		
TOTAL HEPTA-DIOXINS		133	0.186		
TOTAL TETRA-FURANS		3.79	0.0485		
TOTAL PENTA-FURANS		5.70	0.0485		
TOTAL HEXA-FURANS		12.3	0.0485		
TOTAL HEPTA-FURANS		17.6	0.0561		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN100
Sample Collection:
14-Dec-2006 12:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-92
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.3 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 18:01:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	23.9

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1590	79.5	0.81	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1640	82.0	0.64	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1590	79.6	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1580	78.9	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1610	80.3	1.01	1.095
13C-OCDD		4000	2740	68.6	0.89	1.178
13C-2,3,7,8-TCDF		2000	1770	88.4	0.75	0.965
13C-1,2,3,7,8-PECDF		2000	1730	86.5	1.60	1.282
13C-2,3,4,7,8-PECDF		2000	1720	85.9	1.59	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1720	86.1	0.54	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1650	82.3	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1700	85.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1650	82.6	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1620	81.0	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1760	88.1	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	160	80.2		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_L9585-92_Form2_SJ642130.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN100
Sample Collection:
14-Dec-2006 12:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-92
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.3 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 15:10:22	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 14**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_027 S: 2
		% Moisture:	23.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.435	0.105	0.77	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:48:00; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB225_L9585-92_Form1A_SJ643198.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN100

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	14-Dec-2006 12:00
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.3 g (dry)	**Lab Sample I.D.:**	L9585-92
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_027 S: 14** **DX7B_046A S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1.28	0.0485	1	1.28e+00	1.28e+00	
1,2,3,7,8-PECDD		0.615	0.0485	1	6.15e-01	6.15e-01	
1,2,3,4,7,8-HXCDD		0.911	0.0867	0.1	9.11e-02	9.11e-02	
1,2,3,6,7,8-HXCDD		2.60	0.0867	0.1	2.60e-01	2.60e-01	
1,2,3,7,8,9-HXCDD		2.88	0.0867	0.1	2.88e-01	2.88e-01	
1,2,3,4,6,7,8-HPCDD		63.2	0.186	0.01	6.32e-01	6.32e-01	
OCDD		1030	0.0983	0.0001	1.03e-01	1.03e-01	
2,3,7,8-TCDF		0.435	0.105	0.1	4.35e-02	4.35e-02	
1,2,3,7,8-PECDF		0.332	0.0485	0.05	1.66e-02	1.66e-02	
2,3,4,7,8-PECDF		0.391	0.0485	0.5	1.96e-01	1.96e-01	
1,2,3,4,7,8-HXCDF		0.967	0.0485	0.1	9.67e-02	9.67e-02	
1,2,3,6,7,8-HXCDF		0.622	0.0485	0.1	6.22e-02	6.22e-02	
1,2,3,7,8,9-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
2,3,4,6,7,8-HXCDF		0.537	0.0485	0.1	5.37e-02	5.37e-02	
1,2,3,4,6,7,8-HPCDF		7.22	0.0561	0.01	7.22e-02	7.22e-02	
1,2,3,4,7,8,9-HPCDF		0.462	0.0561	0.01	4.62e-03	4.62e-03	
OCDF		12.4	0.0638	0.0001	1.24e-03	1.24e-03	
			TOTAL TEQ		3.82	3.82	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1.28	0.0485	1	1.28e+00	1.28e+00	
1,2,3,7,8-PECDD		0.615	0.0485	1	6.15e-01	6.15e-01	
1,2,3,4,7,8-HXCDD		0.911	0.0867	0.1	9.11e-02	9.11e-02	
1,2,3,6,7,8-HXCDD		2.60	0.0867	0.1	2.60e-01	2.60e-01	
1,2,3,7,8,9-HXCDD		2.88	0.0867	0.1	2.88e-01	2.88e-01	
1,2,3,4,6,7,8-HPCDD		63.2	0.186	0.01	6.32e-01	6.32e-01	
OCDD		1030	0.0983	0.0003	3.09e-01	3.09e-01	
2,3,7,8-TCDF		0.435	0.105	0.1	4.35e-02	4.35e-02	
1,2,3,7,8-PECDF		0.332	0.0485	0.03	9.96e-03	9.96e-03	
2,3,4,7,8-PECDF		0.391	0.0485	0.3	1.17e-01	1.17e-01	
1,2,3,4,7,8-HXCDF		0.967	0.0485	0.1	9.67e-02	9.67e-02	
1,2,3,6,7,8-HXCDF		0.622	0.0485	0.1	6.22e-02	6.22e-02	
1,2,3,7,8,9-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
2,3,4,6,7,8-HXCDF		0.537	0.0485	0.1	5.37e-02	5.37e-02	
1,2,3,4,6,7,8-HPCDF		7.22	0.0561	0.01	7.22e-02	7.22e-02	
1,2,3,4,7,8,9-HPCDF		0.462	0.0561	0.01	4.62e-03	4.62e-03	
OCDF		12.4	0.0638	0.0003	3.72e-03	3.72e-03	
			TOTAL TEQ		3.94	3.94	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 07-Mar-2007 15:50:19; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-92_TEQ_SJ643198.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN101
Sample Collection:
14-Dec-2006 13:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-93
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.5 g (dry)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	22-Feb-2007 **Time:** 18:56:28	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_046A S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
		% Moisture:	31.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.616	0.0478	0.80	1.001
1,2,3,7,8-PECDD [3]		1.23	0.0478	0.63	1.001
1,2,3,4,7,8-HXCDD		1.62	0.0478	1.32	1.000
1,2,3,6,7,8-HXCDD		4.28	0.0478	1.32	1.000
1,2,3,7,8,9-HXCDD		4.77	0.0478	1.33	1.010
1,2,3,4,6,7,8-HPCDD		119	0.155	1.04	1.000
OCDD		1550	0.0918	0.89	1.000
2,3,7,8-TCDF		1.56	0.0478	0.79	1.002
1,2,3,7,8-PECDF		0.667	0.0478	1.52	1.000
2,3,4,7,8-PECDF		0.768	0.0478	1.59	1.000
1,2,3,4,7,8-HXCDF		1.46	0.0478	1.25	1.000
1,2,3,6,7,8-HXCDF		0.983	0.0478	1.20	1.000
1,2,3,7,8,9-HXCDF	NDR	0.107	0.0478	1.52	1.000
2,3,4,6,7,8-HXCDF		0.680	0.0478	1.40	1.000
1,2,3,4,6,7,8-HPCDF		13.0	0.0557	1.03	1.000
1,2,3,4,7,8,9-HPCDF		1.01	0.0557	1.09	1.000
OCDF		50.4	0.0478	0.90	1.002
TOTAL TETRA-DIOXINS		5.41	0.0478		
TOTAL PENTA-DIOXINS		11.3	0.0478		
TOTAL HEXA-DIOXINS		38.1	0.0478		
TOTAL HEPTA-DIOXINS		231	0.155		
TOTAL TETRA-FURANS		10.9	0.0478		
TOTAL PENTA-FURANS		10.2	0.0478		
TOTAL HEXA-FURANS		18.9	0.0478		
TOTAL HEPTA-FURANS		44.0	0.0557		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN101
Sample Collection:
14-Dec-2006 13:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-93
Matrix:	SOLID	**Sample Size:**	10.5 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	16-Dec-2006
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Feb-2007 **Time:** 18:56:28	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7B_046A S: 12**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_089 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_046A S: 1
Concentration Units:	pg absolute	**% Moisture:**	31.1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1780	89.2	0.81	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1790	89.7	0.64	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1740	86.8	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1770	88.5	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1700	85.2	1.03	1.095
13C-OCDD		4000	3180	79.5	0.90	1.179
13C-2,3,7,8-TCDF		2000	1910	95.3	0.76	0.966
13C-1,2,3,7,8-PECDF		2000	1910	95.5	1.59	1.282
13C-2,3,4,7,8-PECDF		2000	1880	93.9	1.57	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1840	92.0	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1830	91.5	0.53	0.959
13C-1,2,3,7,8,9-HXCDF		2000	1860	93.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1850	92.6	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1730	86.7	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1880	94.2	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	171	85.5		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN101
Sample Collection:
14-Dec-2006 13:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-93
Matrix:	SOLID	**Sample Size:**	10.5 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	08-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 15:46:01	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_027 S: 15**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_026 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_027 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	31.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.478	0.0682	0.70	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:48:00; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB225_L9585-93_Form1A_SJ643199.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN101

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	14-Dec-2006 13:30
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.5 g (dry)	**Lab Sample I.D.:**	L9585-93
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_027 S: 15** **DX7B_046A S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.616	0.0478	1	6.16e-01	6.16e-01	
1,2,3,7,8-PECDD		1.23	0.0478	1	1.23e+00	1.23e+00	
1,2,3,4,7,8-HXCDD		1.62	0.0478	0.1	1.62e-01	1.62e-01	
1,2,3,6,7,8-HXCDD		4.28	0.0478	0.1	4.28e-01	4.28e-01	
1,2,3,7,8,9-HXCDD		4.77	0.0478	0.1	4.77e-01	4.77e-01	
1,2,3,4,6,7,8-HPCDD		119	0.155	0.01	1.19e+00	1.19e+00	
OCDD		1550	0.0918	0.0001	1.55e-01	1.55e-01	
2,3,7,8-TCDF		0.478	0.0682	0.1	4.78e-02	4.78e-02	
1,2,3,7,8-PECDF		0.667	0.0478	0.05	3.34e-02	3.34e-02	
2,3,4,7,8-PECDF		0.768	0.0478	0.5	3.84e-01	3.84e-01	
1,2,3,4,7,8-HXCDF		1.46	0.0478	0.1	1.46e-01	1.46e-01	
1,2,3,6,7,8-HXCDF		0.983	0.0478	0.1	9.83e-02	9.83e-02	
1,2,3,7,8,9-HXCDF	ND		0.0478	0.1	0.00e+00	2.39e-03	
2,3,4,6,7,8-HXCDF		0.680	0.0478	0.1	6.80e-02	6.80e-02	
1,2,3,4,6,7,8-HPCDF		13.0	0.0557	0.01	1.30e-01	1.30e-01	
1,2,3,4,7,8,9-HPCDF		1.01	0.0557	0.01	1.01e-02	1.01e-02	
OCDF		50.4	0.0478	0.0001	5.04e-03	5.04e-03	
			TOTAL TEQ		5.18	5.18	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.616	0.0478	1	6.16e-01	6.16e-01	
1,2,3,7,8-PECDD		1.23	0.0478	1	1.23e+00	1.23e+00	
1,2,3,4,7,8-HXCDD		1.62	0.0478	0.1	1.62e-01	1.62e-01	
1,2,3,6,7,8-HXCDD		4.28	0.0478	0.1	4.28e-01	4.28e-01	
1,2,3,7,8,9-HXCDD		4.77	0.0478	0.1	4.77e-01	4.77e-01	
1,2,3,4,6,7,8-HPCDD		119	0.155	0.01	1.19e+00	1.19e+00	
OCDD		1550	0.0918	0.0003	4.65e-01	4.65e-01	
2,3,7,8-TCDF		0.478	0.0682	0.1	4.78e-02	4.78e-02	
1,2,3,7,8-PECDF		0.667	0.0478	0.03	2.00e-02	2.00e-02	
2,3,4,7,8-PECDF		0.768	0.0478	0.3	2.30e-01	2.30e-01	
1,2,3,4,7,8-HXCDF		1.46	0.0478	0.1	1.46e-01	1.46e-01	
1,2,3,6,7,8-HXCDF		0.983	0.0478	0.1	9.83e-02	9.83e-02	
1,2,3,7,8,9-HXCDF	ND		0.0478	0.1	0.00e+00	2.39e-03	
2,3,4,6,7,8-HXCDF		0.680	0.0478	0.1	6.80e-02	6.80e-02	
1,2,3,4,6,7,8-HPCDF		13.0	0.0557	0.01	1.30e-01	1.30e-01	
1,2,3,4,7,8,9-HPCDF		1.01	0.0557	0.01	1.01e-02	1.01e-02	
OCDF		50.4	0.0478	0.0003	1.51e-02	1.51e-02	
			TOTAL TEQ		5.33	5.34	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 07-Mar-2007 15:50:19; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-93_TEQ_SJ643199.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN102
Sample Collection:
14-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-94 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.1 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 04:42:04	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_090 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_047 S: 6,7
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DX72_090 S: 1
		% Moisture:	16.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.644	0.0619	0.80	1.001
1,2,3,7,8-PECDD [3]		0.698	0.0505	0.63	1.000
1,2,3,4,7,8-HXCDD		0.850	0.0516	1.12	1.000
1,2,3,6,7,8-HXCDD		2.28	0.0516	1.28	1.000
1,2,3,7,8,9-HXCDD		2.41	0.0516	1.27	1.010
1,2,3,4,6,7,8-HPCDD		50.0	0.169	1.04	1.000
OCDD		691	0.0818	0.90	1.000
2,3,7,8-TCDF		1.01	0.0496	0.75	1.001
1,2,3,7,8-PECDF		0.495	0.0496	1.76	1.000
2,3,4,7,8-PECDF		0.596	0.0496	1.40	1.000
1,2,3,4,7,8-HXCDF		0.975	0.0496	1.17	1.000
1,2,3,6,7,8-HXCDF		0.624	0.0496	1.14	1.000
1,2,3,7,8,9-HXCDF	NDR	0.117	0.0496	1.84	1.000
2,3,4,6,7,8-HXCDF		0.679	0.0496	1.13	1.000
1,2,3,4,6,7,8-HPCDF		6.87	0.0496	1.10	1.000
1,2,3,4,7,8,9-HPCDF		0.551	0.0496	0.96	1.000
OCDF		13.6	0.0519	0.90	1.002
TOTAL TETRA-DIOXINS		2.34	0.0619		
TOTAL PENTA-DIOXINS		3.77	0.0505		
TOTAL HEXA-DIOXINS		21.5	0.0516		
TOTAL HEPTA-DIOXINS		111	0.169		
TOTAL TETRA-FURANS		5.84	0.0496		
TOTAL PENTA-FURANS		7.18	0.0496		
TOTAL HEXA-FURANS		11.7	0.0496		
TOTAL HEPTA-FURANS		16.7	0.0496		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN102
Sample Collection:
14-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-94 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.1 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	04-Mar-2007 **Time:** 04:42:04	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_090 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_047 S: 6,7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_090 S: 1
		% Moisture:	16.4

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1360	68.0	0.77	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1580	78.9	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1940	96.9	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1980	98.9	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1580	79.1	1.02	1.095
13C-OCDD		4000	2340	58.4	0.89	1.179
13C-2,3,7,8-TCDF		2000	1400	70.2	0.77	0.966
13C-1,2,3,7,8-PECDF		2000	1470	73.4	1.54	1.283
13C-2,3,4,7,8-PECDF		2000	1560	78.2	1.57	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1900	94.8	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1930	96.3	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1710	85.3	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1870	93.6	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1690	84.6	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1570	78.4	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	133	66.6		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Mar-2007 10:04:48; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_L9585-94_Form2_SJ645966.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN102
Sample Collection:
14-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-94
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.1 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 18:44:08	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 20**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_027 S: 5,6
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	DB73_027 S: 2
		% Moisture:	16.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.362	0.156	0.86	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Mar-2007 10:11:46; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB225_L9585-94_Form1A_SJ643834.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN102

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	14-Dec-2006 14:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.1 g (dry)	**Lab Sample I.D.:**	L9585-94
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB73_027 S: 20** **DX72_090 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.644	0.0619	1	6.44e-01	6.44e-01	
1,2,3,7,8-PECDD		0.698	0.0505	1	6.98e-01	6.98e-01	
1,2,3,4,7,8-HXCDD		0.850	0.0516	0.1	8.50e-02	8.50e-02	
1,2,3,6,7,8-HXCDD		2.28	0.0516	0.1	2.28e-01	2.28e-01	
1,2,3,7,8,9-HXCDD		2.41	0.0516	0.1	2.41e-01	2.41e-01	
1,2,3,4,6,7,8-HPCDD		50.0	0.169	0.01	5.00e-01	5.00e-01	
OCDD		691	0.0818	0.0001	6.91e-02	6.91e-02	
2,3,7,8-TCDF		0.362	0.156	0.1	3.62e-02	3.62e-02	
1,2,3,7,8-PECDF		0.495	0.0496	0.05	2.48e-02	2.48e-02	
2,3,4,7,8-PECDF		0.596	0.0496	0.5	2.98e-01	2.98e-01	
1,2,3,4,7,8-HXCDF		0.975	0.0496	0.1	9.75e-02	9.75e-02	
1,2,3,6,7,8-HXCDF		0.624	0.0496	0.1	6.24e-02	6.24e-02	
1,2,3,7,8,9-HXCDF	ND		0.0496	0.1	0.00e+00	2.48e-03	
2,3,4,6,7,8-HXCDF		0.679	0.0496	0.1	6.79e-02	6.79e-02	
1,2,3,4,6,7,8-HPCDF		6.87	0.0496	0.01	6.87e-02	6.87e-02	
1,2,3,4,7,8,9-HPCDF		0.551	0.0496	0.01	5.51e-03	5.51e-03	
OCDF		13.6	0.0519	0.0001	1.36e-03	1.36e-03	
			TOTAL TEQ		3.13	3.13	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.644	0.0619	1	6.44e-01	6.44e-01	
1,2,3,7,8-PECDD		0.698	0.0505	1	6.98e-01	6.98e-01	
1,2,3,4,7,8-HXCDD		0.850	0.0516	0.1	8.50e-02	8.50e-02	
1,2,3,6,7,8-HXCDD		2.28	0.0516	0.1	2.28e-01	2.28e-01	
1,2,3,7,8,9-HXCDD		2.41	0.0516	0.1	2.41e-01	2.41e-01	
1,2,3,4,6,7,8-HPCDD		50.0	0.169	0.01	5.00e-01	5.00e-01	
OCDD		691	0.0818	0.0003	2.07e-01	2.07e-01	
2,3,7,8-TCDF		0.362	0.156	0.1	3.62e-02	3.62e-02	
1,2,3,7,8-PECDF		0.495	0.0496	0.03	1.49e-02	1.49e-02	
2,3,4,7,8-PECDF		0.596	0.0496	0.3	1.79e-01	1.79e-01	
1,2,3,4,7,8-HXCDF		0.975	0.0496	0.1	9.75e-02	9.75e-02	
1,2,3,6,7,8-HXCDF		0.624	0.0496	0.1	6.24e-02	6.24e-02	
1,2,3,7,8,9-HXCDF	ND		0.0496	0.1	0.00e+00	2.48e-03	
2,3,4,6,7,8-HXCDF		0.679	0.0496	0.1	6.79e-02	6.79e-02	
1,2,3,4,6,7,8-HPCDF		6.87	0.0496	0.01	6.87e-02	6.87e-02	
1,2,3,4,7,8,9-HPCDF		0.551	0.0496	0.01	5.51e-03	5.51e-03	
OCDF		13.6	0.0519	0.0003	4.08e-03	4.08e-03	
			TOTAL TEQ		3.14	3.14	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Mar-2007 10:17:14; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_L9585-94_TEQ_SJ643834.html; Workgroup: WG21086; Design ID: 559]

A2.2
Fish and Vegetation

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN109
Sample Collection:
15-Dec-2006 11:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-11
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	17-Feb-2007 **Time:** 17:12:50	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_068 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_068 S: 1
		% Lipid:	0.30

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.171	0.0480	0.67	1.001
1,2,3,7,8-PECDD [3]	ND		0.0480		
1,2,3,4,7,8-HXCDD	ND		0.0480		
1,2,3,6,7,8-HXCDD	NDR	0.050	0.0480	0.79	1.000
1,2,3,7,8,9-HXCDD	ND		0.0480		
1,2,3,4,6,7,8-HPCDD	NDR	0.114	0.0480	1.39	1.000
OCDD		0.178	0.0480	0.92	1.000
2,3,7,8-TCDF	ND		0.0480		
1,2,3,7,8-PECDF	ND		0.0480		
2,3,4,7,8-PECDF	NDR	0.097	0.0480	1.28	1.001
1,2,3,4,7,8-HXCDF	ND		0.0480		
1,2,3,6,7,8-HXCDF	ND		0.0480		
1,2,3,7,8,9-HXCDF	ND		0.0480		
2,3,4,6,7,8-HXCDF	ND		0.0480		
1,2,3,4,6,7,8-HPCDF	ND		0.0480		
1,2,3,4,7,8,9-HPCDF	ND		0.0480		
OCDF	ND		0.0480		
TOTAL TETRA-DIOXINS		0.171	0.0480		
TOTAL PENTA-DIOXINS	ND		0.0480		
TOTAL HEXA-DIOXINS	ND		0.0480		
TOTAL HEPTA-DIOXINS	ND		0.0480		
TOTAL TETRA-FURANS	ND		0.0480		
TOTAL PENTA-FURANS	ND		0.0480		
TOTAL HEXA-FURANS	ND		0.0480		
TOTAL HEPTA-FURANS	ND		0.0480		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9586-11_Form1A_SJ638735.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN109
Sample Collection:
15-Dec-2006 11:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-11
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	17-Feb-2007 **Time:** 17:12:50	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_068 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_068 S: 1
		% Lipid:	0.30

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1620	81.1	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1610	80.6	0.62	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1750	87.7	1.32	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1730	86.5	1.29	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1390	69.3	1.09	1.094
13C-OCDD		4000	2180	54.5	0.94	1.178
13C-2,3,7,8-TCDF		2000	1810	90.6	0.80	0.966
13C-1,2,3,7,8-PECDF		2000	1690	84.3	1.58	1.283
13C-2,3,4,7,8-PECDF		2000	1640	81.8	1.58	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1950	97.7	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1990	99.3	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1760	88.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1840	92.0	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1610	80.6	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1500	75.2	0.48	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	178	88.8		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN109

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	15-Dec-2006 11:00
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	10.4 g (wet)	**Lab Sample I.D.:**	L9586-11
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_068 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.171	0.0480	1	1.71e-01	1.71e-01	
1,2,3,7,8-PECDD	ND		0.0480	1	0.00e+00	2.40e-02	
1,2,3,4,7,8-HXCDD	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,6,7,8-HXCDD	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,7,8,9-HXCDD	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0480	0.01	0.00e+00	2.40e-04	
OCDD		0.178	0.0480	0.0001	1.78e-05	1.78e-05	
2,3,7,8-TCDF	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,7,8-PECDF	ND		0.0480	0.05	0.00e+00	1.20e-03	
2,3,4,7,8-PECDF	ND		0.0480	0.5	0.00e+00	1.20e-02	
1,2,3,4,7,8-HXCDF	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,6,7,8-HXCDF	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,7,8,9-HXCDF	ND		0.0480	0.1	0.00e+00	2.40e-03	
2,3,4,6,7,8-HXCDF	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0480	0.01	0.00e+00	2.40e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0480	0.01	0.00e+00	2.40e-04	
OCDF	ND		0.0480	0.0001	0.00e+00	2.40e-06	
			TOTAL TEQ		0.171	0.228	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.171	0.0480	1	1.71e-01	1.71e-01	
1,2,3,7,8-PECDD	ND		0.0480	1	0.00e+00	2.40e-02	
1,2,3,4,7,8-HXCDD	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,6,7,8-HXCDD	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,7,8,9-HXCDD	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0480	0.01	0.00e+00	2.40e-04	
OCDD		0.178	0.0480	0.0003	5.34e-05	5.34e-05	
2,3,7,8-TCDF	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,7,8-PECDF	ND		0.0480	0.03	0.00e+00	7.20e-04	
2,3,4,7,8-PECDF	ND		0.0480	0.3	0.00e+00	7.20e-03	
1,2,3,4,7,8-HXCDF	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,6,7,8-HXCDF	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,7,8,9-HXCDF	ND		0.0480	0.1	0.00e+00	2.40e-03	
2,3,4,6,7,8-HXCDF	ND		0.0480	0.1	0.00e+00	2.40e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0480	0.01	0.00e+00	2.40e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0480	0.01	0.00e+00	2.40e-04	
OCDF	ND		0.0480	0.0003	0.00e+00	7.20e-06	
			TOTAL TEQ		0.171	0.223	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Mar-2007 11:27:27; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9586-11_TEQ_SJ638735.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN110
Sample Collection:
15-Dec-2006 11:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-12
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	3.02 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	17-Feb-2007 **Time:** 23:41:16	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_069 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_069 S: 1
		% Lipid:	5.24

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		3.21	0.166	0.74	1.001
1,2,3,7,8-PECDD [3]		1.51	0.166	0.53	1.000
1,2,3,4,7,8-HXCDD		1.37	0.166	1.28	1.000
1,2,3,6,7,8-HXCDD		3.57	0.166	1.26	1.000
1,2,3,7,8,9-HXCDD		0.970	0.166	1.13	1.010
1,2,3,4,6,7,8-HPCDD		20.3	0.166	1.04	1.000
OCDD		58.5	0.166	0.89	1.000
2,3,7,8-TCDF		0.578	0.166	0.81	1.001
1,2,3,7,8-PECDF		0.428	0.166	1.76	1.001
2,3,4,7,8-PECDF		1.91	0.166	1.56	1.000
1,2,3,4,7,8-HXCDF		0.554	0.166	1.42	1.000
1,2,3,6,7,8-HXCDF		0.280	0.166	1.22	1.000
1,2,3,7,8,9-HXCDF	ND		0.166		
2,3,4,6,7,8-HXCDF		0.978	0.166	1.27	1.000
1,2,3,4,6,7,8-HPCDF		0.881	0.166	1.03	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.166		
OCDF		0.173	0.166	0.93	1.001
TOTAL TETRA-DIOXINS		3.21	0.166		
TOTAL PENTA-DIOXINS		1.51	0.166		
TOTAL HEXA-DIOXINS		5.90	0.166		
TOTAL HEPTA-DIOXINS		21.0	0.166		
TOTAL TETRA-FURANS		0.578	0.166		
TOTAL PENTA-FURANS		2.61	0.166		
TOTAL HEXA-FURANS		1.81	0.166		
TOTAL HEPTA-FURANS		0.881	0.166		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9586-12_Form1A_SJ640225.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN110
Sample Collection:
15-Dec-2006 11:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-12
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	3.02 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	17-Feb-2007 **Time:** 23:41:16	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_069 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_069 S: 1
		% Lipid:	5.24

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1680	83.8	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1590	79.4	0.62	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1940	97.0	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	2000	100	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1610	80.3	1.07	1.095
13C-OCDD		4000	2460	61.6	0.90	1.179
13C-2,3,7,8-TCDF		2000	1900	95.2	0.78	0.966
13C-1,2,3,7,8-PECDF		2000	1750	87.3	1.59	1.283
13C-2,3,4,7,8-PECDF		2000	1650	82.6	1.58	1.350
13C-1,2,3,4,7,8-HXCDF		2000	2230	112	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2270	114	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1950	97.4	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		2000	2090	105	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1890	94.5	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1740	87.1	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	175	87.5		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_L9586-12_Form2_SJ640225.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN110
Sample Collection:
15-Dec-2006 11:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-12
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	3.02 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 13:12:58	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_023A S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_023A S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DB73_023A S: 2
		% Lipid:	5.24

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.510	0.318	0.68	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN110

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	15-Dec-2006 11:00
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	3.02 g (wet)	**Lab Sample I.D.:**	L9586-12
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filenames:**	**DB73_023A S: 9** **DX72_069 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3.21	0.166	1	3.21e+00	3.21e+00	
1,2,3,7,8-PECDD		1.51	0.166	1	1.51e+00	1.51e+00	
1,2,3,4,7,8-HXCDD		1.37	0.166	0.1	1.37e-01	1.37e-01	
1,2,3,6,7,8-HXCDD		3.57	0.166	0.1	3.57e-01	3.57e-01	
1,2,3,7,8,9-HXCDD		0.970	0.166	0.1	9.70e-02	9.70e-02	
1,2,3,4,6,7,8-HPCDD		20.3	0.166	0.01	2.03e-01	2.03e-01	
OCDD		58.5	0.166	0.0001	5.85e-03	5.85e-03	
2,3,7,8-TCDF		0.510	0.318	0.1	5.10e-02	5.10e-02	
1,2,3,7,8-PECDF		0.428	0.166	0.05	2.14e-02	2.14e-02	
2,3,4,7,8-PECDF		1.91	0.166	0.5	9.55e-01	9.55e-01	
1,2,3,4,7,8-HXCDF		0.554	0.166	0.1	5.54e-02	5.54e-02	
1,2,3,6,7,8-HXCDF		0.280	0.166	0.1	2.80e-02	2.80e-02	
1,2,3,7,8,9-HXCDF	ND		0.166	0.1	0.00e+00	8.30e-03	
2,3,4,6,7,8-HXCDF		0.978	0.166	0.1	9.78e-02	9.78e-02	
1,2,3,4,6,7,8-HPCDF		0.881	0.166	0.01	8.81e-03	8.81e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.166	0.01	0.00e+00	8.30e-04	
OCDF		0.173	0.166	0.0001	1.73e-05	1.73e-05	
			TOTAL TEQ		6.74	6.75	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3.21	0.166	1	3.21e+00	3.21e+00	
1,2,3,7,8-PECDD		1.51	0.166	1	1.51e+00	1.51e+00	
1,2,3,4,7,8-HXCDD		1.37	0.166	0.1	1.37e-01	1.37e-01	
1,2,3,6,7,8-HXCDD		3.57	0.166	0.1	3.57e-01	3.57e-01	
1,2,3,7,8,9-HXCDD		0.970	0.166	0.1	9.70e-02	9.70e-02	
1,2,3,4,6,7,8-HPCDD		20.3	0.166	0.01	2.03e-01	2.03e-01	
OCDD		58.5	0.166	0.0003	1.76e-02	1.76e-02	
2,3,7,8-TCDF		0.510	0.318	0.1	5.10e-02	5.10e-02	
1,2,3,7,8-PECDF		0.428	0.166	0.03	1.28e-02	1.28e-02	
2,3,4,7,8-PECDF		1.91	0.166	0.3	5.73e-01	5.73e-01	
1,2,3,4,7,8-HXCDF		0.554	0.166	0.1	5.54e-02	5.54e-02	
1,2,3,6,7,8-HXCDF		0.280	0.166	0.1	2.80e-02	2.80e-02	
1,2,3,7,8,9-HXCDF	ND		0.166	0.1	0.00e+00	8.30e-03	
2,3,4,6,7,8-HXCDF		0.978	0.166	0.1	9.78e-02	9.78e-02	
1,2,3,4,6,7,8-HPCDF		0.881	0.166	0.01	8.81e-03	8.81e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.166	0.01	0.00e+00	8.30e-04	
OCDF		0.173	0.166	0.0003	5.19e-05	5.19e-05	
			TOTAL TEQ		6.36	6.37	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Mar-2007 11:27:27; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9586-12_TEQ_SJ640247.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN203
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-13
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.2 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	18-Feb-2007 **Time:** 00:35:49	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_069 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_069 S: 1
		% Lipid:	2.35

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		1.14	0.0492	0.72	1.001
1,2,3,7,8-PECDD [3]		0.100	0.0492	0.65	1.000
1,2,3,4,7,8-HXCDD	ND		0.0492		
1,2,3,6,7,8-HXCDD	NDR	0.082	0.0492	0.98	1.000
1,2,3,7,8,9-HXCDD	ND		0.0492		
1,2,3,4,6,7,8-HPCDD	NDR	0.150	0.0492	0.81	1.000
OCDD		0.354	0.0492	0.91	1.000
2,3,7,8-TCDF		0.820	0.0492	0.73	1.001
1,2,3,7,8-PECDF		0.060	0.0492	1.43	1.001
2,3,4,7,8-PECDF		0.172	0.0492	1.68	1.000
1,2,3,4,7,8-HXCDF	ND		0.0492		
1,2,3,6,7,8-HXCDF	ND		0.0492		
1,2,3,7,8,9-HXCDF	ND		0.0492		
2,3,4,6,7,8-HXCDF	ND		0.0492		
1,2,3,4,6,7,8-HPCDF	ND		0.0492		
1,2,3,4,7,8,9-HPCDF	ND		0.0492		
OCDF	NDR	0.052	0.0492	1.52	1.001
TOTAL TETRA-DIOXINS		1.14	0.0492		
TOTAL PENTA-DIOXINS		0.100	0.0492		
TOTAL HEXA-DIOXINS	ND		0.0492		
TOTAL HEPTA-DIOXINS	ND		0.0492		
TOTAL TETRA-FURANS		1.36	0.0492		
TOTAL PENTA-FURANS		0.231	0.0492		
TOTAL HEXA-FURANS	ND		0.0492		
TOTAL HEPTA-FURANS	ND		0.0492		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN203
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-13
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.2 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	18-Feb-2007 **Time:** 00:35:49	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_069 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_069 S: 1
		% Lipid:	2.35

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1570	78.7	0.79	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1500	74.9	0.65	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1820	91.0	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1840	91.9	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1530	76.3	1.03	1.095
13C-OCDD		4000	2430	60.8	0.90	1.179
13C-2,3,7,8-TCDF		2000	1730	86.6	0.79	0.966
13C-1,2,3,7,8-PECDF		2000	1630	81.6	1.58	1.282
13C-2,3,4,7,8-PECDF		2000	1540	76.8	1.56	1.350
13C-1,2,3,4,7,8-HXCDF		2000	2060	103	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2130	106	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1780	88.9	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1960	97.9	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1740	87.1	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1600	80.2	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	189	94.6		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_L9586-13_Form2_SJ640226.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN203
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-13
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.2 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 13:48:37	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_023A S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_023A S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DB73_023A S: 2
		% Lipid:	2.35

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.711	0.0687	0.75	1.000

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:25:46; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB225_L9586-13_Form1A_SJ640248.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN203

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 16:00
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	10.2 g (wet)	**Lab Sample I.D.:**	L9586-13
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filenames:**	**DB73_023A S: 10** **DX72_069 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1.14	0.0492	1	1.14e+00	1.14e+00	
1,2,3,7,8-PECDD		0.100	0.0492	1	1.00e-01	1.00e-01	
1,2,3,4,7,8-HXCDD	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,6,7,8-HXCDD	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,7,8,9-HXCDD	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0492	0.01	0.00e+00	2.46e-04	
OCDD		0.354	0.0492	0.0001	3.54e-05	3.54e-05	
2,3,7,8-TCDF		0.711	0.0687	0.1	7.11e-02	7.11e-02	
1,2,3,7,8-PECDF		0.060	0.0492	0.05	3.00e-03	3.00e-03	
2,3,4,7,8-PECDF		0.172	0.0492	0.5	8.60e-02	8.60e-02	
1,2,3,4,7,8-HXCDF	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,6,7,8-HXCDF	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,7,8,9-HXCDF	ND		0.0492	0.1	0.00e+00	2.46e-03	
2,3,4,6,7,8-HXCDF	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0492	0.01	0.00e+00	2.46e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0492	0.01	0.00e+00	2.46e-04	
OCDF	ND		0.0492	0.0001	0.00e+00	2.46e-06	
			TOTAL TEQ		1.40	1.42	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1.14	0.0492	1	1.14e+00	1.14e+00	
1,2,3,7,8-PECDD		0.100	0.0492	1	1.00e-01	1.00e-01	
1,2,3,4,7,8-HXCDD	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,6,7,8-HXCDD	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,7,8,9-HXCDD	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0492	0.01	0.00e+00	2.46e-04	
OCDD		0.354	0.0492	0.0003	1.06e-04	1.06e-04	
2,3,7,8-TCDF		0.711	0.0687	0.1	7.11e-02	7.11e-02	
1,2,3,7,8-PECDF		0.060	0.0492	0.03	1.80e-03	1.80e-03	
2,3,4,7,8-PECDF		0.172	0.0492	0.3	5.16e-02	5.16e-02	
1,2,3,4,7,8-HXCDF	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,6,7,8-HXCDF	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,7,8,9-HXCDF	ND		0.0492	0.1	0.00e+00	2.46e-03	
2,3,4,6,7,8-HXCDF	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0492	0.01	0.00e+00	2.46e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0492	0.01	0.00e+00	2.46e-04	
OCDF	ND		0.0492	0.0003	0.00e+00	7.38e-06	
			TOTAL TEQ		1.36	1.38	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Mar-2007 11:27:27; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9586-13_TEQ_SJ640248.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN206
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-15
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	18-Feb-2007 **Time:** 01:30:23	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_069 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_069 S: 1
		% Lipid:	83.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		45.8	0.0499	0.79	1.001
1,2,3,7,8-PECDD [3]		4.24	0.0499	0.64	1.001
1,2,3,4,7,8-HXCDD		1.11	0.0499	1.11	1.000
1,2,3,6,7,8-HXCDD		2.96	0.0499	1.22	1.000
1,2,3,7,8,9-HXCDD		1.07	0.0499	1.34	1.010
1,2,3,4,6,7,8-HPCDD		4.90	0.0499	1.04	1.000
OCDD		13.7	0.0499	0.89	1.000
2,3,7,8-TCDF		36.1	0.0499	0.78	1.001
1,2,3,7,8-PECDF		1.88	0.0499	1.64	1.000
2,3,4,7,8-PECDF		6.49	0.0499	1.61	1.000
1,2,3,4,7,8-HXCDF		0.263	0.0499	1.28	1.000
1,2,3,6,7,8-HXCDF		0.392	0.0499	1.07	1.000
1,2,3,7,8,9-HXCDF	ND		0.0499		
2,3,4,6,7,8-HXCDF		0.217	0.0499	1.35	1.000
1,2,3,4,6,7,8-HPCDF		0.172	0.0499	1.17	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.0499		
OCDF	NDR	0.118	0.0499	1.28	1.001
TOTAL TETRA-DIOXINS		50.2	0.0499		
TOTAL PENTA-DIOXINS		6.42	0.0499		
TOTAL HEXA-DIOXINS		6.90	0.0499		
TOTAL HEPTA-DIOXINS		5.91	0.0499		
TOTAL TETRA-FURANS		56.9	0.0499		
TOTAL PENTA-FURANS		22.0	0.0499		
TOTAL HEXA-FURANS		2.41	0.0499		
TOTAL HEPTA-FURANS		0.305	0.0499		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN206
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9586-15
Matrix:	TISSUE	**Sample Size:**	10.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	18-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	18-Feb-2007 **Time:** 01:30:23	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_069 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_068 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_069 S: 1
Concentration Units:	pg absolute	**% Lipid:**	83.1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1410	70.5	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1440	71.8	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1620	81.0	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1580	79.2	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1370	68.5	1.06	1.095
13C-OCDD		4000	2150	53.7	0.89	1.179
13C-2,3,7,8-TCDF		2000	1480	74.1	0.79	0.966
13C-1,2,3,7,8-PECDF		2000	1410	70.7	1.57	1.283
13C-2,3,4,7,8-PECDF		2000	1370	68.6	1.57	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1760	88.2	0.54	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1790	89.7	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1530	76.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1600	79.9	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1530	76.5	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1450	72.6	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	148	73.8		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_L9586-15_Form2_SJ640227.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN206
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-15
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 14:24:16	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_023A S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_023A S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DB73_023A S: 2
		% Lipid:	83.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		34.3	0.121	0.77	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN206

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 16:00
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	10.0 g (wet)	**Lab Sample I.D.:**	L9586-15
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filenames:**	**DB73_023A S: 11** **DX72_069 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		45.8	0.0499	1	4.58e+01	4.58e+01	
1,2,3,7,8-PECDD		4.24	0.0499	1	4.24e+00	4.24e+00	
1,2,3,4,7,8-HXCDD		1.11	0.0499	0.1	1.11e-01	1.11e-01	
1,2,3,6,7,8-HXCDD		2.96	0.0499	0.1	2.96e-01	2.96e-01	
1,2,3,7,8,9-HXCDD		1.07	0.0499	0.1	1.07e-01	1.07e-01	
1,2,3,4,6,7,8-HPCDD		4.90	0.0499	0.01	4.90e-02	4.90e-02	
OCDD		13.7	0.0499	0.0001	1.37e-03	1.37e-03	
2,3,7,8-TCDF		34.3	0.121	0.1	3.43e+00	3.43e+00	
1,2,3,7,8-PECDF		1.88	0.0499	0.05	9.40e-02	9.40e-02	
2,3,4,7,8-PECDF		6.49	0.0499	0.5	3.25e+00	3.25e+00	
1,2,3,4,7,8-HXCDF		0.263	0.0499	0.1	2.63e-02	2.63e-02	
1,2,3,6,7,8-HXCDF		0.392	0.0499	0.1	3.92e-02	3.92e-02	
1,2,3,7,8,9-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF		0.217	0.0499	0.1	2.17e-02	2.17e-02	
1,2,3,4,6,7,8-HPCDF		0.172	0.0499	0.01	1.72e-03	1.72e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0499	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0499	0.0001	0.00e+00	2.50e-06	
			TOTAL TEQ		57.5	57.5	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		45.8	0.0499	1	4.58e+01	4.58e+01	
1,2,3,7,8-PECDD		4.24	0.0499	1	4.24e+00	4.24e+00	
1,2,3,4,7,8-HXCDD		1.11	0.0499	0.1	1.11e-01	1.11e-01	
1,2,3,6,7,8-HXCDD		2.96	0.0499	0.1	2.96e-01	2.96e-01	
1,2,3,7,8,9-HXCDD		1.07	0.0499	0.1	1.07e-01	1.07e-01	
1,2,3,4,6,7,8-HPCDD		4.90	0.0499	0.01	4.90e-02	4.90e-02	
OCDD		13.7	0.0499	0.0003	4.11e-03	4.11e-03	
2,3,7,8-TCDF		34.3	0.121	0.1	3.43e+00	3.43e+00	
1,2,3,7,8-PECDF		1.88	0.0499	0.03	5.64e-02	5.64e-02	
2,3,4,7,8-PECDF		6.49	0.0499	0.3	1.95e+00	1.95e+00	
1,2,3,4,7,8-HXCDF		0.263	0.0499	0.1	2.63e-02	2.63e-02	
1,2,3,6,7,8-HXCDF		0.392	0.0499	0.1	3.92e-02	3.92e-02	
1,2,3,7,8,9-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF		0.217	0.0499	0.1	2.17e-02	2.17e-02	
1,2,3,4,6,7,8-HPCDF		0.172	0.0499	0.01	1.72e-03	1.72e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0499	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0499	0.0003	0.00e+00	7.49e-06	
			TOTAL TEQ		56.1	56.1	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L9586-15_TEQ_SJ640249.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN209
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-16
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.45 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	18-Feb-2007 **Time:** 02:24:55	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_069 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_069 S: 1
		% Lipid:	95.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		33.6	0.0529	0.77	1.001
1,2,3,7,8-PECDD [3]		7.91	0.0568	0.63	1.001
1,2,3,4,7,8-HXCDD		5.94	0.0529	1.19	1.000
1,2,3,6,7,8-HXCDD		16.6	0.0529	1.28	1.000
1,2,3,7,8,9-HXCDD		7.82	0.0529	1.30	1.010
1,2,3,4,6,7,8-HPCDD		59.1	0.0710	1.07	1.000
OCDD		112	0.0529	0.88	1.000
2,3,7,8-TCDF		7.43	0.0529	0.79	1.001
1,2,3,7,8-PECDF		5.45	0.0583	1.52	1.000
2,3,4,7,8-PECDF		17.4	0.0583	1.52	1.000
1,2,3,4,7,8-HXCDF		7.41	0.0746	1.22	1.000
1,2,3,6,7,8-HXCDF		5.27	0.0746	1.29	1.001
1,2,3,7,8,9-HXCDF		0.329	0.0746	1.19	1.000
2,3,4,6,7,8-HXCDF		3.14	0.0746	1.24	1.000
1,2,3,4,6,7,8-HPCDF		8.13	0.0531	1.05	1.000
1,2,3,4,7,8,9-HPCDF		0.577	0.0531	1.15	1.000
OCDF		0.890	0.0529	0.88	1.002
TOTAL TETRA-DIOXINS		34.7	0.0529		
TOTAL PENTA-DIOXINS		8.19	0.0568		
TOTAL HEXA-DIOXINS		32.8	0.0529		
TOTAL HEPTA-DIOXINS		63.0	0.0710		
TOTAL TETRA-FURANS		13.9	0.0529		
TOTAL PENTA-FURANS		34.8	0.0583		
TOTAL HEXA-FURANS		28.6	0.0746		
TOTAL HEPTA-FURANS		10.6	0.0531		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9586-16_Form1A_SJ640228.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN209
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-16
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.45 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	18-Feb-2007 **Time:** 02:24:55	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_069 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_069 S: 1
		% Lipid:	95.8

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1020	51.1	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		2000	970	48.5	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1190	59.6	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1240	62.2	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1050	52.5	1.04	1.095
13C-OCDD		4000	1630	40.8	0.89	1.179
13C-2,3,7,8-TCDF		2000	1070	53.6	0.80	0.966
13C-1,2,3,7,8-PECDF		2000	1050	52.3	1.57	1.283
13C-2,3,4,7,8-PECDF		2000	995	49.8	1.56	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1310	65.6	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1400	69.8	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	988	49.4	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1180	59.2	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1130	56.3	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	917	45.8	0.48	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	98.4	49.2		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9586-16_Form2_SJ640228.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN209
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-16
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.45 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 14:59:54	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_023A S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_023A S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DB73_023A S: 2
		% Lipid:	95.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		6.96	0.203	0.73	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:25:46; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB225_L9586-16_Form1A_SJ640250.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN209

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 16:00
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	9.45 g (wet)	**Lab Sample I.D.:**	L9586-16
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filenames:**	**DB73_023A S: 12** **DX72_069 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		33.6	0.0529	1	3.36e+01	3.36e+01	
1,2,3,7,8-PECDD		7.91	0.0568	1	7.91e+00	7.91e+00	
1,2,3,4,7,8-HXCDD		5.94	0.0529	0.1	5.94e-01	5.94e-01	
1,2,3,6,7,8-HXCDD		16.6	0.0529	0.1	1.66e+00	1.66e+00	
1,2,3,7,8,9-HXCDD		7.82	0.0529	0.1	7.82e-01	7.82e-01	
1,2,3,4,6,7,8-HPCDD		59.1	0.0710	0.01	5.91e-01	5.91e-01	
OCDD		112	0.0529	0.0001	1.12e-02	1.12e-02	
2,3,7,8-TCDF		6.96	0.203	0.1	6.96e-01	6.96e-01	
1,2,3,7,8-PECDF		5.45	0.0583	0.05	2.73e-01	2.73e-01	
2,3,4,7,8-PECDF		17.4	0.0583	0.5	8.70e+00	8.70e+00	
1,2,3,4,7,8-HXCDF		7.41	0.0746	0.1	7.41e-01	7.41e-01	
1,2,3,6,7,8-HXCDF		5.27	0.0746	0.1	5.27e-01	5.27e-01	
1,2,3,7,8,9-HXCDF		0.329	0.0746	0.1	3.29e-02	3.29e-02	
2,3,4,6,7,8-HXCDF		3.14	0.0746	0.1	3.14e-01	3.14e-01	
1,2,3,4,6,7,8-HPCDF		8.13	0.0531	0.01	8.13e-02	8.13e-02	
1,2,3,4,7,8,9-HPCDF		0.577	0.0531	0.01	5.77e-03	5.77e-03	
OCDF		0.890	0.0529	0.0001	8.90e-05	8.90e-05	
			TOTAL TEQ		56.5	56.5	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		33.6	0.0529	1	3.36e+01	3.36e+01	
1,2,3,7,8-PECDD		7.91	0.0568	1	7.91e+00	7.91e+00	
1,2,3,4,7,8-HXCDD		5.94	0.0529	0.1	5.94e-01	5.94e-01	
1,2,3,6,7,8-HXCDD		16.6	0.0529	0.1	1.66e+00	1.66e+00	
1,2,3,7,8,9-HXCDD		7.82	0.0529	0.1	7.82e-01	7.82e-01	
1,2,3,4,6,7,8-HPCDD		59.1	0.0710	0.01	5.91e-01	5.91e-01	
OCDD		112	0.0529	0.0003	3.36e-02	3.36e-02	
2,3,7,8-TCDF		6.96	0.203	0.1	6.96e-01	6.96e-01	
1,2,3,7,8-PECDF		5.45	0.0583	0.03	1.64e-01	1.64e-01	
2,3,4,7,8-PECDF		17.4	0.0583	0.3	5.22e+00	5.22e+00	
1,2,3,4,7,8-HXCDF		7.41	0.0746	0.1	7.41e-01	7.41e-01	
1,2,3,6,7,8-HXCDF		5.27	0.0746	0.1	5.27e-01	5.27e-01	
1,2,3,7,8,9-HXCDF		0.329	0.0746	0.1	3.29e-02	3.29e-02	
2,3,4,6,7,8-HXCDF		3.14	0.0746	0.1	3.14e-01	3.14e-01	
1,2,3,4,6,7,8-HPCDF		8.13	0.0531	0.01	8.13e-02	8.13e-02	
1,2,3,4,7,8,9-HPCDF		0.577	0.0531	0.01	5.77e-03	5.77e-03	
OCDF		0.890	0.0529	0.0003	2.67e-04	2.67e-04	
			TOTAL TEQ		53.0	53.0	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN210
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-17
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	18-Feb-2007 **Time:** 03:19:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_069 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_069 S: 1
		% Lipid:	2.35

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.943	0.0500	0.73	1.001
1,2,3,7,8-PECDD [3]		0.198	0.0500	0.53	1.001
1,2,3,4,7,8-HXCDD		0.156	0.0500	1.22	1.000
1,2,3,6,7,8-HXCDD		0.443	0.0500	1.09	1.000
1,2,3,7,8,9-HXCDD	NDR	0.192	0.0500	0.99	1.010
1,2,3,4,6,7,8-HPCDD		1.24	0.0500	1.16	1.000
OCDD		2.30	0.0500	0.90	1.000
2,3,7,8-TCDF		0.155	0.0500	0.70	1.001
1,2,3,7,8-PECDF	NDR	0.111	0.0500	1.19	1.000
2,3,4,7,8-PECDF		0.420	0.0500	1.38	1.000
1,2,3,4,7,8-HXCDF		0.176	0.0500	1.31	1.000
1,2,3,6,7,8-HXCDF		0.104	0.0500	1.35	1.000
1,2,3,7,8,9-HXCDF	ND		0.0500		
2,3,4,6,7,8-HXCDF		0.077	0.0500	1.25	1.000
1,2,3,4,6,7,8-HPCDF		0.133	0.0500	0.93	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.0500		
OCDF		0.091	0.0500	0.95	1.002
TOTAL TETRA-DIOXINS		0.943	0.0500		
TOTAL PENTA-DIOXINS		0.198	0.0500		
TOTAL HEXA-DIOXINS		0.599	0.0500		
TOTAL HEPTA-DIOXINS		1.24	0.0500		
TOTAL TETRA-FURANS		0.155	0.0500		
TOTAL PENTA-FURANS		0.525	0.0500		
TOTAL HEXA-FURANS		0.538	0.0500		
TOTAL HEPTA-FURANS		0.196	0.0500		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9586-17_Form1A_SJ640229.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN210
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-17
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	18-Feb-2007 **Time:** 03:19:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_069 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_069 S: 1
		% Lipid:	2.35

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1340	67.2	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1270	63.6	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1550	77.7	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1530	76.7	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1350	67.5	1.05	1.095
13C-OCDD		4000	2290	57.2	0.90	1.179
13C-2,3,7,8-TCDF		2000	1460	73.2	0.80	0.966
13C-1,2,3,7,8-PECDF		2000	1380	68.8	1.54	1.283
13C-2,3,4,7,8-PECDF		2000	1330	66.3	1.55	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1730	86.6	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1800	90.2	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1580	79.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1650	82.5	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1540	77.2	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1540	76.9	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	140	70.0		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_L9586-17_Form2_SJ640229.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN210
Sample Collection:
10-Dec-2006 16:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9586-17
Matrix:	TISSUE	**Sample Size:**	10.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	08-Jan-2007
Extraction Date:	18-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 15:35:32	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_023A S: 13**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_023A S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_023A S: 2
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	2.35

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	NDR	0.188	0.101	0.58	1.001

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN210

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 16:00
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	10.0 g (wet)	**Lab Sample I.D.:**	L9586-17
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filenames:**	**DB73_023A S: 13** **DX72_069 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.943	0.0500	1	9.43e-01	9.43e-01	
1,2,3,7,8-PECDD		0.198	0.0500	1	1.98e-01	1.98e-01	
1,2,3,4,7,8-HXCDD		0.156	0.0500	0.1	1.56e-02	1.56e-02	
1,2,3,6,7,8-HXCDD		0.443	0.0500	0.1	4.43e-02	4.43e-02	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD		1.24	0.0500	0.01	1.24e-02	1.24e-02	
OCDD		2.30	0.0500	0.0001	2.30e-04	2.30e-04	
2,3,7,8-TCDF	ND		0.101	0.1	0.00e+00	5.05e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF		0.420	0.0500	0.5	2.10e-01	2.10e-01	
1,2,3,4,7,8-HXCDF		0.176	0.0500	0.1	1.76e-02	1.76e-02	
1,2,3,6,7,8-HXCDF		0.104	0.0500	0.1	1.04e-02	1.04e-02	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF		0.077	0.0500	0.1	7.70e-03	7.70e-03	
1,2,3,4,6,7,8-HPCDF		0.133	0.0500	0.01	1.33e-03	1.33e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF		0.091	0.0500	0.0001	9.10e-06	9.10e-06	
			TOTAL TEQ		1.46	1.47	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.943	0.0500	1	9.43e-01	9.43e-01	
1,2,3,7,8-PECDD		0.198	0.0500	1	1.98e-01	1.98e-01	
1,2,3,4,7,8-HXCDD		0.156	0.0500	0.1	1.56e-02	1.56e-02	
1,2,3,6,7,8-HXCDD		0.443	0.0500	0.1	4.43e-02	4.43e-02	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD		1.24	0.0500	0.01	1.24e-02	1.24e-02	
OCDD		2.30	0.0500	0.0003	6.90e-04	6.90e-04	
2,3,7,8-TCDF	ND		0.101	0.1	0.00e+00	5.05e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,4,7,8-PECDF		0.420	0.0500	0.3	1.26e-01	1.26e-01	
1,2,3,4,7,8-HXCDF		0.176	0.0500	0.1	1.76e-02	1.76e-02	
1,2,3,6,7,8-HXCDF		0.104	0.0500	0.1	1.04e-02	1.04e-02	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF		0.077	0.0500	0.1	7.70e-03	7.70e-03	
1,2,3,4,6,7,8-HPCDF		0.133	0.0500	0.01	1.33e-03	1.33e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF		0.091	0.0500	0.0003	2.73e-05	2.73e-05	
			TOTAL TEQ		1.38	1.39	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Mar-2007 11:27:27; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9586-17_TEQ_SJ640251.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN216
Sample Collection:
11-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-21
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.60 g (wet)
Extraction Date:	19-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	15-Feb-2007 **Time:** 06:48:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_065 S: 13**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_065 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_065 S: 1
		% Lipid:	41.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		3000	0.0893	0.77	1.001
1,2,3,7,8-PECDD [3]		12.1	0.0893	0.66	1.001
1,2,3,4,7,8-HXCDD		0.705	0.0893	1.06	1.000
1,2,3,6,7,8-HXCDD		2.93	0.0893	1.27	1.000
1,2,3,7,8,9-HXCDD		0.829	0.0893	1.39	1.010
1,2,3,4,6,7,8-HPCDD		6.66	0.0893	1.04	1.000
OCDD		29.0	0.0893	0.88	1.000
2,3,7,8-TCDF		1060	0.0901	0.77	1.001
1,2,3,7,8-PECDF		1.15	0.0893	1.32	1.000
2,3,4,7,8-PECDF		3.00	0.0893	1.53	1.000
1,2,3,4,7,8-HXCDF	NDR	0.224	0.0893	1.70	1.000
1,2,3,6,7,8-HXCDF		0.331	0.0893	1.23	1.000
1,2,3,7,8,9-HXCDF	ND		0.0893		
2,3,4,6,7,8-HXCDF		0.340	0.0893	1.13	1.000
1,2,3,4,6,7,8-HPCDF		0.704	0.0893	1.19	1.000
1,2,3,4,7,8,9-HPCDF		0.102	0.0893	0.92	1.000
OCDF		1.04	0.0893	0.89	1.002
TOTAL TETRA-DIOXINS		3000	0.0893		
TOTAL PENTA-DIOXINS		17.5	0.0893		
TOTAL HEXA-DIOXINS		7.74	0.0893		
TOTAL HEPTA-DIOXINS		10.9	0.0893		
TOTAL TETRA-FURANS		1080	0.0901		
TOTAL PENTA-FURANS		19.6	0.0893		
TOTAL HEXA-FURANS		3.96	0.0893		
TOTAL HEPTA-FURANS		1.99	0.0893		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN216
Sample Collection:
11-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-21
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.60 g (wet)
Extraction Date:	19-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	15-Feb-2007 **Time:** 06:48:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_065 S: 13**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_065 S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_065 S: 1
		% Lipid:	41.9

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1780	89.2	0.77	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1690	84.3	0.62	1.379
13C-1,2,3,4,7,8-HXCDD		2000	1880	93.8	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1810	90.7	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1650	82.4	1.05	1.094
13C-OCDD		4000	2620	65.6	0.88	1.178
13C-2,3,7,8-TCDF		2000	1770	88.7	0.79	0.965
13C-1,2,3,7,8-PECDF		2000	1650	82.7	1.54	1.282
13C-2,3,4,7,8-PECDF		2000	1670	83.4	1.58	1.348
13C-1,2,3,4,7,8-HXCDF		2000	1900	95.0	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1900	94.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1800	89.8	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1820	90.9	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1690	84.6	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1730	86.7	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	249	124		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 18-Feb-2007 11:59:26; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9586-21_Form2_SJ637368.html; Workgroup: WG21089; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN216
Sample Collection:
11-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-21
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.60 g (wet)
Extraction Date:	19-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	06-Feb-2007 **Time:** 13:38:58	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_022 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_022 S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DB73_022 S: 2
		% Lipid:	41.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1030	0.184	0.76	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 18-Feb-2007 11:59:01; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB225_L9586-21_Form1A_SJ637375.html; Workgroup: WG21089; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN216

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-21
Sample Size:	5.60 g (wet)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filenames:**	**DB73_022 S: 6** **DX72_065 S: 13**
		Sample Collection:	11-Dec-2006 15:40

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3000	0.0893	1	3.00e+03	3.00e+03	
1,2,3,7,8-PECDD		12.1	0.0893	1	1.21e+01	1.21e+01	
1,2,3,4,7,8-HXCDD		0.705	0.0893	0.1	7.05e-02	7.05e-02	
1,2,3,6,7,8-HXCDD		2.93	0.0893	0.1	2.93e-01	2.93e-01	
1,2,3,7,8,9-HXCDD		0.829	0.0893	0.1	8.29e-02	8.29e-02	
1,2,3,4,6,7,8-HPCDD		6.66	0.0893	0.01	6.66e-02	6.66e-02	
OCDD		29.0	0.0893	0.0001	2.90e-03	2.90e-03	
2,3,7,8-TCDF		1030	0.184	0.1	1.03e+02	1.03e+02	
1,2,3,7,8-PECDF		1.15	0.0893	0.05	5.75e-02	5.75e-02	
2,3,4,7,8-PECDF		3.00	0.0893	0.5	1.50e+00	1.50e+00	
1,2,3,4,7,8-HXCDF	ND		0.0893	0.1	0.00e+00	4.47e-03	
1,2,3,6,7,8-HXCDF		0.331	0.0893	0.1	3.31e-02	3.31e-02	
1,2,3,7,8,9-HXCDF	ND		0.0893	0.1	0.00e+00	4.47e-03	
2,3,4,6,7,8-HXCDF		0.340	0.0893	0.1	3.40e-02	3.40e-02	
1,2,3,4,6,7,8-HPCDF		0.704	0.0893	0.01	7.04e-03	7.04e-03	
1,2,3,4,7,8,9-HPCDF		0.102	0.0893	0.01	1.02e-03	1.02e-03	
OCDF		1.04	0.0893	0.0001	1.04e-04	1.04e-04	
			TOTAL TEQ		3120	3120	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3000	0.0893	1	3.00e+03	3.00e+03	
1,2,3,7,8-PECDD		12.1	0.0893	1	1.21e+01	1.21e+01	
1,2,3,4,7,8-HXCDD		0.705	0.0893	0.1	7.05e-02	7.05e-02	
1,2,3,6,7,8-HXCDD		2.93	0.0893	0.1	2.93e-01	2.93e-01	
1,2,3,7,8,9-HXCDD		0.829	0.0893	0.1	8.29e-02	8.29e-02	
1,2,3,4,6,7,8-HPCDD		6.66	0.0893	0.01	6.66e-02	6.66e-02	
OCDD		29.0	0.0893	0.0003	8.70e-03	8.70e-03	
2,3,7,8-TCDF		1030	0.184	0.1	1.03e+02	1.03e+02	
1,2,3,7,8-PECDF		1.15	0.0893	0.03	3.45e-02	3.45e-02	
2,3,4,7,8-PECDF		3.00	0.0893	0.3	9.00e-01	9.00e-01	
1,2,3,4,7,8-HXCDF	ND		0.0893	0.1	0.00e+00	4.47e-03	
1,2,3,6,7,8-HXCDF		0.331	0.0893	0.1	3.31e-02	3.31e-02	
1,2,3,7,8,9-HXCDF	ND		0.0893	0.1	0.00e+00	4.47e-03	
2,3,4,6,7,8-HXCDF		0.340	0.0893	0.1	3.40e-02	3.40e-02	
1,2,3,4,6,7,8-HPCDF		0.704	0.0893	0.01	7.04e-03	7.04e-03	
1,2,3,4,7,8,9-HPCDF		0.102	0.0893	0.01	1.02e-03	1.02e-03	
OCDF		1.04	0.0893	0.0003	3.12e-04	3.12e-04	
			TOTAL TEQ		3120	3120	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 18-Feb-2007 12:00:30; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9586-21_TEQ_SJ637375.html; Workgroup: WG21089; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN217
Sample Collection:
11-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9586-22
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 05:53:33	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_065 S: 12**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_065 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_065 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	0.65

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		33.2	0.0497	0.76	1.001
1,2,3,7,8-PECDD [3]		0.120	0.0497	0.67	1.001
1,2,3,4,7,8-HXCDD	ND		0.0497		
1,2,3,6,7,8-HXCDD	ND		0.0497		
1,2,3,7,8,9-HXCDD	ND		0.0497		
1,2,3,4,6,7,8-HPCDD	NDR	0.087	0.0497	0.84	1.000
OCDD		0.464	0.0497	0.80	1.000
2,3,7,8-TCDF		11.6	0.0497	0.74	1.001
1,2,3,7,8-PECDF	ND		0.0497		
2,3,4,7,8-PECDF	NDR	0.080	0.0497	1.19	1.000
1,2,3,4,7,8-HXCDF	ND		0.0497		
1,2,3,6,7,8-HXCDF	ND		0.0497		
1,2,3,7,8,9-HXCDF	ND		0.0497		
2,3,4,6,7,8-HXCDF		0.055	0.0497	1.35	1.000
1,2,3,4,6,7,8-HPCDF	ND		0.0497		
1,2,3,4,7,8,9-HPCDF	ND		0.0497		
OCDF	ND		0.0497		
TOTAL TETRA-DIOXINS		33.2	0.0497		
TOTAL PENTA-DIOXINS		0.120	0.0497		
TOTAL HEXA-DIOXINS	ND		0.0497		
TOTAL HEPTA-DIOXINS	ND		0.0497		
TOTAL TETRA-FURANS		11.7	0.0497		
TOTAL PENTA-FURANS		0.069	0.0497		
TOTAL HEXA-FURANS		0.055	0.0497		
TOTAL HEPTA-FURANS	ND		0.0497		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 18-Feb-2007 11:59:26; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9586-22_Form1A_SJ637367.html; Workgroup: WG21089; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN217
Sample Collection:
11-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9586-22
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 05:53:33	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_065 S: 12**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_065 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_065 S: 1
Concentration Units:	pg absolute	**% Lipid:**	0.65

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1460	73.2	0.79	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1570	78.3	0.62	1.378
13C-1,2,3,4,7,8-HXCDD		2000	1730	86.3	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1670	83.3	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1490	74.5	1.03	1.094
13C-OCDD		4000	2410	60.1	0.89	1.178
13C-2,3,7,8-TCDF		2000	1540	76.8	0.79	0.965
13C-1,2,3,7,8-PECDF		2000	1580	79.2	1.57	1.281
13C-2,3,4,7,8-PECDF		2000	1570	78.3	1.57	1.348
13C-1,2,3,4,7,8-HXCDF		2000	1780	88.8	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1770	88.6	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1630	81.7	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1680	83.9	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1570	78.4	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1540	77.2	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	158	78.8		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 18-Feb-2007 11:59:26; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9586-22_Form2_SJ637367.html; Workgroup: WG21089; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN217
Sample Collection:
11-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9586-22
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	08-Jan-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2007 **Time:** 14:14:37	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_022 S: 7**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_022 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_022 S: 2
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	0.65

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		11.3	0.0781	0.73	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 18-Feb-2007 11:59:01; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB225_L9586-22_Form1A_SJ637376.html; Workgroup: WG21089; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN217

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 15:40
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	10.1 g (wet)	**Lab Sample I.D.:**	L9586-22
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filenames:**	**DB73_022 S: 7** **DX72_065 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		33.2	0.0497	1	3.32e+01	3.32e+01	
1,2,3,7,8-PECDD		0.120	0.0497	1	1.20e-01	1.20e-01	
1,2,3,4,7,8-HXCDD	ND		0.0497	0.1	0.00e+00	2.49e-03	
1,2,3,6,7,8-HXCDD	ND		0.0497	0.1	0.00e+00	2.49e-03	
1,2,3,7,8,9-HXCDD	ND		0.0497	0.1	0.00e+00	2.49e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0497	0.01	0.00e+00	2.49e-04	
OCDD		0.464	0.0497	0.0001	4.64e-05	4.64e-05	
2,3,7,8-TCDF		11.3	0.0781	0.1	1.13e+00	1.13e+00	
1,2,3,7,8-PECDF	ND		0.0497	0.05	0.00e+00	1.24e-03	
2,3,4,7,8-PECDF	ND		0.0497	0.5	0.00e+00	1.24e-02	
1,2,3,4,7,8-HXCDF	ND		0.0497	0.1	0.00e+00	2.49e-03	
1,2,3,6,7,8-HXCDF	ND		0.0497	0.1	0.00e+00	2.49e-03	
1,2,3,7,8,9-HXCDF	ND		0.0497	0.1	0.00e+00	2.49e-03	
2,3,4,6,7,8-HXCDF		0.055	0.0497	0.1	5.50e-03	5.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0497	0.01	0.00e+00	2.49e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0497	0.01	0.00e+00	2.49e-04	
OCDF	ND		0.0497	0.0001	0.00e+00	2.49e-06	
			TOTAL TEQ		34.5	34.5	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		33.2	0.0497	1	3.32e+01	3.32e+01	
1,2,3,7,8-PECDD		0.120	0.0497	1	1.20e-01	1.20e-01	
1,2,3,4,7,8-HXCDD	ND		0.0497	0.1	0.00e+00	2.49e-03	
1,2,3,6,7,8-HXCDD	ND		0.0497	0.1	0.00e+00	2.49e-03	
1,2,3,7,8,9-HXCDD	ND		0.0497	0.1	0.00e+00	2.49e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0497	0.01	0.00e+00	2.49e-04	
OCDD		0.464	0.0497	0.0003	1.39e-04	1.39e-04	
2,3,7,8-TCDF		11.3	0.0781	0.1	1.13e+00	1.13e+00	
1,2,3,7,8-PECDF	ND		0.0497	0.03	0.00e+00	7.46e-04	
2,3,4,7,8-PECDF	ND		0.0497	0.3	0.00e+00	7.46e-03	
1,2,3,4,7,8-HXCDF	ND		0.0497	0.1	0.00e+00	2.49e-03	
1,2,3,6,7,8-HXCDF	ND		0.0497	0.1	0.00e+00	2.49e-03	
1,2,3,7,8,9-HXCDF	ND		0.0497	0.1	0.00e+00	2.49e-03	
2,3,4,6,7,8-HXCDF		0.055	0.0497	0.1	5.50e-03	5.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0497	0.01	0.00e+00	2.49e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0497	0.01	0.00e+00	2.49e-04	
OCDF	ND		0.0497	0.0003	0.00e+00	7.46e-06	
			TOTAL TEQ		34.5	34.5	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Brian Watson QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN224
Sample Collection:
11-Dec-2006 17:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-26
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.67 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	18-Feb-2007 **Time:** 04:14:02	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_069 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_069 S: 1
		% Lipid:	47.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		6.61	0.0518	0.77	1.001
1,2,3,7,8-PECDD [3]		0.727	0.0517	0.69	1.001
1,2,3,4,7,8-HXCDD		0.186	0.0517	1.26	1.000
1,2,3,6,7,8-HXCDD	NDR	0.286	0.0517	1.53	1.000
1,2,3,7,8,9-HXCDD		0.177	0.0517	1.33	1.010
1,2,3,4,6,7,8-HPCDD		0.884	0.0517	1.15	1.000
OCDD		4.08	0.0517	0.80	1.000
2,3,7,8-TCDF		6.01	0.0517	0.80	1.001
1,2,3,7,8-PECDF		0.602	0.0517	1.72	1.001
2,3,4,7,8-PECDF		1.21	0.0517	1.68	1.000
1,2,3,4,7,8-HXCDF		0.176	0.0517	1.26	1.000
1,2,3,6,7,8-HXCDF	NDR	0.198	0.0517	1.70	1.000
1,2,3,7,8,9-HXCDF	ND		0.0517		
2,3,4,6,7,8-HXCDF		0.207	0.0517	1.22	1.000
1,2,3,4,6,7,8-HPCDF	NDR	0.155	0.0517	1.46	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.0517		
OCDF	NDR	0.058	0.0517	1.43	1.002
TOTAL TETRA-DIOXINS		8.81	0.0518		
TOTAL PENTA-DIOXINS		1.54	0.0517		
TOTAL HEXA-DIOXINS		0.749	0.0517		
TOTAL HEPTA-DIOXINS		1.19	0.0517		
TOTAL TETRA-FURANS		23.0	0.0517		
TOTAL PENTA-FURANS		7.35	0.0517		
TOTAL HEXA-FURANS		0.753	0.0517		
TOTAL HEPTA-FURANS	ND		0.0517		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9586-26_Form1A_SJ640230.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN224
Sample Collection:
11-Dec-2006 17:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-26
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.67 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	18-Feb-2007 **Time:** 04:14:02	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_069 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_069 S: 1
		% Lipid:	47.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1120	56.0	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1060	52.8	0.62	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1390	69.5	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1350	67.4	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1140	57.1	1.04	1.095
13C-OCDD		4000	2090	52.3	0.89	1.179
13C-2,3,7,8-TCDF		2000	1230	61.3	0.78	0.966
13C-1,2,3,7,8-PECDF		2000	1160	58.0	1.57	1.283
13C-2,3,4,7,8-PECDF		2000	1120	55.9	1.57	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1510	75.3	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1540	77.2	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1360	67.8	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1410	70.6	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1340	67.0	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1250	62.6	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	116	57.9		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9586-26_Form2_SJ640230.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN224
Sample Collection:
11-Dec-2006 17:00

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-26
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.67 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 16:11:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_023A S: 14**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_023A S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DB73_023A S: 2
		% Lipid:	47.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		4.07	0.179	0.74	1.000

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9586-26_Form1A_SJ640252.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN224

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 17:00
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	9.67 g (wet)	**Lab Sample I.D.:**	L9586-26
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filenames:**	**DB73_023A S: 14** **DX72_069 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.61	0.0518	1	6.61e+00	6.61e+00	
1,2,3,7,8-PECDD		0.727	0.0517	1	7.27e-01	7.27e-01	
1,2,3,4,7,8-HXCDD		0.186	0.0517	0.1	1.86e-02	1.86e-02	
1,2,3,6,7,8-HXCDD	ND		0.0517	0.1	0.00e+00	2.59e-03	
1,2,3,7,8,9-HXCDD		0.177	0.0517	0.1	1.77e-02	1.77e-02	
1,2,3,4,6,7,8-HPCDD		0.884	0.0517	0.01	8.84e-03	8.84e-03	
OCDD		4.08	0.0517	0.0001	4.08e-04	4.08e-04	
2,3,7,8-TCDF		4.07	0.179	0.1	4.07e-01	4.07e-01	
1,2,3,7,8-PECDF		0.602	0.0517	0.05	3.01e-02	3.01e-02	
2,3,4,7,8-PECDF		1.21	0.0517	0.5	6.05e-01	6.05e-01	
1,2,3,4,7,8-HXCDF		0.176	0.0517	0.1	1.76e-02	1.76e-02	
1,2,3,6,7,8-HXCDF	ND		0.0517	0.1	0.00e+00	2.59e-03	
1,2,3,7,8,9-HXCDF	ND		0.0517	0.1	0.00e+00	2.59e-03	
2,3,4,6,7,8-HXCDF		0.207	0.0517	0.1	2.07e-02	2.07e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.0517	0.01	0.00e+00	2.59e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0517	0.01	0.00e+00	2.59e-04	
OCDF	ND		0.0517	0.0001	0.00e+00	2.59e-06	
			TOTAL TEQ		8.46	8.47	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.61	0.0518	1	6.61e+00	6.61e+00	
1,2,3,7,8-PECDD		0.727	0.0517	1	7.27e-01	7.27e-01	
1,2,3,4,7,8-HXCDD		0.186	0.0517	0.1	1.86e-02	1.86e-02	
1,2,3,6,7,8-HXCDD	ND		0.0517	0.1	0.00e+00	2.59e-03	
1,2,3,7,8,9-HXCDD		0.177	0.0517	0.1	1.77e-02	1.77e-02	
1,2,3,4,6,7,8-HPCDD		0.884	0.0517	0.01	8.84e-03	8.84e-03	
OCDD		4.08	0.0517	0.0003	1.22e-03	1.22e-03	
2,3,7,8-TCDF		4.07	0.179	0.1	4.07e-01	4.07e-01	
1,2,3,7,8-PECDF		0.602	0.0517	0.03	1.81e-02	1.81e-02	
2,3,4,7,8-PECDF		1.21	0.0517	0.3	3.63e-01	3.63e-01	
1,2,3,4,7,8-HXCDF		0.176	0.0517	0.1	1.76e-02	1.76e-02	
1,2,3,6,7,8-HXCDF	ND		0.0517	0.1	0.00e+00	2.59e-03	
1,2,3,7,8,9-HXCDF	ND		0.0517	0.1	0.00e+00	2.59e-03	
2,3,4,6,7,8-HXCDF		0.207	0.0517	0.1	2.07e-02	2.07e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.0517	0.01	0.00e+00	2.59e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0517	0.01	0.00e+00	2.59e-04	
OCDF	ND		0.0517	0.0003	0.00e+00	7.76e-06	
			TOTAL TEQ		8.21	8.22	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Mar-2007 11:27:27; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9586-26_TEQ_SJ640252.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN230
Sample Collection:
11-Dec-2006 17:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-30
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	18-Feb-2007 **Time:** 05:08:35	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_069 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_069 S: 1
		% Lipid:	0.37

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.163	0.0500	0.66	1.001
1,2,3,7,8-PECDD [3]	ND		0.0500		
1,2,3,4,7,8-HXCDD	ND		0.0500		
1,2,3,6,7,8-HXCDD	ND		0.0500		
1,2,3,7,8,9-HXCDD	ND		0.0500		
1,2,3,4,6,7,8-HPCDD	ND		0.0500		
OCDD	NDR	0.067	0.0500	1.27	1.000
2,3,7,8-TCDF		0.056	0.0500	0.75	1.001
1,2,3,7,8-PECDF	ND		0.0500		
2,3,4,7,8-PECDF	ND		0.0500		
1,2,3,4,7,8-HXCDF	ND		0.0500		
1,2,3,6,7,8-HXCDF	ND		0.0500		
1,2,3,7,8,9-HXCDF	ND		0.0500		
2,3,4,6,7,8-HXCDF	ND		0.0500		
1,2,3,4,6,7,8-HPCDF	ND		0.0500		
1,2,3,4,7,8,9-HPCDF	ND		0.0500		
OCDF	ND		0.0500		
TOTAL TETRA-DIOXINS		0.163	0.0500		
TOTAL PENTA-DIOXINS	ND		0.0500		
TOTAL HEXA-DIOXINS	ND		0.0500		
TOTAL HEPTA-DIOXINS	ND		0.0500		
TOTAL TETRA-FURANS		0.056	0.0500		
TOTAL PENTA-FURANS	ND		0.0500		
TOTAL HEXA-FURANS	ND		0.0500		
TOTAL HEPTA-FURANS	ND		0.0500		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN230
Sample Collection:
11-Dec-2006 17:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-30
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	18-Feb-2007 **Time:** 05:08:35	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_069 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_069 S: 1
		% Lipid:	0.37

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1580	78.8	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1440	72.1	0.62	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1840	92.2	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1840	91.8	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1450	72.4	1.05	1.095
13C-OCDD		4000	2450	61.3	0.90	1.179
13C-2,3,7,8-TCDF		2000	1700	85.0	0.80	0.966
13C-1,2,3,7,8-PECDF		2000	1600	80.2	1.57	1.283
13C-2,3,4,7,8-PECDF		2000	1550	77.4	1.60	1.351
13C-1,2,3,4,7,8-HXCDF		2000	2050	103	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2070	103	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1820	90.8	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1940	96.9	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1730	86.4	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1640	82.2	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	162	81.2		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN230
Sample Collection:
11-Dec-2006 17:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-30
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 16:46:41	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_023A S: 15**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_023A S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DB73_023A S: 2
		% Lipid:	0.37

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.110		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:25:46; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB225_L9586-30_Form1A_SJ640253.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN230

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 17:40
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	10.0 g (wet)	**Lab Sample I.D.:**	L9586-30
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filenames:**	**DB73_023A S: 15** **DX72_069 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.163	0.0500	1	1.63e-01	1.63e-01	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDD	ND		0.0500	0.0001	0.00e+00	2.50e-06	
2,3,7,8-TCDF	ND		0.110	0.1	0.00e+00	5.50e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF	ND		0.0500	0.5	0.00e+00	1.25e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0500	0.0001	0.00e+00	2.50e-06	
			TOTAL TEQ		0.163	0.226	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.163	0.0500	1	1.63e-01	1.63e-01	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDD	ND		0.0500	0.0003	0.00e+00	7.50e-06	
2,3,7,8-TCDF	ND		0.110	0.1	0.00e+00	5.50e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,4,7,8-PECDF	ND		0.0500	0.3	0.00e+00	7.50e-03	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0500	0.0003	0.00e+00	7.50e-06	
			TOTAL TEQ		0.163	0.220	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN232
Sample Collection:
11-Dec-2006 17:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-31
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.40 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	19-Feb-2007 **Time:** 16:50:21	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_070B S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_070B S: 1
		% Lipid:	44.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		68.4	0.114	0.77	1.001
1,2,3,7,8-PECDD [3]		1.31	0.114	0.63	1.001
1,2,3,4,7,8-HXCDD		0.210	0.114	1.06	1.000
1,2,3,6,7,8-HXCDD	NDR	0.424	0.114	1.02	1.000
1,2,3,7,8,9-HXCDD		0.193	0.114	1.30	1.010
1,2,3,4,6,7,8-HPCDD		0.855	0.114	1.19	1.000
OCDD		3.36	0.114	0.86	1.000
2,3,7,8-TCDF		27.1	0.114	0.75	1.001
1,2,3,7,8-PECDF		0.921	0.114	1.65	1.000
2,3,4,7,8-PECDF	NDR	1.36	0.114	1.25	1.000
1,2,3,4,7,8-HXCDF	ND		0.114		
1,2,3,6,7,8-HXCDF	NDR	0.192	0.114	1.00	1.000
1,2,3,7,8,9-HXCDF	ND		0.114		
2,3,4,6,7,8-HXCDF	ND		0.114		
1,2,3,4,6,7,8-HPCDF	ND		0.114		
1,2,3,4,7,8,9-HPCDF	ND		0.114		
OCDF		0.200	0.114	0.79	1.001
TOTAL TETRA-DIOXINS		69.7	0.114		
TOTAL PENTA-DIOXINS		1.69	0.114		
TOTAL HEXA-DIOXINS		0.631	0.114		
TOTAL HEPTA-DIOXINS		0.855	0.114		
TOTAL TETRA-FURANS		34.6	0.114		
TOTAL PENTA-FURANS		3.32	0.114		
TOTAL HEXA-FURANS	ND		0.114		
TOTAL HEPTA-FURANS	ND		0.114		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9586-31_Form1A_SJ640236.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN232
Sample Collection:
11-Dec-2006 17:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-31
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.40 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	19-Feb-2007 **Time:** 16:50:21	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_070B S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_070B S: 1
		% Lipid:	44.4

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1580	79.2	0.77	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1350	67.4	0.62	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1940	97.2	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	2020	101	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1510	75.4	1.05	1.095
13C-OCDD		4000	2500	62.6	0.89	1.179
13C-2,3,7,8-TCDF		2000	1740	86.9	0.77	0.966
13C-1,2,3,7,8-PECDF		2000	1480	74.0	1.56	1.283
13C-2,3,4,7,8-PECDF		2000	1430	71.7	1.56	1.350
13C-1,2,3,4,7,8-HXCDF		2000	2150	107	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2190	110	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1880	94.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	2030	101	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1750	87.4	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1610	80.5	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	160	79.8		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_L9586-31_Form2_SJ640236.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN232
Sample Collection:
11-Dec-2006 17:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-31
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.40 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 17:22:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_023A S: 16**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_023A S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DB73_023A S: 2
		% Lipid:	44.4

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		27.3	0.197	0.74	1.000

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9586-31_Form1A_SJ640254.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN232

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 17:55
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	4.40 g (wet)	**Lab Sample I.D.:**	L9586-31
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filenames:**	**DB73_023A S: 16** **DX72_070B S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		68.4	0.114	1	6.84e+01	6.84e+01	
1,2,3,7,8-PECDD		1.31	0.114	1	1.31e+00	1.31e+00	
1,2,3,4,7,8-HXCDD		0.210	0.114	0.1	2.10e-02	2.10e-02	
1,2,3,6,7,8-HXCDD	ND		0.114	0.1	0.00e+00	5.70e-03	
1,2,3,7,8,9-HXCDD		0.193	0.114	0.1	1.93e-02	1.93e-02	
1,2,3,4,6,7,8-HPCDD		0.855	0.114	0.01	8.55e-03	8.55e-03	
OCDD		3.36	0.114	0.0001	3.36e-04	3.36e-04	
2,3,7,8-TCDF		27.3	0.197	0.1	2.73e+00	2.73e+00	
1,2,3,7,8-PECDF		0.921	0.114	0.05	4.61e-02	4.61e-02	
2,3,4,7,8-PECDF	ND		0.114	0.5	0.00e+00	2.85e-02	
1,2,3,4,7,8-HXCDF	ND		0.114	0.1	0.00e+00	5.70e-03	
1,2,3,6,7,8-HXCDF	ND		0.114	0.1	0.00e+00	5.70e-03	
1,2,3,7,8,9-HXCDF	ND		0.114	0.1	0.00e+00	5.70e-03	
2,3,4,6,7,8-HXCDF	ND		0.114	0.1	0.00e+00	5.70e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.114	0.01	0.00e+00	5.70e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.114	0.01	0.00e+00	5.70e-04	
OCDF		0.200	0.114	0.0001	2.00e-05	2.00e-05	
			TOTAL TEQ		72.5	72.6	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		68.4	0.114	1	6.84e+01	6.84e+01	
1,2,3,7,8-PECDD		1.31	0.114	1	1.31e+00	1.31e+00	
1,2,3,4,7,8-HXCDD		0.210	0.114	0.1	2.10e-02	2.10e-02	
1,2,3,6,7,8-HXCDD	ND		0.114	0.1	0.00e+00	5.70e-03	
1,2,3,7,8,9-HXCDD		0.193	0.114	0.1	1.93e-02	1.93e-02	
1,2,3,4,6,7,8-HPCDD		0.855	0.114	0.01	8.55e-03	8.55e-03	
OCDD		3.36	0.114	0.0003	1.01e-03	1.01e-03	
2,3,7,8-TCDF		27.3	0.197	0.1	2.73e+00	2.73e+00	
1,2,3,7,8-PECDF		0.921	0.114	0.03	2.76e-02	2.76e-02	
2,3,4,7,8-PECDF	ND		0.114	0.3	0.00e+00	1.71e-02	
1,2,3,4,7,8-HXCDF	ND		0.114	0.1	0.00e+00	5.70e-03	
1,2,3,6,7,8-HXCDF	ND		0.114	0.1	0.00e+00	5.70e-03	
1,2,3,7,8,9-HXCDF	ND		0.114	0.1	0.00e+00	5.70e-03	
2,3,4,6,7,8-HXCDF	ND		0.114	0.1	0.00e+00	5.70e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.114	0.01	0.00e+00	5.70e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.114	0.01	0.00e+00	5.70e-04	
OCDF		0.200	0.114	0.0003	6.00e-05	6.00e-05	
			TOTAL TEQ		72.5	72.6	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Mar-2007 11:27:27; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9586-31_TEQ_SJ640254.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN233
Sample Collection:
11-Dec-2006 17:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9586-32 (A)
Matrix:	TISSUE	**Sample Size:**	9.99 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	18-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Feb-2007 **Time:** 17:44:54	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_070B S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_068 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_070B S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	0.72

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.898	0.0501	0.77	1.001
1,2,3,7,8-PECDD [3]	ND		0.0501		
1,2,3,4,7,8-HXCDD	ND		0.0501		
1,2,3,6,7,8-HXCDD	ND		0.0501		
1,2,3,7,8,9-HXCDD	ND		0.0501		
1,2,3,4,6,7,8-HPCDD		0.072	0.0501	0.96	1.000
OCDD		0.167	0.0501	0.86	1.000
2,3,7,8-TCDF		0.349	0.0501	0.78	1.001
1,2,3,7,8-PECDF	ND		0.0501		
2,3,4,7,8-PECDF		0.067	0.0501	1.46	1.000
1,2,3,4,7,8-HXCDF	ND		0.0501		
1,2,3,6,7,8-HXCDF	ND		0.0501		
1,2,3,7,8,9-HXCDF	ND		0.0501		
2,3,4,6,7,8-HXCDF	ND		0.0501		
1,2,3,4,6,7,8-HPCDF	ND		0.0501		
1,2,3,4,7,8,9-HPCDF	ND		0.0501		
OCDF	ND		0.0501		
TOTAL TETRA-DIOXINS		0.898	0.0501		
TOTAL PENTA-DIOXINS	ND		0.0501		
TOTAL HEXA-DIOXINS	ND		0.0501		
TOTAL HEPTA-DIOXINS		0.072	0.0501		
TOTAL TETRA-FURANS		0.349	0.0501		
TOTAL PENTA-FURANS		0.067	0.0501		
TOTAL HEXA-FURANS	ND		0.0501		
TOTAL HEPTA-FURANS	ND		0.0501		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9586-32_Form1A_SJ640237.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN233
Sample Collection:
11-Dec-2006 17:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9586-32 (A)
Matrix:	TISSUE	**Sample Size:**	9.99 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	18-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Feb-2007 **Time:** 17:44:54	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_070B S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_068 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_070B S: 1
Concentration Units:	pg absolute	**% Lipid:**	0.72

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1500	74.9	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1410	70.5	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1860	93.1	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1980	98.9	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1470	73.6	1.07	1.095
13C-OCDD		4000	2500	62.4	0.89	1.179
13C-2,3,7,8-TCDF		2000	1620	80.9	0.78	0.966
13C-1,2,3,7,8-PECDF		2000	1430	71.3	1.55	1.283
13C-2,3,4,7,8-PECDF		2000	1370	68.4	1.55	1.351
13C-1,2,3,4,7,8-HXCDF		2000	2030	101	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2080	104	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1810	90.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1930	96.7	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1700	85.1	0.45	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1550	77.4	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	150	75.2		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9586-32_Form2_SJ640237.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN233
Sample Collection:
11-Dec-2006 17:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-32 (A)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.99 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 17:57:56	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_023A S: 17**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_023A S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DB73_023A S: 2
		% Lipid:	0.72

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	NDR	0.285	0.0764	0.92	1.002

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:25:46; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB225_L9586-32_Form1A_SJ640255.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN233

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 17:55
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	9.99 g (wet)	**Lab Sample I.D.:**	L9586-32 (A)
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filenames:**	**DB73_023A S: 17** **DX72_070B S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.898	0.0501	1	8.98e-01	8.98e-01	
1,2,3,7,8-PECDD	ND		0.0501	1	0.00e+00	2.51e-02	
1,2,3,4,7,8-HXCDD	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDD	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDD	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDD		0.072	0.0501	0.01	7.20e-04	7.20e-04	
OCDD		0.167	0.0501	0.0001	1.67e-05	1.67e-05	
2,3,7,8-TCDF	ND		0.0764	0.1	0.00e+00	3.82e-03	
1,2,3,7,8-PECDF	ND		0.0501	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF		0.067	0.0501	0.5	3.35e-02	3.35e-02	
1,2,3,4,7,8-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
2,3,4,6,7,8-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0501	0.01	0.00e+00	2.51e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0501	0.01	0.00e+00	2.51e-04	
OCDF	ND		0.0501	0.0001	0.00e+00	2.51e-06	
			TOTAL TEQ		0.932	0.980	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.898	0.0501	1	8.98e-01	8.98e-01	
1,2,3,7,8-PECDD	ND		0.0501	1	0.00e+00	2.51e-02	
1,2,3,4,7,8-HXCDD	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDD	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDD	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDD		0.072	0.0501	0.01	7.20e-04	7.20e-04	
OCDD		0.167	0.0501	0.0003	5.01e-05	5.01e-05	
2,3,7,8-TCDF	ND		0.0764	0.1	0.00e+00	3.82e-03	
1,2,3,7,8-PECDF	ND		0.0501	0.03	0.00e+00	7.52e-04	
2,3,4,7,8-PECDF		0.067	0.0501	0.3	2.01e-02	2.01e-02	
1,2,3,4,7,8-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
2,3,4,6,7,8-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0501	0.01	0.00e+00	2.51e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0501	0.01	0.00e+00	2.51e-04	
OCDF	ND		0.0501	0.0003	0.00e+00	7.52e-06	
			TOTAL TEQ		0.919	0.967	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN233 (Duplicate)
Sample Collection:
11-Dec-2006 17:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	WG21088-103 (DUP L9586-32)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.97 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	19-Feb-2007 **Time:** 18:39:27	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_070B S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_070B S: 1
		% Lipid:	0.68

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.929	0.0502	0.70	1.001
1,2,3,7,8-PECDD [3]	ND		0.0502		
1,2,3,4,7,8-HXCDD	ND		0.0502		
1,2,3,6,7,8-HXCDD	ND		0.0502		
1,2,3,7,8,9-HXCDD	ND		0.0502		
1,2,3,4,6,7,8-HPCDD		0.080	0.0502	0.92	1.000
OCDD		0.200	0.0502	1.01	1.000
2,3,7,8-TCDF		0.336	0.0502	0.73	1.001
1,2,3,7,8-PECDF	ND		0.0502		
2,3,4,7,8-PECDF	NDR	0.065	0.0502	1.98	1.000
1,2,3,4,7,8-HXCDF	ND		0.0502		
1,2,3,6,7,8-HXCDF	ND		0.0502		
1,2,3,7,8,9-HXCDF	ND		0.0502		
2,3,4,6,7,8-HXCDF	ND		0.0502		
1,2,3,4,6,7,8-HPCDF	ND		0.0502		
1,2,3,4,7,8,9-HPCDF	ND		0.0502		
OCDF	ND		0.0502		
TOTAL TETRA-DIOXINS		0.929	0.0502		
TOTAL PENTA-DIOXINS	ND		0.0502		
TOTAL HEXA-DIOXINS	ND		0.0502		
TOTAL HEPTA-DIOXINS		0.080	0.0502		
TOTAL TETRA-FURANS		0.336	0.0502		
TOTAL PENTA-FURANS	ND		0.0502		
TOTAL HEXA-FURANS	ND		0.0502		
TOTAL HEPTA-FURANS	ND		0.0502		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_WG21088-103_Form1A_SJ640238.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN233 (Duplicate)
Sample Collection:
11-Dec-2006 17:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21088-103 (DUP L9586-32)
Matrix:	TISSUE	**Sample Size:**	9.97 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	18-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Feb-2007 **Time:** 18:39:27	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_070B S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_068 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_070B S: 1
Concentration Units:	pg absolute	**% Lipid:**	0.68

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1410	70.4	0.76	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1150	57.7	0.62	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1630	81.7	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1720	86.0	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1360	68.2	1.06	1.095
13C-OCDD		4000	2420	60.5	0.89	1.179
13C-2,3,7,8-TCDF		2000	1590	79.5	0.78	0.966
13C-1,2,3,7,8-PECDF		2000	1310	65.7	1.55	1.283
13C-2,3,4,7,8-PECDF		2000	1240	61.9	1.54	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1820	90.8	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1880	94.1	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1610	80.7	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1740	87.1	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1590	79.5	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1440	71.9	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	152	75.8		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_WG21088-103_Form2_SJ640238.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN233 (Duplicate)
Sample Collection:
11-Dec-2006 17:55

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	WG21088-103 (DUP L9586-32)
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.97 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 18:33:33	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_023A S: 18**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_023A S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DB73_023A S: 2
		% Lipid:	0.68

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.346	0.102	0.67	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:25:46; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB225_WG21088-103_Form1A_SJ640256.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN233 (Duplicate)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 17:55
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	9.97 g (wet)	**Lab Sample I.D.:**	WG21088-103 (DUP L9586-32)
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_023A S: 18** **DX72_070B S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.929	0.0502	1	9.29e-01	9.29e-01	
1,2,3,7,8-PECDD	ND		0.0502	1	0.00e+00	2.51e-02	
1,2,3,4,7,8-HXCDD	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDD	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDD	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDD		0.080	0.0502	0.01	8.00e-04	8.00e-04	
OCDD		0.200	0.0502	0.0001	2.00e-05	2.00e-05	
2,3,7,8-TCDF		0.346	0.102	0.1	3.46e-02	3.46e-02	
1,2,3,7,8-PECDF	ND		0.0502	0.05	0.00e+00	1.26e-03	
2,3,4,7,8-PECDF	ND		0.0502	0.5	0.00e+00	1.26e-02	
1,2,3,4,7,8-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
2,3,4,6,7,8-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0502	0.01	0.00e+00	2.51e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0502	0.01	0.00e+00	2.51e-04	
OCDF	ND		0.0502	0.0001	0.00e+00	2.51e-06	
			TOTAL TEQ		0.964	1.02	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.929	0.0502	1	9.29e-01	9.29e-01	
1,2,3,7,8-PECDD	ND		0.0502	1	0.00e+00	2.51e-02	
1,2,3,4,7,8-HXCDD	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDD	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDD	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDD		0.080	0.0502	0.01	8.00e-04	8.00e-04	
OCDD		0.200	0.0502	0.0003	6.00e-05	6.00e-05	
2,3,7,8-TCDF		0.346	0.102	0.1	3.46e-02	3.46e-02	
1,2,3,7,8-PECDF	ND		0.0502	0.03	0.00e+00	7.53e-04	
2,3,4,7,8-PECDF	ND		0.0502	0.3	0.00e+00	7.53e-03	
1,2,3,4,7,8-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
2,3,4,6,7,8-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0502	0.01	0.00e+00	2.51e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0502	0.01	0.00e+00	2.51e-04	
OCDF	ND		0.0502	0.0003	0.00e+00	7.53e-06	
			TOTAL TEQ		0.964	1.02	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Mar-2007 11:27:27; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21088-103_TEQ_SJ640256.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN094
Sample Collection:
14-Dec-2006 10:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-1
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	17-Feb-2007 **Time:** 11:45:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_068 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_068 S: 1
		% Lipid:	0.27

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	NDR	0.280	0.0500	0.64	1.001
1,2,3,7,8-PECDD [3]		0.083	0.0500	0.67	1.001
1,2,3,4,7,8-HXCDD	NDR	0.112	0.0500	2.27	1.000
1,2,3,6,7,8-HXCDD		0.302	0.0500	1.28	1.000
1,2,3,7,8,9-HXCDD		0.253	0.0500	1.22	1.010
1,2,3,4,6,7,8-HPCDD		7.89	0.0534	1.09	1.000
OCDD		116	0.0500	0.89	1.000
2,3,7,8-TCDF		0.080	0.0500	0.86	1.001
1,2,3,7,8-PECDF	ND		0.0500		
2,3,4,7,8-PECDF		0.075	0.0500	1.39	1.001
1,2,3,4,7,8-HXCDF		0.095	0.0500	1.12	1.000
1,2,3,6,7,8-HXCDF	NDR	0.054	0.0500	1.48	1.001
1,2,3,7,8,9-HXCDF	ND		0.0500		
2,3,4,6,7,8-HXCDF	NDR	0.061	0.0500	1.44	1.000
1,2,3,4,6,7,8-HPCDF		0.581	0.0500	0.96	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.0500		
OCDF		1.48	0.0500	0.87	1.002
TOTAL TETRA-DIOXINS		0.057	0.0500		
TOTAL PENTA-DIOXINS		0.343	0.0500		
TOTAL HEXA-DIOXINS		2.41	0.0500		
TOTAL HEPTA-DIOXINS		18.2	0.0534		
TOTAL TETRA-FURANS		0.080	0.0500		
TOTAL PENTA-FURANS		0.379	0.0500		
TOTAL HEXA-FURANS		0.778	0.0500		
TOTAL HEPTA-FURANS		1.36	0.0500		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9586-1_Form1A_SJ638725.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN094
Sample Collection:
14-Dec-2006 10:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9586-1
Matrix:	TISSUE	**Sample Size:**	10.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	18-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Feb-2007 **Time:** 11:45:31	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_068 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_068 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_068 S: 1
Concentration Units:	pg absolute	**% Lipid:**	0.27

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1380	68.9	0.79	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1420	70.8	0.63	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1720	86.1	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1760	88.2	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1450	72.3	1.02	1.094
13C-OCDD		4000	2410	60.2	0.88	1.178
13C-2,3,7,8-TCDF		2000	1550	77.5	0.81	0.966
13C-1,2,3,7,8-PECDF		2000	1520	76.2	1.57	1.282
13C-2,3,4,7,8-PECDF		2000	1480	74.1	1.56	1.349
13C-1,2,3,4,7,8-HXCDF		2000	2000	100	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2040	102	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1820	91.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1920	95.9	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1680	84.2	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1560	78.0	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	151	75.5		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN094
Sample Collection:
14-Dec-2006 10:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-1
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.0 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 11:26:09	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_023A S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_023A S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DB73_023A S: 2
		% Lipid:	0.27

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.113		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN094

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	14-Dec-2006 10:30
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	10.0 g (wet)	**Lab Sample I.D.:**	L9586-1
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_023A S: 6** **DX72_068 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD		0.083	0.0500	1	8.30e-02	8.30e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD		0.302	0.0500	0.1	3.02e-02	3.02e-02	
1,2,3,7,8,9-HXCDD		0.253	0.0500	0.1	2.53e-02	2.53e-02	
1,2,3,4,6,7,8-HPCDD		7.89	0.0534	0.01	7.89e-02	7.89e-02	
OCDD		116	0.0500	0.0001	1.16e-02	1.16e-02	
2,3,7,8-TCDF	ND		0.113	0.1	0.00e+00	5.65e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF		0.075	0.0500	0.5	3.75e-02	3.75e-02	
1,2,3,4,7,8-HXCDF		0.095	0.0500	0.1	9.50e-03	9.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF		0.581	0.0500	0.01	5.81e-03	5.81e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF		1.48	0.0500	0.0001	1.48e-04	1.48e-04	
			TOTAL TEQ		0.282	0.324	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD		0.083	0.0500	1	8.30e-02	8.30e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD		0.302	0.0500	0.1	3.02e-02	3.02e-02	
1,2,3,7,8,9-HXCDD		0.253	0.0500	0.1	2.53e-02	2.53e-02	
1,2,3,4,6,7,8-HPCDD		7.89	0.0534	0.01	7.89e-02	7.89e-02	
OCDD		116	0.0500	0.0003	3.48e-02	3.48e-02	
2,3,7,8-TCDF	ND		0.113	0.1	0.00e+00	5.65e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,4,7,8-PECDF		0.075	0.0500	0.3	2.25e-02	2.25e-02	
1,2,3,4,7,8-HXCDF		0.095	0.0500	0.1	9.50e-03	9.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF		0.581	0.0500	0.01	5.81e-03	5.81e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF		1.48	0.0500	0.0003	4.44e-04	4.44e-04	
			TOTAL TEQ		0.290	0.332	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Mar-2007 11:27:27; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9586-1_TEQ_SJ640244.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN098
Sample Collection:
14-Dec-2006 10:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-5
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.1 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	17-Feb-2007 **Time:** 12:40:05	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_068 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_068 S: 1
		% Lipid:	0.098

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		6.91	0.0498	0.74	1.001
1,2,3,7,8-PECDD [3]		0.137	0.0498	0.54	1.001
1,2,3,4,7,8-HXCDD		0.099	0.0498	1.29	1.000
1,2,3,6,7,8-HXCDD		0.354	0.0498	1.36	1.000
1,2,3,7,8,9-HXCDD		0.234	0.0498	1.08	1.010
1,2,3,4,6,7,8-HPCDD		6.63	0.0498	1.04	1.000
OCDD		70.2	0.0922	0.89	1.000
2,3,7,8-TCDF		1.41	0.0498	0.83	1.001
1,2,3,7,8-PECDF	NDR	0.054	0.0498	0.73	1.001
2,3,4,7,8-PECDF	NDR	0.101	0.0498	1.04	1.001
1,2,3,4,7,8-HXCDF		0.105	0.0498	1.37	1.000
1,2,3,6,7,8-HXCDF		0.102	0.0498	1.14	1.000
1,2,3,7,8,9-HXCDF	ND		0.0498		
2,3,4,6,7,8-HXCDF	NDR	0.088	0.0498	0.80	1.001
1,2,3,4,6,7,8-HPCDF		0.831	0.0498	0.90	1.000
1,2,3,4,7,8,9-HPCDF		0.087	0.0498	1.18	1.000
OCDF		1.70	0.0498	0.88	1.002
TOTAL TETRA-DIOXINS		7.84	0.0498		
TOTAL PENTA-DIOXINS		0.454	0.0498		
TOTAL HEXA-DIOXINS		2.88	0.0498		
TOTAL HEPTA-DIOXINS		13.5	0.0498		
TOTAL TETRA-FURANS		3.28	0.0498		
TOTAL PENTA-FURANS		1.90	0.0498		
TOTAL HEXA-FURANS		1.54	0.0498		
TOTAL HEPTA-FURANS		2.18	0.0498		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9586-5_Form1A_SJ638726.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN098
Sample Collection:
14-Dec-2006 10:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
		Lab Sample I.D.:	L9586-5
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	18-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Feb-2007 **Time:** 12:40:05	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_068 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_068 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_068 S: 1
Concentration Units:	pg absolute	**% Lipid:**	0.098

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1500	75.0	0.78	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1460	73.2	0.63	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1760	87.9	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1730	86.6	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1490	74.3	1.01	1.094
13C-OCDD		4000	2320	57.9	0.91	1.178
13C-2,3,7,8-TCDF		2000	1700	84.9	0.79	0.966
13C-1,2,3,7,8-PECDF		2000	1570	78.5	1.58	1.282
13C-2,3,4,7,8-PECDF		2000	1530	76.6	1.58	1.348
13C-1,2,3,4,7,8-HXCDF		2000	2030	101	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2000	100	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1860	93.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1910	95.5	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1720	85.9	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1650	82.6	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	167	83.6		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9586-5_Form2_SJ638726.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN098
Sample Collection:
14-Dec-2006 10:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	TISSUE	**Lab Sample I.D.:**	L9586-5
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.1 g (wet)
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 12:01:48	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_023A S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_023A S: 5
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DB73_023A S: 2
		% Lipid:	0.098

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	NDR	1.21	0.150	0.54	1.002

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9586-5_Form1A_SJ640245.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN098

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	14-Dec-2006 10:30
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	10.1 g (wet)	**Lab Sample I.D.:**	L9586-5
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filenames:**	**DB73_023A S: 7** **DX72_068 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.91	0.0498	1	6.91e+00	6.91e+00	
1,2,3,7,8-PECDD		0.137	0.0498	1	1.37e-01	1.37e-01	
1,2,3,4,7,8-HXCDD		0.099	0.0498	0.1	9.90e-03	9.90e-03	
1,2,3,6,7,8-HXCDD		0.354	0.0498	0.1	3.54e-02	3.54e-02	
1,2,3,7,8,9-HXCDD		0.234	0.0498	0.1	2.34e-02	2.34e-02	
1,2,3,4,6,7,8-HPCDD		6.63	0.0498	0.01	6.63e-02	6.63e-02	
OCDD		70.2	0.0922	0.0001	7.02e-03	7.02e-03	
2,3,7,8-TCDF	ND		0.150	0.1	0.00e+00	7.50e-03	
1,2,3,7,8-PECDF	ND		0.0498	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF	ND		0.0498	0.5	0.00e+00	1.25e-02	
1,2,3,4,7,8-HXCDF		0.105	0.0498	0.1	1.05e-02	1.05e-02	
1,2,3,6,7,8-HXCDF		0.102	0.0498	0.1	1.02e-02	1.02e-02	
1,2,3,7,8,9-HXCDF	ND		0.0498	0.1	0.00e+00	2.49e-03	
2,3,4,6,7,8-HXCDF	ND		0.0498	0.1	0.00e+00	2.49e-03	
1,2,3,4,6,7,8-HPCDF		0.831	0.0498	0.01	8.31e-03	8.31e-03	
1,2,3,4,7,8,9-HPCDF		0.087	0.0498	0.01	8.70e-04	8.70e-04	
OCDF		1.70	0.0498	0.0001	1.70e-04	1.70e-04	
			TOTAL TEQ		7.22	7.25	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.91	0.0498	1	6.91e+00	6.91e+00	
1,2,3,7,8-PECDD		0.137	0.0498	1	1.37e-01	1.37e-01	
1,2,3,4,7,8-HXCDD		0.099	0.0498	0.1	9.90e-03	9.90e-03	
1,2,3,6,7,8-HXCDD		0.354	0.0498	0.1	3.54e-02	3.54e-02	
1,2,3,7,8,9-HXCDD		0.234	0.0498	0.1	2.34e-02	2.34e-02	
1,2,3,4,6,7,8-HPCDD		6.63	0.0498	0.01	6.63e-02	6.63e-02	
OCDD		70.2	0.0922	0.0003	2.11e-02	2.11e-02	
2,3,7,8-TCDF	ND		0.150	0.1	0.00e+00	7.50e-03	
1,2,3,7,8-PECDF	ND		0.0498	0.03	0.00e+00	7.47e-04	
2,3,4,7,8-PECDF	ND		0.0498	0.3	0.00e+00	7.47e-03	
1,2,3,4,7,8-HXCDF		0.105	0.0498	0.1	1.05e-02	1.05e-02	
1,2,3,6,7,8-HXCDF		0.102	0.0498	0.1	1.02e-02	1.02e-02	
1,2,3,7,8,9-HXCDF	ND		0.0498	0.1	0.00e+00	2.49e-03	
2,3,4,6,7,8-HXCDF	ND		0.0498	0.1	0.00e+00	2.49e-03	
1,2,3,4,6,7,8-HPCDF		0.831	0.0498	0.01	8.31e-03	8.31e-03	
1,2,3,4,7,8,9-HPCDF		0.087	0.0498	0.01	8.70e-04	8.70e-04	
OCDF		1.70	0.0498	0.0003	5.10e-04	5.10e-04	
			TOTAL TEQ		7.23	7.25	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Mar-2007 11:27:27; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9586-5_TEQ_SJ640245.html; Workgroup: WG21088; Design ID: 559]

A2.3
Human Blood and Breast Milk

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN201M
Sample Collection:
08-Dec-2006

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9600-1
Matrix:	MILK	**Sample Size:**	29.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	04-Apr-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Apr-2007 **Time:** 15:44:43	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_152 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_152 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_152 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	3.24

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.219	0.0171	0.66	1.001
1,2,3,7,8-PECDD [3]		0.487	0.0171	0.55	1.001
1,2,3,4,7,8-HXCDD		0.277	0.0171	1.17	1.000
1,2,3,6,7,8-HXCDD		1.01	0.0171	1.25	1.000
1,2,3,7,8,9-HXCDD		0.209	0.0171	1.35	1.010
1,2,3,4,6,7,8-HPCDD		0.874	0.0171	1.15	1.000
OCDD		4.71	0.0171	0.91	1.000
2,3,7,8-TCDF		0.029	0.0171	0.68	1.001
1,2,3,7,8-PECDF	NDR	0.034	0.0171	2.85	1.001
2,3,4,7,8-PECDF		0.773	0.0171	1.49	1.000
1,2,3,4,7,8-HXCDF		1.64	0.0171	1.31	1.000
1,2,3,6,7,8-HXCDF		1.03	0.0171	1.25	1.000
1,2,3,7,8,9-HXCDF	NDR	0.035	0.0171	0.75	1.000
2,3,4,6,7,8-HXCDF	NDR	0.071	0.0171	1.58	1.000
1,2,3,4,6,7,8-HPCDF		0.666	0.0171	0.93	1.000
1,2,3,4,7,8,9-HPCDF		0.100	0.0171	1.09	1.000
OCDF	NDR	0.061	0.0171	0.69	1.002
TOTAL TETRA-DIOXINS		0.219	0.0171		
TOTAL PENTA-DIOXINS		0.487	0.0171		
TOTAL HEXA-DIOXINS		1.50	0.0171		
TOTAL HEPTA-DIOXINS		0.874	0.0171		
TOTAL TETRA-FURANS		0.029	0.0171		
TOTAL PENTA-FURANS		0.773	0.0171		
TOTAL HEXA-FURANS		2.67	0.0171		
TOTAL HEPTA-FURANS		0.767	0.0171		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN201M
Sample Collection:
08-Dec-2006

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	MILK	**Lab Sample I.D.:**	L9600-1
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	29.2 g (wet)
Extraction Date:	04-Apr-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	17-Apr-2007 **Time:** 00:39:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_071 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	N/A
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DB73_071 S: 2
		% Lipid:	3.24

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.0171		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L9600-1_Form1A_SJ663502.html; Workgroup: WG21241; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN201M
Sample Collection:
08-Dec-2006

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	MILK	**Lab Sample I.D.:**	L9600-1
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	29.2 g (wet)
Extraction Date:	04-Apr-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	13-Apr-2007 **Time:** 15:44:43	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_152 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_152 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_152 S: 1
		% Lipid:	3.24

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	647	32.4	0.82	1.012
13C-1,2,3,7,8-PECDD [4]		2000	754	37.7	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		2000	799	40.0	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	760	38.0	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	721	36.1	1.06	1.094
13C-OCDD		4000	854	21.3	0.93	1.178
13C-2,3,7,8-TCDF		2000	673	33.7	0.77	0.965
13C-1,2,3,7,8-PECDF		2000	716	35.8	1.57	1.283
13C-2,3,4,7,8-PECDF		2000	695	34.8	1.58	1.350
13C-1,2,3,4,7,8-HXCDF		2000	773	38.7	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	764	38.2	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	740	37.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	721	36.1	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	729	36.5	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	756	37.8	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	75.1	37.5		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN201M

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	08-Dec-2006
Matrix:	MILK	**Project No.**	DANDI 1283
Sample Size:	29.2 g (wet)	**Lab Sample I.D.:**	L9600-1
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filenames:**	**DB73_071 S: 9** **DX72_152 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.219	0.0171	1	2.19e-01	2.19e-01	
1,2,3,7,8-PECDD		0.487	0.0171	1	4.87e-01	4.87e-01	
1,2,3,4,7,8-HXCDD		0.277	0.0171	0.1	2.77e-02	2.77e-02	
1,2,3,6,7,8-HXCDD		1.01	0.0171	0.1	1.01e-01	1.01e-01	
1,2,3,7,8,9-HXCDD		0.209	0.0171	0.1	2.09e-02	2.09e-02	
1,2,3,4,6,7,8-HPCDD		0.874	0.0171	0.01	8.74e-03	8.74e-03	
OCDD		4.71	0.0171	0.0001	4.71e-04	4.71e-04	
2,3,7,8-TCDF	ND		0.0171	0.1	0.00e+00	8.55e-04	
1,2,3,7,8-PECDF	ND		0.0171	0.05	0.00e+00	4.28e-04	
2,3,4,7,8-PECDF		0.773	0.0171	0.5	3.87e-01	3.87e-01	
1,2,3,4,7,8-HXCDF		1.64	0.0171	0.1	1.64e-01	1.64e-01	
1,2,3,6,7,8-HXCDF		1.03	0.0171	0.1	1.03e-01	1.03e-01	
1,2,3,7,8,9-HXCDF	ND		0.0171	0.1	0.00e+00	8.55e-04	
2,3,4,6,7,8-HXCDF	ND		0.0171	0.1	0.00e+00	8.55e-04	
1,2,3,4,6,7,8-HPCDF		0.666	0.0171	0.01	6.66e-03	6.66e-03	
1,2,3,4,7,8,9-HPCDF		0.100	0.0171	0.01	1.00e-03	1.00e-03	
OCDF	ND		0.0171	0.0001	0.00e+00	8.55e-07	
			TOTAL TEQ		1.53	1.53	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.219	0.0171	1	2.19e-01	2.19e-01	
1,2,3,7,8-PECDD		0.487	0.0171	1	4.87e-01	4.87e-01	
1,2,3,4,7,8-HXCDD		0.277	0.0171	0.1	2.77e-02	2.77e-02	
1,2,3,6,7,8-HXCDD		1.01	0.0171	0.1	1.01e-01	1.01e-01	
1,2,3,7,8,9-HXCDD		0.209	0.0171	0.1	2.09e-02	2.09e-02	
1,2,3,4,6,7,8-HPCDD		0.874	0.0171	0.01	8.74e-03	8.74e-03	
OCDD		4.71	0.0171	0.0003	1.41e-03	1.41e-03	
2,3,7,8-TCDF	ND		0.0171	0.1	0.00e+00	8.55e-04	
1,2,3,7,8-PECDF	ND		0.0171	0.03	0.00e+00	2.57e-04	
2,3,4,7,8-PECDF		0.773	0.0171	0.3	2.32e-01	2.32e-01	
1,2,3,4,7,8-HXCDF		1.64	0.0171	0.1	1.64e-01	1.64e-01	
1,2,3,6,7,8-HXCDF		1.03	0.0171	0.1	1.03e-01	1.03e-01	
1,2,3,7,8,9-HXCDF	ND		0.0171	0.1	0.00e+00	8.55e-04	
2,3,4,6,7,8-HXCDF	ND		0.0171	0.1	0.00e+00	8.55e-04	
1,2,3,4,6,7,8-HPCDF		0.666	0.0171	0.01	6.66e-03	6.66e-03	
1,2,3,4,7,8,9-HPCDF		0.100	0.0171	0.01	1.00e-03	1.00e-03	
OCDF	ND		0.0171	0.0003	0.00e+00	2.57e-06	
			TOTAL TEQ		1.37	1.38	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Jason MacKenzie QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 25-Apr-2007 16:40:44; Application: XMLTransformer-1.7.39;
Report Filename: 1613_DIOXINS_1613-TEQ_L9600-1_TEQ_SJ663370.html; Workgroup: WG21241; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN201M
Sample Collection:
08-Dec-2006

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	MILK	**Lab Sample I.D.:**	L9600-1
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.945 g (lipid)
Extraction Date:	04-Apr-2007	**Initial Calibration Date:**	02-Apr-2007
Analysis Date:	13-Apr-2007 **Time:** 15:44:43	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_152 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_152 S: 5
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_152 S: 1
		% Lipid:	3.24

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		6.76	0.528	0.66	1.001
1,2,3,7,8-PECDD [3]		15.0	0.528	0.55	1.001
1,2,3,4,7,8-HXCDD		8.55	0.528	1.17	1.000
1,2,3,6,7,8-HXCDD		31.2	0.528	1.25	1.000
1,2,3,7,8,9-HXCDD		6.45	0.528	1.35	1.010
1,2,3,4,6,7,8-HPCDD		27.0	0.528	1.15	1.000
OCDD		145	0.528	0.91	1.000
2,3,7,8-TCDF		0.895	0.528	0.68	1.001
1,2,3,7,8-PECDF	NDR	1.05	0.528	2.85	1.001
2,3,4,7,8-PECDF		23.9	0.528	1.49	1.000
1,2,3,4,7,8-HXCDF		50.6	0.528	1.31	1.000
1,2,3,6,7,8-HXCDF		31.8	0.528	1.25	1.000
1,2,3,7,8,9-HXCDF	NDR	1.08	0.528	0.75	1.000
2,3,4,6,7,8-HXCDF	NDR	2.19	0.528	1.58	1.000
1,2,3,4,6,7,8-HPCDF		20.6	0.528	0.93	1.000
1,2,3,4,7,8,9-HPCDF		3.09	0.528	1.09	1.000
OCDF	NDR	1.88	0.528	0.69	1.002
TOTAL TETRA-DIOXINS		6.76	0.528		
TOTAL PENTA-DIOXINS		15.0	0.528		
TOTAL HEXA-DIOXINS		46.3	0.528		
TOTAL HEPTA-DIOXINS		27.0	0.528		
TOTAL TETRA-FURANS		0.895	0.528		
TOTAL PENTA-FURANS		23.9	0.528		
TOTAL HEXA-FURANS		82.4	0.528		
TOTAL HEPTA-FURANS		23.7	0.528		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN201M
Sample Collection:
08-Dec-2006

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9600-1
Matrix:	MILK	**Sample Size:**	0.945 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	08-Jan-2007
Extraction Date:	04-Apr-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Apr-2007 **Time:** 00:39:06	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_071 S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	N/A
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_071 S: 2
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	3.24

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.528		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 25-Apr-2007 16:37:58; Application: XMLTransformer-1.7.39;
Report Filename: 1613_DIOXINS_1613DB225_L9600-1_Form1A_SJ663502_lipid.html; Workgroup: WG21241; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN201M

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	08-Dec-2006
Matrix:	MILK	**Project No.**	DANDI 1283
Sample Size:	0.945 g (lipid)	**Lab Sample I.D.:**	L9600-1
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filenames:**	**DB73_071 S: 9** **DX72_152 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.76	0.528	1	6.76e+00	6.76e+00	
1,2,3,7,8-PECDD		15.0	0.528	1	1.50e+01	1.50e+01	
1,2,3,4,7,8-HXCDD		8.55	0.528	0.1	8.55e-01	8.55e-01	
1,2,3,6,7,8-HXCDD		31.2	0.528	0.1	3.12e+00	3.12e+00	
1,2,3,7,8,9-HXCDD		6.45	0.528	0.1	6.45e-01	6.45e-01	
1,2,3,4,6,7,8-HPCDD		27.0	0.528	0.01	2.70e-01	2.70e-01	
OCDD		145	0.528	0.0001	1.45e-02	1.45e-02	
2,3,7,8-TCDF	ND		0.528	0.1	0.00e+00	2.64e-02	
1,2,3,7,8-PECDF	ND		0.528	0.05	0.00e+00	1.32e-02	
2,3,4,7,8-PECDF		23.9	0.528	0.5	1.20e+01	1.20e+01	
1,2,3,4,7,8-HXCDF		50.6	0.528	0.1	5.06e+00	5.06e+00	
1,2,3,6,7,8-HXCDF		31.8	0.528	0.1	3.18e+00	3.18e+00	
1,2,3,7,8,9-HXCDF	ND		0.528	0.1	0.00e+00	2.64e-02	
2,3,4,6,7,8-HXCDF	ND		0.528	0.1	0.00e+00	2.64e-02	
1,2,3,4,6,7,8-HPCDF		20.6	0.528	0.01	2.06e-01	2.06e-01	
1,2,3,4,7,8,9-HPCDF		3.09	0.528	0.01	3.09e-02	3.09e-02	
OCDF	ND		0.528	0.0001	0.00e+00	2.64e-05	
			TOTAL TEQ		47.1	47.2	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.76	0.528	1	6.76e+00	6.76e+00	
1,2,3,7,8-PECDD		15.0	0.528	1	1.50e+01	1.50e+01	
1,2,3,4,7,8-HXCDD		8.55	0.528	0.1	8.55e-01	8.55e-01	
1,2,3,6,7,8-HXCDD		31.2	0.528	0.1	3.12e+00	3.12e+00	
1,2,3,7,8,9-HXCDD		6.45	0.528	0.1	6.45e-01	6.45e-01	
1,2,3,4,6,7,8-HPCDD		27.0	0.528	0.01	2.70e-01	2.70e-01	
OCDD		145	0.528	0.0003	4.35e-02	4.35e-02	
2,3,7,8-TCDF	ND		0.528	0.1	0.00e+00	2.64e-02	
1,2,3,7,8-PECDF	ND		0.528	0.03	0.00e+00	7.92e-03	
2,3,4,7,8-PECDF		23.9	0.528	0.3	7.17e+00	7.17e+00	
1,2,3,4,7,8-HXCDF		50.6	0.528	0.1	5.06e+00	5.06e+00	
1,2,3,6,7,8-HXCDF		31.8	0.528	0.1	3.18e+00	3.18e+00	
1,2,3,7,8,9-HXCDF	ND		0.528	0.1	0.00e+00	2.64e-02	
2,3,4,6,7,8-HXCDF	ND		0.528	0.1	0.00e+00	2.64e-02	
1,2,3,4,6,7,8-HPCDF		20.6	0.528	0.01	2.06e-01	2.06e-01	
1,2,3,4,7,8,9-HPCDF		3.09	0.528	0.01	3.09e-02	3.09e-02	
OCDF	ND		0.528	0.0003	0.00e+00	7.92e-05	
			TOTAL TEQ		42.3	42.4	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB001 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-31
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.3 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 **Time:** 06:53:03	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_043 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		1.60	0.0030	0.78	1.001
1,2,3,7,8-PECDD [3]		0.129	0.0030	0.60	1.001
1,2,3,4,7,8-HXCDD		0.064	0.0030	1.20	1.000
1,2,3,6,7,8-HXCDD		0.315	0.0030	1.30	1.000
1,2,3,7,8,9-HXCDD		0.054	0.0030	1.36	1.011
1,2,3,4,6,7,8-HPCDD		0.243	0.0030	1.01	1.000
OCDD		1.94	0.0030	0.90	1.000
2,3,7,8-TCDF	ND		0.0030		
1,2,3,7,8-PECDF		0.004	0.0030	1.38	1.000
2,3,4,7,8-PECDF		0.135	0.0030	1.57	1.001
1,2,3,4,7,8-HXCDF		0.271	0.0030	1.27	1.000
1,2,3,6,7,8-HXCDF		0.199	0.0030	1.25	1.001
1,2,3,7,8,9-HXCDF		0.003	0.0030	1.40	1.000
2,3,4,6,7,8-HXCDF		0.018	0.0030	1.23	1.000
1,2,3,4,6,7,8-HPCDF		0.232	0.0030	1.02	1.000
1,2,3,4,7,8,9-HPCDF		0.017	0.0030	0.99	1.000
OCDF		0.004	0.0030	0.78	1.002
TOTAL TETRA-DIOXINS		1.60	0.0030		
TOTAL PENTA-DIOXINS		0.129	0.0030		
TOTAL HEXA-DIOXINS		0.433	0.0030		
TOTAL HEPTA-DIOXINS		0.261	0.0030		
TOTAL TETRA-FURANS	ND		0.0030		
TOTAL PENTA-FURANS		0.139	0.0030		
TOTAL HEXA-FURANS		0.488	0.0030		
TOTAL HEPTA-FURANS		0.249	0.0030		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-31_Form1A_SJ638389.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB001 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-31
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.3 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 Time: 06:53:03	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_043 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	732	73.2	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	830	83.0	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	726	72.6	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	700	70.0	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	676	67.6	1.05	1.094
13C-OCDD		2000	1150	57.7	0.91	1.179
13C-2,3,7,8-TCDF		1000	649	64.9	0.80	0.967
13C-1,2,3,7,8-PECDF		1000	805	80.5	1.60	1.284
13C-2,3,4,7,8-PECDF		1000	784	78.4	1.57	1.352
13C-1,2,3,4,7,8-HXCDF		1000	697	69.7	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	661	66.1	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	687	68.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	680	68.0	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	617	61.7	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	642	64.2	0.47	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-31_Form2_SJ638389.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB001 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.3 g (wet)	**Lab Sample I.D.:**	L9584-31
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_043 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1.60	0.0030	1	1.60e+00	1.60e+00	
1,2,3,7,8-PECDD		0.129	0.0030	1	1.29e-01	1.29e-01	
1,2,3,4,7,8-HXCDD		0.064	0.0030	0.1	6.40e-03	6.40e-03	
1,2,3,6,7,8-HXCDD		0.315	0.0030	0.1	3.15e-02	3.15e-02	
1,2,3,7,8,9-HXCDD		0.054	0.0030	0.1	5.40e-03	5.40e-03	
1,2,3,4,6,7,8-HPCDD		0.243	0.0030	0.01	2.43e-03	2.43e-03	
OCDD		1.94	0.0030	0.0001	1.94e-04	1.94e-04	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF		0.004	0.0030	0.05	2.00e-04	2.00e-04	
2,3,4,7,8-PECDF		0.135	0.0030	0.5	6.75e-02	6.75e-02	
1,2,3,4,7,8-HXCDF		0.271	0.0030	0.1	2.71e-02	2.71e-02	
1,2,3,6,7,8-HXCDF		0.199	0.0030	0.1	1.99e-02	1.99e-02	
1,2,3,7,8,9-HXCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
2,3,4,6,7,8-HXCDF		0.018	0.0030	0.1	1.80e-03	1.80e-03	
1,2,3,4,6,7,8-HPCDF		0.232	0.0030	0.01	2.32e-03	2.32e-03	
1,2,3,4,7,8,9-HPCDF		0.017	0.0030	0.01	1.70e-04	1.70e-04	
OCDF		0.004	0.0030	0.0001	4.00e-07	4.00e-07	
			TOTAL TEQ		1.89	1.89	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1.60	0.0030	1	1.60e+00	1.60e+00	
1,2,3,7,8-PECDD		0.129	0.0030	1	1.29e-01	1.29e-01	
1,2,3,4,7,8-HXCDD		0.064	0.0030	0.1	6.40e-03	6.40e-03	
1,2,3,6,7,8-HXCDD		0.315	0.0030	0.1	3.15e-02	3.15e-02	
1,2,3,7,8,9-HXCDD		0.054	0.0030	0.1	5.40e-03	5.40e-03	
1,2,3,4,6,7,8-HPCDD		0.243	0.0030	0.01	2.43e-03	2.43e-03	
OCDD		1.94	0.0030	0.0003	5.82e-04	5.82e-04	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF		0.004	0.0030	0.03	1.20e-04	1.20e-04	
2,3,4,7,8-PECDF		0.135	0.0030	0.3	4.05e-02	4.05e-02	
1,2,3,4,7,8-HXCDF		0.271	0.0030	0.1	2.71e-02	2.71e-02	
1,2,3,6,7,8-HXCDF		0.199	0.0030	0.1	1.99e-02	1.99e-02	
1,2,3,7,8,9-HXCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
2,3,4,6,7,8-HXCDF		0.018	0.0030	0.1	1.80e-03	1.80e-03	
1,2,3,4,6,7,8-HPCDF		0.232	0.0030	0.01	2.32e-03	2.32e-03	
1,2,3,4,7,8,9-HPCDF		0.017	0.0030	0.01	1.70e-04	1.70e-04	
OCDF		0.004	0.0030	0.0003	1.20e-06	1.20e-06	
			TOTAL TEQ		1.87	1.87	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-31_TEQ_SJ638389.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB001 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-31
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.170 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 **Time:** 06:53:03	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_043 S: 2
		% Lipid:	0.28

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		567	1.06	0.78	1.001
1,2,3,7,8-PECDD [3]		45.7	1.06	0.60	1.001
1,2,3,4,7,8-HXCDD		22.7	1.06	1.20	1.000
1,2,3,6,7,8-HXCDD		112	1.06	1.30	1.000
1,2,3,7,8,9-HXCDD		19.1	1.06	1.36	1.011
1,2,3,4,6,7,8-HPCDD		86.1	1.06	1.01	1.000
OCDD		688	1.06	0.90	1.000
2,3,7,8-TCDF	ND		1.06		
1,2,3,7,8-PECDF		1.42	1.06	1.38	1.000
2,3,4,7,8-PECDF		47.9	1.06	1.57	1.001
1,2,3,4,7,8-HXCDF		96.1	1.06	1.27	1.000
1,2,3,6,7,8-HXCDF		70.5	1.06	1.25	1.001
1,2,3,7,8,9-HXCDF		1.06	1.06	1.40	1.000
2,3,4,6,7,8-HXCDF		6.38	1.06	1.23	1.000
1,2,3,4,6,7,8-HPCDF		82.2	1.06	1.02	1.000
1,2,3,4,7,8,9-HPCDF		6.03	1.06	0.99	1.000
OCDF		1.42	1.06	0.78	1.002
TOTAL TETRA-DIOXINS		567	1.06		
TOTAL PENTA-DIOXINS		45.7	1.06		
TOTAL HEXA-DIOXINS		153	1.06		
TOTAL HEPTA-DIOXINS		92.5	1.06		
TOTAL TETRA-FURANS	ND		1.06		
TOTAL PENTA-FURANS		49.3	1.06		
TOTAL HEXA-FURANS		173	1.06		
TOTAL HEPTA-FURANS		88.3	1.06		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 09:13:50; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-31_Form1A_SJ638389_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB001 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.170 g (lipid)	**Lab Sample I.D.:**	L9584-31
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_043 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		567	1.06	1	5.67e+02	5.67e+02	
1,2,3,7,8-PECDD		45.7	1.06	1	4.57e+01	4.57e+01	
1,2,3,4,7,8-HXCDD		22.7	1.06	0.1	2.27e+00	2.27e+00	
1,2,3,6,7,8-HXCDD		112	1.06	0.1	1.12e+01	1.12e+01	
1,2,3,7,8,9-HXCDD		19.1	1.06	0.1	1.91e+00	1.91e+00	
1,2,3,4,6,7,8-HPCDD		86.1	1.06	0.01	8.61e-01	8.61e-01	
OCDD		688	1.06	0.0001	6.88e-02	6.88e-02	
2,3,7,8-TCDF	ND		1.06	0.1	0.00e+00	5.30e-02	
1,2,3,7,8-PECDF		1.42	1.06	0.05	7.10e-02	7.10e-02	
2,3,4,7,8-PECDF		47.9	1.06	0.5	2.40e+01	2.40e+01	
1,2,3,4,7,8-HXCDF		96.1	1.06	0.1	9.61e+00	9.61e+00	
1,2,3,6,7,8-HXCDF		70.5	1.06	0.1	7.05e+00	7.05e+00	
1,2,3,7,8,9-HXCDF		1.06	1.06	0.1	1.06e-01	1.06e-01	
2,3,4,6,7,8-HXCDF		6.38	1.06	0.1	6.38e-01	6.38e-01	
1,2,3,4,6,7,8-HPCDF		82.2	1.06	0.01	8.22e-01	8.22e-01	
1,2,3,4,7,8,9-HPCDF		6.03	1.06	0.01	6.03e-02	6.03e-02	
OCDF		1.42	1.06	0.0001	1.42e-04	1.42e-04	
			TOTAL TEQ		671	671	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		567	1.06	1	5.67e+02	5.67e+02	
1,2,3,7,8-PECDD		45.7	1.06	1	4.57e+01	4.57e+01	
1,2,3,4,7,8-HXCDD		22.7	1.06	0.1	2.27e+00	2.27e+00	
1,2,3,6,7,8-HXCDD		112	1.06	0.1	1.12e+01	1.12e+01	
1,2,3,7,8,9-HXCDD		19.1	1.06	0.1	1.91e+00	1.91e+00	
1,2,3,4,6,7,8-HPCDD		86.1	1.06	0.01	8.61e-01	8.61e-01	
OCDD		688	1.06	0.0003	2.06e-01	2.06e-01	
2,3,7,8-TCDF	ND		1.06	0.1	0.00e+00	5.30e-02	
1,2,3,7,8-PECDF		1.42	1.06	0.03	4.26e-02	4.26e-02	
2,3,4,7,8-PECDF		47.9	1.06	0.3	1.44e+01	1.44e+01	
1,2,3,4,7,8-HXCDF		96.1	1.06	0.1	9.61e+00	9.61e+00	
1,2,3,6,7,8-HXCDF		70.5	1.06	0.1	7.05e+00	7.05e+00	
1,2,3,7,8,9-HXCDF		1.06	1.06	0.1	1.06e-01	1.06e-01	
2,3,4,6,7,8-HXCDF		6.38	1.06	0.1	6.38e-01	6.38e-01	
1,2,3,4,6,7,8-HPCDF		82.2	1.06	0.01	8.22e-01	8.22e-01	
1,2,3,4,7,8,9-HPCDF		6.03	1.06	0.01	6.03e-02	6.03e-02	
OCDF		1.42	1.06	0.0003	4.26e-04	4.26e-04	
			TOTAL TEQ		662	662	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 18:45:54; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-31_TEQ_SJ638389_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB002 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-8
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.2 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	26-Jan-2007 **Time:** 17:50:44	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_042 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_042 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		3.25	0.0030	0.78	1.001
1,2,3,7,8-PECDD [3]		0.108	0.0030	0.62	1.001
1,2,3,4,7,8-HXCDD		0.040	0.0030	1.31	1.000
1,2,3,6,7,8-HXCDD		0.198	0.0030	1.24	1.000
1,2,3,7,8,9-HXCDD		0.039	0.0030	1.14	1.010
1,2,3,4,6,7,8-HPCDD		0.252	0.0036	1.07	1.000
OCDD		2.44	0.0097	0.91	1.000
2,3,7,8-TCDF		0.063	0.0030	0.80	1.001
1,2,3,7,8-PECDF		0.006	0.0030	1.47	1.001
2,3,4,7,8-PECDF		0.077	0.0030	1.53	1.000
1,2,3,4,7,8-HXCDF		0.152	0.0030	1.25	1.000
1,2,3,6,7,8-HXCDF		0.121	0.0030	1.27	1.000
1,2,3,7,8,9-HXCDF	ND		0.0031		
2,3,4,6,7,8-HXCDF		0.019	0.0030	1.37	1.000
1,2,3,4,6,7,8-HPCDF		0.213	0.0030	1.05	1.000
1,2,3,4,7,8,9-HPCDF		0.017	0.0031	1.15	1.000
OCDF	NDR	0.007	0.0056	1.51	1.002
TOTAL TETRA-DIOXINS		3.25	0.0030		
TOTAL PENTA-DIOXINS		0.108	0.0030		
TOTAL HEXA-DIOXINS		0.280	0.0030		
TOTAL HEPTA-DIOXINS		0.268	0.0036		
TOTAL TETRA-FURANS		0.063	0.0030		
TOTAL PENTA-FURANS		0.083	0.0030		
TOTAL HEXA-FURANS		0.292	0.0030		
TOTAL HEPTA-FURANS		0.264	0.0030		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-8_Form1A_SJ638362.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB002 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-8
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.2 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	26-Jan-2007 **Time:** 17:50:44	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_042 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_042 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	756	75.6	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	835	83.5	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	846	84.6	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	831	83.1	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	629	62.9	1.06	1.095
13C-OCDD		2000	1180	58.8	0.90	1.179
13C-2,3,7,8-TCDF		1000	653	65.3	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	866	86.6	1.59	1.284
13C-2,3,4,7,8-PECDF		1000	835	83.5	1.58	1.352
13C-1,2,3,4,7,8-HXCDF		1000	849	84.9	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		1000	786	78.6	0.53	0.959
13C-1,2,3,7,8,9-HXCDF		1000	696	69.6	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	762	76.2	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	585	58.5	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	527	52.7	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Henry Huang QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-8_Form2_SJ638362.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB002 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.2 g (wet)	**Lab Sample I.D.:**	L9584-8
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_042 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3.25	0.0030	1	3.25e+00	3.25e+00	
1,2,3,7,8-PECDD		0.108	0.0030	1	1.08e-01	1.08e-01	
1,2,3,4,7,8-HXCDD		0.040	0.0030	0.1	4.00e-03	4.00e-03	
1,2,3,6,7,8-HXCDD		0.198	0.0030	0.1	1.98e-02	1.98e-02	
1,2,3,7,8,9-HXCDD		0.039	0.0030	0.1	3.90e-03	3.90e-03	
1,2,3,4,6,7,8-HPCDD		0.252	0.0036	0.01	2.52e-03	2.52e-03	
OCDD		2.44	0.0097	0.0001	2.44e-04	2.44e-04	
2,3,7,8-TCDF		0.063	0.0030	0.1	6.30e-03	6.30e-03	
1,2,3,7,8-PECDF		0.006	0.0030	0.05	3.00e-04	3.00e-04	
2,3,4,7,8-PECDF		0.077	0.0030	0.5	3.85e-02	3.85e-02	
1,2,3,4,7,8-HXCDF		0.152	0.0030	0.1	1.52e-02	1.52e-02	
1,2,3,6,7,8-HXCDF		0.121	0.0030	0.1	1.21e-02	1.21e-02	
1,2,3,7,8,9-HXCDF	ND		0.0031	0.1	0.00e+00	1.55e-04	
2,3,4,6,7,8-HXCDF		0.019	0.0030	0.1	1.90e-03	1.90e-03	
1,2,3,4,6,7,8-HPCDF		0.213	0.0030	0.01	2.13e-03	2.13e-03	
1,2,3,4,7,8,9-HPCDF		0.017	0.0031	0.01	1.70e-04	1.70e-04	
OCDF	ND		0.0056	0.0001	0.00e+00	2.80e-07	
			TOTAL TEQ		3.47	3.47	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3.25	0.0030	1	3.25e+00	3.25e+00	
1,2,3,7,8-PECDD		0.108	0.0030	1	1.08e-01	1.08e-01	
1,2,3,4,7,8-HXCDD		0.040	0.0030	0.1	4.00e-03	4.00e-03	
1,2,3,6,7,8-HXCDD		0.198	0.0030	0.1	1.98e-02	1.98e-02	
1,2,3,7,8,9-HXCDD		0.039	0.0030	0.1	3.90e-03	3.90e-03	
1,2,3,4,6,7,8-HPCDD		0.252	0.0036	0.01	2.52e-03	2.52e-03	
OCDD		2.44	0.0097	0.0003	7.32e-04	7.32e-04	
2,3,7,8-TCDF		0.063	0.0030	0.1	6.30e-03	6.30e-03	
1,2,3,7,8-PECDF		0.006	0.0030	0.03	1.80e-04	1.80e-04	
2,3,4,7,8-PECDF		0.077	0.0030	0.3	2.31e-02	2.31e-02	
1,2,3,4,7,8-HXCDF		0.152	0.0030	0.1	1.52e-02	1.52e-02	
1,2,3,6,7,8-HXCDF		0.121	0.0030	0.1	1.21e-02	1.21e-02	
1,2,3,7,8,9-HXCDF	ND		0.0031	0.1	0.00e+00	1.55e-04	
2,3,4,6,7,8-HXCDF		0.019	0.0030	0.1	1.90e-03	1.90e-03	
1,2,3,4,6,7,8-HPCDF		0.213	0.0030	0.01	2.13e-03	2.13e-03	
1,2,3,4,7,8,9-HPCDF		0.017	0.0031	0.01	1.70e-04	1.70e-04	
OCDF	ND		0.0056	0.0003	0.00e+00	8.40e-07	
			TOTAL TEQ		3.45	3.45	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB002 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-8
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.170 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	26-Jan-2007 **Time:** 17:50:44	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_042 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_042 S: 2
		% Lipid *:	0.28

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		1150	1.06	0.78	1.001
1,2,3,7,8-PECDD [3]		38.2	1.06	0.62	1.001
1,2,3,4,7,8-HXCDD		14.2	1.06	1.31	1.000
1,2,3,6,7,8-HXCDD		70.1	1.06	1.24	1.000
1,2,3,7,8,9-HXCDD		13.8	1.06	1.14	1.010
1,2,3,4,6,7,8-HPCDD		89.2	1.27	1.07	1.000
OCDD		864	3.43	0.91	1.000
2,3,7,8-TCDF		22.3	1.06	0.80	1.001
1,2,3,7,8-PECDF		2.12	1.06	1.47	1.001
2,3,4,7,8-PECDF		27.3	1.06	1.53	1.000
1,2,3,4,7,8-HXCDF		53.8	1.06	1.25	1.000
1,2,3,6,7,8-HXCDF		42.8	1.06	1.27	1.000
1,2,3,7,8,9-HXCDF	ND		1.10		
2,3,4,6,7,8-HXCDF		6.73	1.06	1.37	1.000
1,2,3,4,6,7,8-HPCDF		75.4	1.06	1.05	1.000
1,2,3,4,7,8,9-HPCDF		6.02	1.10	1.15	1.000
OCDF	NDR	2.48	1.98	1.51	1.002
TOTAL TETRA-DIOXINS		1150	1.06		
TOTAL PENTA-DIOXINS		38.2	1.06		
TOTAL HEXA-DIOXINS		99.2	1.06		
TOTAL HEPTA-DIOXINS		94.9	1.27		
TOTAL TETRA-FURANS		22.3	1.06		
TOTAL PENTA-FURANS		29.4	1.06		
TOTAL HEXA-FURANS		103	1.06		
TOTAL HEPTA-FURANS		93.5	1.06		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.
NOTE: * Estimated value based on lipid data from 763 Vietnamese Males

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 21-Mar-2007 08:54:02; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9584-8_Form1A_SJ638362_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB002 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.170 g (lipid)	**Lab Sample I.D.:**	L9584-8
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	DX72_042 S: 12

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1150	1.06	1	1.15e+03	1.15e+03	
1,2,3,7,8-PECDD		38.2	1.06	1	3.82e+01	3.82e+01	
1,2,3,4,7,8-HXCDD		14.2	1.06	0.1	1.42e+00	1.42e+00	
1,2,3,6,7,8-HXCDD		70.1	1.06	0.1	7.01e+00	7.01e+00	
1,2,3,7,8,9-HXCDD		13.8	1.06	0.1	1.38e+00	1.38e+00	
1,2,3,4,6,7,8-HPCDD		89.2	1.27	0.01	8.92e-01	8.92e-01	
OCDD		864	3.43	0.0001	8.64e-02	8.64e-02	
2,3,7,8-TCDF		22.3	1.06	0.1	2.23e+00	2.23e+00	
1,2,3,7,8-PECDF		2.12	1.06	0.05	1.06e-01	1.06e-01	
2,3,4,7,8-PECDF		27.3	1.06	0.5	1.37e+01	1.37e+01	
1,2,3,4,7,8-HXCDF		53.8	1.06	0.1	5.38e+00	5.38e+00	
1,2,3,6,7,8-HXCDF		42.8	1.06	0.1	4.28e+00	4.28e+00	
1,2,3,7,8,9-HXCDF	ND		1.10	0.1	0.00e+00	5.50e-02	
2,3,4,6,7,8-HXCDF		6.73	1.06	0.1	6.73e-01	6.73e-01	
1,2,3,4,6,7,8-HPCDF		75.4	1.06	0.01	7.54e-01	7.54e-01	
1,2,3,4,7,8,9-HPCDF		6.02	1.10	0.01	6.02e-02	6.02e-02	
OCDF	ND		1.98	0.0001	0.00e+00	9.90e-05	
			TOTAL TEQ		1230	1230	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1150	1.06	1	1.15e+03	1.15e+03	
1,2,3,7,8-PECDD		38.2	1.06	1	3.82e+01	3.82e+01	
1,2,3,4,7,8-HXCDD		14.2	1.06	0.1	1.42e+00	1.42e+00	
1,2,3,6,7,8-HXCDD		70.1	1.06	0.1	7.01e+00	7.01e+00	
1,2,3,7,8,9-HXCDD		13.8	1.06	0.1	1.38e+00	1.38e+00	
1,2,3,4,6,7,8-HPCDD		89.2	1.27	0.01	8.92e-01	8.92e-01	
OCDD		864	3.43	0.0003	2.59e-01	2.59e-01	
2,3,7,8-TCDF		22.3	1.06	0.1	2.23e+00	2.23e+00	
1,2,3,7,8-PECDF		2.12	1.06	0.03	6.36e-02	6.36e-02	
2,3,4,7,8-PECDF		27.3	1.06	0.3	8.19e+00	8.19e+00	
1,2,3,4,7,8-HXCDF		53.8	1.06	0.1	5.38e+00	5.38e+00	
1,2,3,6,7,8-HXCDF		42.8	1.06	0.1	4.28e+00	4.28e+00	
1,2,3,7,8,9-HXCDF	ND		1.10	0.1	0.00e+00	5.50e-02	
2,3,4,6,7,8-HXCDF		6.73	1.06	0.1	6.73e-01	6.73e-01	
1,2,3,4,6,7,8-HPCDF		75.4	1.06	0.01	7.54e-01	7.54e-01	
1,2,3,4,7,8,9-HPCDF		6.02	1.10	0.01	6.02e-02	6.02e-02	
OCDF	ND		1.98	0.0003	0.00e+00	2.97e-04	
			TOTAL TEQ		1220	1220	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

NOTE: * Estimated value based on lipid data from 763 Vietnamese Males

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 21-Mar-2007 09:10:42; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613-TEQ_L9584-8_TEQ_SJ638362_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB003 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-28 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	65.8 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 Time: 12:09:27	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_047 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_047 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		1.57	0.0030	0.78	1.001
1,2,3,7,8-PECDD [3]		0.112	0.0030	0.62	1.001
1,2,3,4,7,8-HXCDD		0.067	0.0030	1.25	1.000
1,2,3,6,7,8-HXCDD		0.263	0.0030	1.28	1.000
1,2,3,7,8,9-HXCDD		0.092	0.0030	1.28	1.011
1,2,3,4,6,7,8-HPCDD		0.542	0.0030	1.02	1.000
OCDD		4.08	0.0039	0.90	1.000
2,3,7,8-TCDF		0.038	0.0030	0.80	1.001
1,2,3,7,8-PECDF		0.011	0.0030	1.45	1.001
2,3,4,7,8-PECDF		0.105	0.0030	1.48	1.000
1,2,3,4,7,8-HXCDF		0.309	0.0030	1.28	1.000
1,2,3,6,7,8-HXCDF		0.248	0.0030	1.24	1.000
1,2,3,7,8,9-HXCDF		0.007	0.0030	1.14	1.000
2,3,4,6,7,8-HXCDF		0.018	0.0030	1.11	1.000
1,2,3,4,6,7,8-HPCDF		0.272	0.0030	1.07	1.000
1,2,3,4,7,8,9-HPCDF		0.022	0.0030	1.07	1.000
OCDF		0.011	0.0030	0.94	1.002
TOTAL TETRA-DIOXINS		1.57	0.0030		
TOTAL PENTA-DIOXINS		0.112	0.0030		
TOTAL HEXA-DIOXINS		0.422	0.0030		
TOTAL HEPTA-DIOXINS		0.567	0.0030		
TOTAL TETRA-FURANS		0.038	0.0030		
TOTAL PENTA-FURANS		0.122	0.0030		
TOTAL HEXA-FURANS		0.582	0.0030		
TOTAL HEPTA-FURANS		0.300	0.0030		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB003 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-28 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	65.8 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 **Time:** 12:09:27	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_047 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_047 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	860	86.0	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	966	96.6	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	749	74.9	1.26	0.986
13C-1,2,3,6,7,8-HXCDD		1000	705	70.5	1.25	0.989
13C-1,2,3,4,6,7,8-HPCDD		1000	756	75.6	1.05	1.095
13C-OCDD		2000	1420	71.0	0.90	1.180
13C-2,3,7,8-TCDF		1000	744	74.4	0.80	0.967
13C-1,2,3,7,8-PECDF		1000	836	83.6	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	846	84.6	1.59	1.352
13C-1,2,3,4,7,8-HXCDF		1000	748	74.8	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	698	69.8	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	773	77.3	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		1000	727	72.7	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	722	72.2	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	731	73.1	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB003 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-28 R
Sample Size:	65.8 g (wet)	**GC Column ID:**	DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filename:**	DX72_047 S: 6

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1.57	0.0030	1	1.57e+00	1.57e+00	
1,2,3,7,8-PECDD		0.112	0.0030	1	1.12e-01	1.12e-01	
1,2,3,4,7,8-HXCDD		0.067	0.0030	0.1	6.70e-03	6.70e-03	
1,2,3,6,7,8-HXCDD		0.263	0.0030	0.1	2.63e-02	2.63e-02	
1,2,3,7,8,9-HXCDD		0.092	0.0030	0.1	9.20e-03	9.20e-03	
1,2,3,4,6,7,8-HPCDD		0.542	0.0030	0.01	5.42e-03	5.42e-03	
OCDD		4.08	0.0039	0.0001	4.08e-04	4.08e-04	
2,3,7,8-TCDF		0.038	0.0030	0.1	3.80e-03	3.80e-03	
1,2,3,7,8-PECDF		0.011	0.0030	0.05	5.50e-04	5.50e-04	
2,3,4,7,8-PECDF		0.105	0.0030	0.5	5.25e-02	5.25e-02	
1,2,3,4,7,8-HXCDF		0.309	0.0030	0.1	3.09e-02	3.09e-02	
1,2,3,6,7,8-HXCDF		0.248	0.0030	0.1	2.48e-02	2.48e-02	
1,2,3,7,8,9-HXCDF		0.007	0.0030	0.1	7.00e-04	7.00e-04	
2,3,4,6,7,8-HXCDF		0.018	0.0030	0.1	1.80e-03	1.80e-03	
1,2,3,4,6,7,8-HPCDF		0.272	0.0030	0.01	2.72e-03	2.72e-03	
1,2,3,4,7,8,9-HPCDF		0.022	0.0030	0.01	2.20e-04	2.20e-04	
OCDF		0.011	0.0030	0.0001	1.10e-06	1.10e-06	
			TOTAL TEQ		1.85	1.85	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		1.57	0.0030	1	1.57e+00	1.57e+00	
1,2,3,7,8-PECDD		0.112	0.0030	1	1.12e-01	1.12e-01	
1,2,3,4,7,8-HXCDD		0.067	0.0030	0.1	6.70e-03	6.70e-03	
1,2,3,6,7,8-HXCDD		0.263	0.0030	0.1	2.63e-02	2.63e-02	
1,2,3,7,8,9-HXCDD		0.092	0.0030	0.1	9.20e-03	9.20e-03	
1,2,3,4,6,7,8-HPCDD		0.542	0.0030	0.01	5.42e-03	5.42e-03	
OCDD		4.08	0.0039	0.0003	1.22e-03	1.22e-03	
2,3,7,8-TCDF		0.038	0.0030	0.1	3.80e-03	3.80e-03	
1,2,3,7,8-PECDF		0.011	0.0030	0.03	3.30e-04	3.30e-04	
2,3,4,7,8-PECDF		0.105	0.0030	0.3	3.15e-02	3.15e-02	
1,2,3,4,7,8-HXCDF		0.309	0.0030	0.1	3.09e-02	3.09e-02	
1,2,3,6,7,8-HXCDF		0.248	0.0030	0.1	2.48e-02	2.48e-02	
1,2,3,7,8,9-HXCDF		0.007	0.0030	0.1	7.00e-04	7.00e-04	
2,3,4,6,7,8-HXCDF		0.018	0.0030	0.1	1.80e-03	1.80e-03	
1,2,3,4,6,7,8-HPCDF		0.272	0.0030	0.01	2.72e-03	2.72e-03	
1,2,3,4,7,8,9-HPCDF		0.022	0.0030	0.01	2.20e-04	2.20e-04	
OCDF		0.011	0.0030	0.0003	3.30e-06	3.30e-06	
			TOTAL TEQ		1.83	1.83	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-28_TEQ_SJ636310.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB003 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-28 R
Matrix:	BLOOD	**Sample Size:**	0.240 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	31-Jan-2007 **Time:** 12:09:27	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_047 S: 6**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_047 S: 2
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.37

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		430	0.822	0.78	1.001
1,2,3,7,8-PECDD [3]		30.7	0.822	0.62	1.001
1,2,3,4,7,8-HXCDD		18.4	0.822	1.25	1.000
1,2,3,6,7,8-HXCDD		72.1	0.822	1.28	1.000
1,2,3,7,8,9-HXCDD		25.2	0.822	1.28	1.011
1,2,3,4,6,7,8-HPCDD		149	0.822	1.02	1.000
OCDD		1120	1.07	0.90	1.000
2,3,7,8-TCDF		10.4	0.822	0.80	1.001
1,2,3,7,8-PECDF		3.01	0.822	1.45	1.001
2,3,4,7,8-PECDF		28.8	0.822	1.48	1.000
1,2,3,4,7,8-HXCDF		84.7	0.822	1.28	1.000
1,2,3,6,7,8-HXCDF		68.0	0.822	1.24	1.000
1,2,3,7,8,9-HXCDF		1.92	0.822	1.14	1.000
2,3,4,6,7,8-HXCDF		4.93	0.822	1.11	1.000
1,2,3,4,6,7,8-HPCDF		74.5	0.822	1.07	1.000
1,2,3,4,7,8,9-HPCDF		6.03	0.822	1.07	1.000
OCDF		3.01	0.822	0.94	1.002
TOTAL TETRA-DIOXINS		430	0.822		
TOTAL PENTA-DIOXINS		30.7	0.822		
TOTAL HEXA-DIOXINS		116	0.822		
TOTAL HEPTA-DIOXINS		155	0.822		
TOTAL TETRA-FURANS		10.4	0.822		
TOTAL PENTA-FURANS		33.4	0.822		
TOTAL HEXA-FURANS		159	0.822		
TOTAL HEPTA-FURANS		82.2	0.822		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 26-Apr-2007 18:33:51; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-28_Form1A_DX72_047S6_SJ636310_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB003 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.240 g (lipid)	**Lab Sample I.D.:**	L9584-28 R
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_047 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		430	0.822	1	4.30e+02	4.30e+02	
1,2,3,7,8-PECDD		30.7	0.822	1	3.07e+01	3.07e+01	
1,2,3,4,7,8-HXCDD		18.4	0.822	0.1	1.84e+00	1.84e+00	
1,2,3,6,7,8-HXCDD		72.1	0.822	0.1	7.21e+00	7.21e+00	
1,2,3,7,8,9-HXCDD		25.2	0.822	0.1	2.52e+00	2.52e+00	
1,2,3,4,6,7,8-HPCDD		149	0.822	0.01	1.49e+00	1.49e+00	
OCDD		1120	1.07	0.0001	1.12e-01	1.12e-01	
2,3,7,8-TCDF		10.4	0.822	0.1	1.04e+00	1.04e+00	
1,2,3,7,8-PECDF		3.01	0.822	0.05	1.51e-01	1.51e-01	
2,3,4,7,8-PECDF		28.8	0.822	0.5	1.44e+01	1.44e+01	
1,2,3,4,7,8-HXCDF		84.7	0.822	0.1	8.47e+00	8.47e+00	
1,2,3,6,7,8-HXCDF		68.0	0.822	0.1	6.80e+00	6.80e+00	
1,2,3,7,8,9-HXCDF		1.92	0.822	0.1	1.92e-01	1.92e-01	
2,3,4,6,7,8-HXCDF		4.93	0.822	0.1	4.93e-01	4.93e-01	
1,2,3,4,6,7,8-HPCDF		74.5	0.822	0.01	7.45e-01	7.45e-01	
1,2,3,4,7,8,9-HPCDF		6.03	0.822	0.01	6.03e-02	6.03e-02	
OCDF		3.01	0.822	0.0001	3.01e-04	3.01e-04	
			TOTAL TEQ		506	506	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		430	0.822	1	4.30e+02	4.30e+02	
1,2,3,7,8-PECDD		30.7	0.822	1	3.07e+01	3.07e+01	
1,2,3,4,7,8-HXCDD		18.4	0.822	0.1	1.84e+00	1.84e+00	
1,2,3,6,7,8-HXCDD		72.1	0.822	0.1	7.21e+00	7.21e+00	
1,2,3,7,8,9-HXCDD		25.2	0.822	0.1	2.52e+00	2.52e+00	
1,2,3,4,6,7,8-HPCDD		149	0.822	0.01	1.49e+00	1.49e+00	
OCDD		1120	1.07	0.0003	3.36e-01	3.36e-01	
2,3,7,8-TCDF		10.4	0.822	0.1	1.04e+00	1.04e+00	
1,2,3,7,8-PECDF		3.01	0.822	0.03	9.03e-02	9.03e-02	
2,3,4,7,8-PECDF		28.8	0.822	0.3	8.64e+00	8.64e+00	
1,2,3,4,7,8-HXCDF		84.7	0.822	0.1	8.47e+00	8.47e+00	
1,2,3,6,7,8-HXCDF		68.0	0.822	0.1	6.80e+00	6.80e+00	
1,2,3,7,8,9-HXCDF		1.92	0.822	0.1	1.92e-01	1.92e-01	
2,3,4,6,7,8-HXCDF		4.93	0.822	0.1	4.93e-01	4.93e-01	
1,2,3,4,6,7,8-HPCDF		74.5	0.822	0.01	7.45e-01	7.45e-01	
1,2,3,4,7,8,9-HPCDF		6.03	0.822	0.01	6.03e-02	6.03e-02	
OCDF		3.01	0.822	0.0003	9.03e-04	9.03e-04	
			TOTAL TEQ		501	501	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 26-Apr-2007 18:37:37; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-28_TEQ_SJ636310_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB004 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-32
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.1 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 14:08:10	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.637	0.0030	0.79	1.001
1,2,3,7,8-PECDD [3]		0.038	0.0030	0.67	1.001
1,2,3,4,7,8-HXCDD		0.013	0.0030	1.09	1.000
1,2,3,6,7,8-HXCDD		0.091	0.0030	1.25	1.000
1,2,3,7,8,9-HXCDD		0.023	0.0030	1.18	1.010
1,2,3,4,6,7,8-HPCDD		0.101	0.0030	1.05	1.000
OCDD		0.919	0.0030	0.90	1.001
2,3,7,8-TCDF		0.016	0.0030	0.79	1.001
1,2,3,7,8-PECDF		0.004	0.0030	1.56	1.001
2,3,4,7,8-PECDF		0.030	0.0030	1.52	1.000
1,2,3,4,7,8-HXCDF		0.077	0.0030	1.24	1.000
1,2,3,6,7,8-HXCDF		0.067	0.0030	1.24	1.000
1,2,3,7,8,9-HXCDF		0.003	0.0030	1.26	1.000
2,3,4,6,7,8-HXCDF		0.010	0.0030	1.40	1.000
1,2,3,4,6,7,8-HPCDF		0.149	0.0030	1.06	1.000
1,2,3,4,7,8,9-HPCDF		0.011	0.0030	1.12	1.000
OCDF		0.008	0.0030	0.85	1.002
TOTAL TETRA-DIOXINS		0.637	0.0030		
TOTAL PENTA-DIOXINS		0.038	0.0030		
TOTAL HEXA-DIOXINS		0.127	0.0030		
TOTAL HEPTA-DIOXINS		0.110	0.0030		
TOTAL TETRA-FURANS		0.016	0.0030		
TOTAL PENTA-FURANS		0.034	0.0030		
TOTAL HEXA-FURANS		0.154	0.0030		
TOTAL HEPTA-FURANS		0.160	0.0030		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Henry Huang QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB004 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-32
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.1 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 14:08:10	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_044 S: 3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	740	74.0	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		1000	878	87.8	0.64	1.382
13C-1,2,3,4,7,8-HXCDD		1000	799	79.9	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	798	79.8	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	742	74.2	1.05	1.094
13C-OCDD		2000	1360	68.2	0.90	1.178
13C-2,3,7,8-TCDF		1000	708	70.8	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	821	82.1	1.59	1.283
13C-2,3,4,7,8-PECDF		1000	836	83.6	1.58	1.351
13C-1,2,3,4,7,8-HXCDF		1000	797	79.7	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		1000	739	73.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	788	78.8	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	769	76.9	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	704	70.4	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	741	74.1	0.47	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-32_Form2_SJ637815.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB004 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.1 g (wet)	**Lab Sample I.D.:**	L9584-32
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_044 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.637	0.0030	1	6.37e-01	6.37e-01	
1,2,3,7,8-PECDD		0.038	0.0030	1	3.80e-02	3.80e-02	
1,2,3,4,7,8-HXCDD		0.013	0.0030	0.1	1.30e-03	1.30e-03	
1,2,3,6,7,8-HXCDD		0.091	0.0030	0.1	9.10e-03	9.10e-03	
1,2,3,7,8,9-HXCDD		0.023	0.0030	0.1	2.30e-03	2.30e-03	
1,2,3,4,6,7,8-HPCDD		0.101	0.0030	0.01	1.01e-03	1.01e-03	
OCDD		0.919	0.0030	0.0001	9.19e-05	9.19e-05	
2,3,7,8-TCDF		0.016	0.0030	0.1	1.60e-03	1.60e-03	
1,2,3,7,8-PECDF		0.004	0.0030	0.05	2.00e-04	2.00e-04	
2,3,4,7,8-PECDF		0.030	0.0030	0.5	1.50e-02	1.50e-02	
1,2,3,4,7,8-HXCDF		0.077	0.0030	0.1	7.70e-03	7.70e-03	
1,2,3,6,7,8-HXCDF		0.067	0.0030	0.1	6.70e-03	6.70e-03	
1,2,3,7,8,9-HXCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
2,3,4,6,7,8-HXCDF		0.010	0.0030	0.1	1.00e-03	1.00e-03	
1,2,3,4,6,7,8-HPCDF		0.149	0.0030	0.01	1.49e-03	1.49e-03	
1,2,3,4,7,8,9-HPCDF		0.011	0.0030	0.01	1.10e-04	1.10e-04	
OCDF		0.008	0.0030	0.0001	8.00e-07	8.00e-07	
			TOTAL TEQ		0.723	0.723	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.637	0.0030	1	6.37e-01	6.37e-01	
1,2,3,7,8-PECDD		0.038	0.0030	1	3.80e-02	3.80e-02	
1,2,3,4,7,8-HXCDD		0.013	0.0030	0.1	1.30e-03	1.30e-03	
1,2,3,6,7,8-HXCDD		0.091	0.0030	0.1	9.10e-03	9.10e-03	
1,2,3,7,8,9-HXCDD		0.023	0.0030	0.1	2.30e-03	2.30e-03	
1,2,3,4,6,7,8-HPCDD		0.101	0.0030	0.01	1.01e-03	1.01e-03	
OCDD		0.919	0.0030	0.0003	2.76e-04	2.76e-04	
2,3,7,8-TCDF		0.016	0.0030	0.1	1.60e-03	1.60e-03	
1,2,3,7,8-PECDF		0.004	0.0030	0.03	1.20e-04	1.20e-04	
2,3,4,7,8-PECDF		0.030	0.0030	0.3	9.00e-03	9.00e-03	
1,2,3,4,7,8-HXCDF		0.077	0.0030	0.1	7.70e-03	7.70e-03	
1,2,3,6,7,8-HXCDF		0.067	0.0030	0.1	6.70e-03	6.70e-03	
1,2,3,7,8,9-HXCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
2,3,4,6,7,8-HXCDF		0.010	0.0030	0.1	1.00e-03	1.00e-03	
1,2,3,4,6,7,8-HPCDF		0.149	0.0030	0.01	1.49e-03	1.49e-03	
1,2,3,4,7,8,9-HPCDF		0.011	0.0030	0.01	1.10e-04	1.10e-04	
OCDF		0.008	0.0030	0.0003	2.40e-06	2.40e-06	
			TOTAL TEQ		0.717	0.717	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Henry Huang QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-32_TEQ_SJ637815.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB004 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-32
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.130 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 14:08:10	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3
		% Lipid:	0.23

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		294	1.39	0.79	1.001
1,2,3,7,8-PECDD [3]		17.6	1.39	0.67	1.001
1,2,3,4,7,8-HXCDD		6.01	1.39	1.09	1.000
1,2,3,6,7,8-HXCDD		42.1	1.39	1.25	1.000
1,2,3,7,8,9-HXCDD		10.6	1.39	1.18	1.010
1,2,3,4,6,7,8-HPCDD		46.7	1.39	1.05	1.000
OCDD		425	1.39	0.90	1.001
2,3,7,8-TCDF		7.40	1.39	0.79	1.001
1,2,3,7,8-PECDF		1.85	1.39	1.56	1.001
2,3,4,7,8-PECDF		13.9	1.39	1.52	1.000
1,2,3,4,7,8-HXCDF		35.6	1.39	1.24	1.000
1,2,3,6,7,8-HXCDF		31.0	1.39	1.24	1.000
1,2,3,7,8,9-HXCDF		1.39	1.39	1.26	1.000
2,3,4,6,7,8-HXCDF		4.62	1.39	1.40	1.000
1,2,3,4,6,7,8-HPCDF		68.9	1.39	1.06	1.000
1,2,3,4,7,8,9-HPCDF		5.09	1.39	1.12	1.000
OCDF		3.70	1.39	0.85	1.002
TOTAL TETRA-DIOXINS		294	1.39		
TOTAL PENTA-DIOXINS		17.6	1.39		
TOTAL HEXA-DIOXINS		58.7	1.39		
TOTAL HEPTA-DIOXINS		50.9	1.39		
TOTAL TETRA-FURANS		7.40	1.39		
TOTAL PENTA-FURANS		15.7	1.39		
TOTAL HEXA-FURANS		71.2	1.39		
TOTAL HEPTA-FURANS		74.0	1.39		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 09:13:50; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-32_Form1A_SJ637815_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB004 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.130 g (lipid)	**Lab Sample I.D.:**	L9584-32
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_044 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		294	1.39	1	2.94e+02	2.94e+02	
1,2,3,7,8-PECDD		17.6	1.39	1	1.76e+01	1.76e+01	
1,2,3,4,7,8-HXCDD		6.01	1.39	0.1	6.01e-01	6.01e-01	
1,2,3,6,7,8-HXCDD		42.1	1.39	0.1	4.21e+00	4.21e+00	
1,2,3,7,8,9-HXCDD		10.6	1.39	0.1	1.06e+00	1.06e+00	
1,2,3,4,6,7,8-HPCDD		46.7	1.39	0.01	4.67e-01	4.67e-01	
OCDD		425	1.39	0.0001	4.25e-02	4.25e-02	
2,3,7,8-TCDF		7.40	1.39	0.1	7.40e-01	7.40e-01	
1,2,3,7,8-PECDF		1.85	1.39	0.05	9.25e-02	9.25e-02	
2,3,4,7,8-PECDF		13.9	1.39	0.5	6.95e+00	6.95e+00	
1,2,3,4,7,8-HXCDF		35.6	1.39	0.1	3.56e+00	3.56e+00	
1,2,3,6,7,8-HXCDF		31.0	1.39	0.1	3.10e+00	3.10e+00	
1,2,3,7,8,9-HXCDF		1.39	1.39	0.1	1.39e-01	1.39e-01	
2,3,4,6,7,8-HXCDF		4.62	1.39	0.1	4.62e-01	4.62e-01	
1,2,3,4,6,7,8-HPCDF		68.9	1.39	0.01	6.89e-01	6.89e-01	
1,2,3,4,7,8,9-HPCDF		5.09	1.39	0.01	5.09e-02	5.09e-02	
OCDF		3.70	1.39	0.0001	3.70e-04	3.70e-04	
			TOTAL TEQ		334	334	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		294	1.39	1	2.94e+02	2.94e+02	
1,2,3,7,8-PECDD		17.6	1.39	1	1.76e+01	1.76e+01	
1,2,3,4,7,8-HXCDD		6.01	1.39	0.1	6.01e-01	6.01e-01	
1,2,3,6,7,8-HXCDD		42.1	1.39	0.1	4.21e+00	4.21e+00	
1,2,3,7,8,9-HXCDD		10.6	1.39	0.1	1.06e+00	1.06e+00	
1,2,3,4,6,7,8-HPCDD		46.7	1.39	0.01	4.67e-01	4.67e-01	
OCDD		425	1.39	0.0003	1.28e-01	1.28e-01	
2,3,7,8-TCDF		7.40	1.39	0.1	7.40e-01	7.40e-01	
1,2,3,7,8-PECDF		1.85	1.39	0.03	5.55e-02	5.55e-02	
2,3,4,7,8-PECDF		13.9	1.39	0.3	4.17e+00	4.17e+00	
1,2,3,4,7,8-HXCDF		35.6	1.39	0.1	3.56e+00	3.56e+00	
1,2,3,6,7,8-HXCDF		31.0	1.39	0.1	3.10e+00	3.10e+00	
1,2,3,7,8,9-HXCDF		1.39	1.39	0.1	1.39e-01	1.39e-01	
2,3,4,6,7,8-HXCDF		4.62	1.39	0.1	4.62e-01	4.62e-01	
1,2,3,4,6,7,8-HPCDF		68.9	1.39	0.01	6.89e-01	6.89e-01	
1,2,3,4,7,8,9-HPCDF		5.09	1.39	0.01	5.09e-02	5.09e-02	
OCDF		3.70	1.39	0.0003	1.11e-03	1.11e-03	
			TOTAL TEQ		331	331	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 18:45:54; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-32_TEQ_SJ637815_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB005 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-23 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	46.6 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 12:32:22	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: **7**
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.786	0.0040	0.77	1.001
1,2,3,7,8-PECDD [3]	G	0.051	0.0040	0.61	1.001
1,2,3,4,7,8-HXCDD	NDR	0.026	0.0040	0.96	1.000
1,2,3,6,7,8-HXCDD		0.105	0.0040	1.25	1.000
1,2,3,7,8,9-HXCDD		0.032	0.0040	1.23	1.010
1,2,3,4,6,7,8-HPCDD		0.209	0.0040	1.07	1.000
OCDD		1.18	0.0040	0.87	1.000
2,3,7,8-TCDF		0.081	0.0041	0.73	1.001
1,2,3,7,8-PECDF		0.009	0.0040	1.46	1.001
2,3,4,7,8-PECDF		0.065	0.0040	1.42	1.001
1,2,3,4,7,8-HXCDF		0.169	0.0090	1.33	1.000
1,2,3,6,7,8-HXCDF		0.132	0.0090	1.17	1.000
1,2,3,7,8,9-HXCDF	ND		0.0090		
2,3,4,6,7,8-HXCDF		0.014	0.0090	1.37	1.001
1,2,3,4,6,7,8-HPCDF		0.247	0.0040	1.08	1.000
1,2,3,4,7,8,9-HPCDF		0.031	0.0040	1.14	1.000
OCDF		0.013	0.0040	0.81	1.002
TOTAL TETRA-DIOXINS		0.786	0.0040		
TOTAL PENTA-DIOXINS	G	0.051	0.0040		
TOTAL HEXA-DIOXINS		0.136	0.0040		
TOTAL HEPTA-DIOXINS		0.232	0.0040		
TOTAL TETRA-FURANS		0.081	0.0041		
TOTAL PENTA-FURANS		0.074	0.0040		
TOTAL HEXA-FURANS		0.315	0.0090		
TOTAL HEPTA-FURANS		0.278	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-23_Form1A_SJ641397.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB005 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-23 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	46.6 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 12:32:22	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_064 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	866	86.6	0.78	1.013
13C-1,2,3,7,8-PECDD [4]	G	1000	910	91.0	0.62	1.382
13C-1,2,3,4,7,8-HXCDD		1000	931	93.1	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		1000	792	79.2	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	701	70.1	1.04	1.092
13C-OCDD		2000	1160	58.1	0.89	1.175
13C-2,3,7,8-TCDF		1000	863	86.3	0.78	0.966
13C-1,2,3,7,8-PECDF		1000	901	90.1	1.51	1.284
13C-2,3,4,7,8-PECDF		1000	821	82.1	1.52	1.350
13C-1,2,3,4,7,8-HXCDF		1000	919	91.9	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		1000	710	71.0	0.53	0.959
13C-1,2,3,7,8,9-HXCDF		1000	795	79.5	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		1000	754	75.4	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF		1000	702	70.2	0.46	1.061
13C-1,2,3,4,7,8,9-HPCDF		1000	656	65.6	0.46	1.102

(1) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-23_Form2_SJ641397.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB005 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	46.6 g (wet)	**Lab Sample I.D.:**	L9584-23 RL
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_064 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.786	0.0040	1	7.86e-01	7.86e-01	
1,2,3,7,8-PECDD		0.051	0.0040	1	5.10e-02	5.10e-02	
1,2,3,4,7,8-HXCDD	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,6,7,8-HXCDD		0.105	0.0040	0.1	1.05e-02	1.05e-02	
1,2,3,7,8,9-HXCDD		0.032	0.0040	0.1	3.20e-03	3.20e-03	
1,2,3,4,6,7,8-HPCDD		0.209	0.0040	0.01	2.09e-03	2.09e-03	
OCDD		1.18	0.0040	0.0001	1.18e-04	1.18e-04	
2,3,7,8-TCDF		0.081	0.0041	0.1	8.10e-03	8.10e-03	
1,2,3,7,8-PECDF		0.009	0.0040	0.05	4.50e-04	4.50e-04	
2,3,4,7,8-PECDF		0.065	0.0040	0.5	3.25e-02	3.25e-02	
1,2,3,4,7,8-HXCDF		0.169	0.0090	0.1	1.69e-02	1.69e-02	
1,2,3,6,7,8-HXCDF		0.132	0.0090	0.1	1.32e-02	1.32e-02	
1,2,3,7,8,9-HXCDF	ND		0.0090	0.1	0.00e+00	4.50e-04	
2,3,4,6,7,8-HXCDF		0.014	0.0090	0.1	1.40e-03	1.40e-03	
1,2,3,4,6,7,8-HPCDF		0.247	0.0040	0.01	2.47e-03	2.47e-03	
1,2,3,4,7,8,9-HPCDF		0.031	0.0040	0.01	3.10e-04	3.10e-04	
OCDF		0.013	0.0040	0.0001	1.30e-06	1.30e-06	
			TOTAL TEQ		0.928	0.929	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.786	0.0040	1	7.86e-01	7.86e-01	
1,2,3,7,8-PECDD		0.051	0.0040	1	5.10e-02	5.10e-02	
1,2,3,4,7,8-HXCDD	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,6,7,8-HXCDD		0.105	0.0040	0.1	1.05e-02	1.05e-02	
1,2,3,7,8,9-HXCDD		0.032	0.0040	0.1	3.20e-03	3.20e-03	
1,2,3,4,6,7,8-HPCDD		0.209	0.0040	0.01	2.09e-03	2.09e-03	
OCDD		1.18	0.0040	0.0003	3.54e-04	3.54e-04	
2,3,7,8-TCDF		0.081	0.0041	0.1	8.10e-03	8.10e-03	
1,2,3,7,8-PECDF		0.009	0.0040	0.03	2.70e-04	2.70e-04	
2,3,4,7,8-PECDF		0.065	0.0040	0.3	1.95e-02	1.95e-02	
1,2,3,4,7,8-HXCDF		0.169	0.0090	0.1	1.69e-02	1.69e-02	
1,2,3,6,7,8-HXCDF		0.132	0.0090	0.1	1.32e-02	1.32e-02	
1,2,3,7,8,9-HXCDF	ND		0.0090	0.1	0.00e+00	4.50e-04	
2,3,4,6,7,8-HXCDF		0.014	0.0090	0.1	1.40e-03	1.40e-03	
1,2,3,4,6,7,8-HPCDF		0.247	0.0040	0.01	2.47e-03	2.47e-03	
1,2,3,4,7,8,9-HPCDF		0.031	0.0040	0.01	3.10e-04	3.10e-04	
OCDF		0.013	0.0040	0.0003	3.90e-06	3.90e-06	
			TOTAL TEQ		0.915	0.916	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613-TEQ_L9584-23_TEQ_SJ641397.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB005 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-23 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.100 g (lipid)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 12:32:22	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1
		% Lipid:	0.22

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		366	1.86	0.77	1.001
1,2,3,7,8-PECDD [3]	G	23.8	1.86	0.61	1.001
1,2,3,4,7,8-HXCDD	NDR	12.1	1.86	0.96	1.000
1,2,3,6,7,8-HXCDD		48.9	1.86	1.25	1.000
1,2,3,7,8,9-HXCDD		14.9	1.86	1.23	1.010
1,2,3,4,6,7,8-HPCDD		97.4	1.86	1.07	1.000
OCDD		550	1.86	0.87	1.000
2,3,7,8-TCDF		37.7	1.91	0.73	1.001
1,2,3,7,8-PECDF		4.19	1.86	1.46	1.001
2,3,4,7,8-PECDF		30.3	1.86	1.42	1.001
1,2,3,4,7,8-HXCDF		78.7	4.19	1.33	1.000
1,2,3,6,7,8-HXCDF		61.5	4.19	1.17	1.000
1,2,3,7,8,9-HXCDF	ND		4.19		
2,3,4,6,7,8-HXCDF		6.52	4.19	1.37	1.001
1,2,3,4,6,7,8-HPCDF		115	1.86	1.08	1.000
1,2,3,4,7,8,9-HPCDF		14.4	1.86	1.14	1.000
OCDF		6.06	1.86	0.81	1.002
TOTAL TETRA-DIOXINS		366	1.86		
TOTAL PENTA-DIOXINS	G	23.8	1.86		
TOTAL HEXA-DIOXINS		63.3	1.86		
TOTAL HEPTA-DIOXINS		108	1.86		
TOTAL TETRA-FURANS		37.7	1.91		
TOTAL PENTA-FURANS		34.5	1.86		
TOTAL HEXA-FURANS		147	4.19		
TOTAL HEPTA-FURANS		129	1.86		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 26-Apr-2007 19:01:59; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-23_Form1A_DX72_064S6_SJ641397_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB005 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.100 g (lipid)	**Lab Sample I.D.:**	L9584-23 RL
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_064 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		366	1.86	1	3.66e+02	3.66e+02	
1,2,3,7,8-PECDD		23.8	1.86	1	2.38e+01	2.38e+01	
1,2,3,4,7,8-HXCDD	ND		1.86	0.1	0.00e+00	9.30e-02	
1,2,3,6,7,8-HXCDD		48.9	1.86	0.1	4.89e+00	4.89e+00	
1,2,3,7,8,9-HXCDD		14.9	1.86	0.1	1.49e+00	1.49e+00	
1,2,3,4,6,7,8-HPCDD		97.4	1.86	0.01	9.74e-01	9.74e-01	
OCDD		550	1.86	0.0001	5.50e-02	5.50e-02	
2,3,7,8-TCDF		37.7	1.91	0.1	3.77e+00	3.77e+00	
1,2,3,7,8-PECDF		4.19	1.86	0.05	2.10e-01	2.10e-01	
2,3,4,7,8-PECDF		30.3	1.86	0.5	1.52e+01	1.52e+01	
1,2,3,4,7,8-HXCDF		78.7	4.19	0.1	7.87e+00	7.87e+00	
1,2,3,6,7,8-HXCDF		61.5	4.19	0.1	6.15e+00	6.15e+00	
1,2,3,7,8,9-HXCDF	ND		4.19	0.1	0.00e+00	2.10e-01	
2,3,4,6,7,8-HXCDF		6.52	4.19	0.1	6.52e-01	6.52e-01	
1,2,3,4,6,7,8-HPCDF		115	1.86	0.01	1.15e+00	1.15e+00	
1,2,3,4,7,8,9-HPCDF		14.4	1.86	0.01	1.44e-01	1.44e-01	
OCDF		6.06	1.86	0.0001	6.06e-04	6.06e-04	
			TOTAL TEQ		432	433	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		366	1.86	1	3.66e+02	3.66e+02	
1,2,3,7,8-PECDD		23.8	1.86	1	2.38e+01	2.38e+01	
1,2,3,4,7,8-HXCDD	ND		1.86	0.1	0.00e+00	9.30e-02	
1,2,3,6,7,8-HXCDD		48.9	1.86	0.1	4.89e+00	4.89e+00	
1,2,3,7,8,9-HXCDD		14.9	1.86	0.1	1.49e+00	1.49e+00	
1,2,3,4,6,7,8-HPCDD		97.4	1.86	0.01	9.74e-01	9.74e-01	
OCDD		550	1.86	0.0003	1.65e-01	1.65e-01	
2,3,7,8-TCDF		37.7	1.91	0.1	3.77e+00	3.77e+00	
1,2,3,7,8-PECDF		4.19	1.86	0.03	1.26e-01	1.26e-01	
2,3,4,7,8-PECDF		30.3	1.86	0.3	9.09e+00	9.09e+00	
1,2,3,4,7,8-HXCDF		78.7	4.19	0.1	7.87e+00	7.87e+00	
1,2,3,6,7,8-HXCDF		61.5	4.19	0.1	6.15e+00	6.15e+00	
1,2,3,7,8,9-HXCDF	ND		4.19	0.1	0.00e+00	2.10e-01	
2,3,4,6,7,8-HXCDF		6.52	4.19	0.1	6.52e-01	6.52e-01	
1,2,3,4,6,7,8-HPCDF		115	1.86	0.01	1.15e+00	1.15e+00	
1,2,3,4,7,8,9-HPCDF		14.4	1.86	0.01	1.44e-01	1.44e-01	
OCDF		6.06	1.86	0.0003	1.82e-03	1.82e-03	
			TOTAL TEQ		426	427	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 26-Apr-2007 19:05:32; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-23_TEQ_SJ641397_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB006 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-26 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	61.6 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 Time: 11:14:49	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_047 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_047 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.026	0.0030	0.81	1.001
1,2,3,7,8-PECDD [3]	NDR	0.014	0.0030	0.76	1.000
1,2,3,4,7,8-HXCDD	NDR	0.010	0.0030	1.65	1.000
1,2,3,6,7,8-HXCDD		0.031	0.0030	1.09	1.000
1,2,3,7,8,9-HXCDD		0.012	0.0030	1.42	1.010
1,2,3,4,6,7,8-HPCDD		0.090	0.0030	0.94	1.000
OCDD		0.736	0.0030	0.90	1.000
2,3,7,8-TCDF		0.006	0.0030	0.85	1.001
1,2,3,7,8-PECDF		0.005	0.0030	1.51	1.001
2,3,4,7,8-PECDF		0.023	0.0030	1.71	1.000
1,2,3,4,7,8-HXCDF		0.053	0.0030	1.24	1.000
1,2,3,6,7,8-HXCDF		0.033	0.0030	1.23	1.000
1,2,3,7,8,9-HXCDF		0.003	0.0030	1.12	1.000
2,3,4,6,7,8-HXCDF	NDR	0.007	0.0030	1.51	1.000
1,2,3,4,6,7,8-HPCDF		0.097	0.0030	1.01	1.000
1,2,3,4,7,8,9-HPCDF		0.011	0.0030	1.08	1.000
OCDF		0.013	0.0030	0.90	1.002
TOTAL TETRA-DIOXINS		0.026	0.0030		
TOTAL PENTA-DIOXINS	ND		0.0030		
TOTAL HEXA-DIOXINS		0.048	0.0030		
TOTAL HEPTA-DIOXINS		0.117	0.0030		
TOTAL TETRA-FURANS		0.006	0.0030		
TOTAL PENTA-FURANS		0.032	0.0030		
TOTAL HEXA-FURANS		0.086	0.0030		
TOTAL HEPTA-FURANS		0.117	0.0030		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-26_Form1A_SJ636309.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB006 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-26 R
Matrix:	BLOOD	**Sample Size:**	61.6 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	31-Jan-2007 **Time:** 11:14:49	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_047 S: 5**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_047 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	677	67.7	0.77	1.013
13C-1,2,3,7,8-PECDD [4]		1000	846	84.6	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		1000	704	70.4	1.26	0.986
13C-1,2,3,6,7,8-HXCDD		1000	652	65.2	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	658	65.8	1.05	1.095
13C-OCDD		2000	1170	58.3	0.90	1.179
13C-2,3,7,8-TCDF		1000	626	62.6	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	711	71.1	1.59	1.283
13C-2,3,4,7,8-PECDF		1000	727	72.7	1.59	1.351
13C-1,2,3,4,7,8-HXCDF		1000	684	68.4	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	648	64.8	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	679	67.9	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		1000	668	66.8	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	633	63.3	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	636	63.6	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-26_Form2_SJ636309.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB006 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	61.6 g (wet)	**Lab Sample I.D.:**	L9584-26 R
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_047 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.026	0.0030	1	2.60e-02	2.60e-02	
1,2,3,7,8-PECDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,4,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDD		0.031	0.0030	0.1	3.10e-03	3.10e-03	
1,2,3,7,8,9-HXCDD		0.012	0.0030	0.1	1.20e-03	1.20e-03	
1,2,3,4,6,7,8-HPCDD		0.090	0.0030	0.01	9.00e-04	9.00e-04	
OCDD		0.736	0.0030	0.0001	7.36e-05	7.36e-05	
2,3,7,8-TCDF		0.006	0.0030	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF		0.005	0.0030	0.05	2.50e-04	2.50e-04	
2,3,4,7,8-PECDF		0.023	0.0030	0.5	1.15e-02	1.15e-02	
1,2,3,4,7,8-HXCDF		0.053	0.0030	0.1	5.30e-03	5.30e-03	
1,2,3,6,7,8-HXCDF		0.033	0.0030	0.1	3.30e-03	3.30e-03	
1,2,3,7,8,9-HXCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDF		0.097	0.0030	0.01	9.70e-04	9.70e-04	
1,2,3,4,7,8,9-HPCDF		0.011	0.0030	0.01	1.10e-04	1.10e-04	
OCDF		0.013	0.0030	0.0001	1.30e-06	1.30e-06	
			TOTAL TEQ		0.0536	0.0554	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.026	0.0030	1	2.60e-02	2.60e-02	
1,2,3,7,8-PECDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,4,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDD		0.031	0.0030	0.1	3.10e-03	3.10e-03	
1,2,3,7,8,9-HXCDD		0.012	0.0030	0.1	1.20e-03	1.20e-03	
1,2,3,4,6,7,8-HPCDD		0.090	0.0030	0.01	9.00e-04	9.00e-04	
OCDD		0.736	0.0030	0.0003	2.21e-04	2.21e-04	
2,3,7,8-TCDF		0.006	0.0030	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF		0.005	0.0030	0.03	1.50e-04	1.50e-04	
2,3,4,7,8-PECDF		0.023	0.0030	0.3	6.90e-03	6.90e-03	
1,2,3,4,7,8-HXCDF		0.053	0.0030	0.1	5.30e-03	5.30e-03	
1,2,3,6,7,8-HXCDF		0.033	0.0030	0.1	3.30e-03	3.30e-03	
1,2,3,7,8,9-HXCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDF		0.097	0.0030	0.01	9.70e-04	9.70e-04	
1,2,3,4,7,8,9-HPCDF		0.011	0.0030	0.01	1.10e-04	1.10e-04	
OCDF		0.013	0.0030	0.0003	3.90e-06	3.90e-06	
			TOTAL TEQ		0.0491	0.0509	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-26_TEQ_SJ636309.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB006 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-26 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.170 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 **Time:** 11:14:49	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_047 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_047 S: 2
		% Lipid *:	0.28

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		9.42	1.09	0.81	1.001
1,2,3,7,8-PECDD [3]	NDR	5.07	1.09	0.76	1.000
1,2,3,4,7,8-HXCDD	NDR	3.62	1.09	1.65	1.000
1,2,3,6,7,8-HXCDD		11.2	1.09	1.09	1.000
1,2,3,7,8,9-HXCDD		4.35	1.09	1.42	1.010
1,2,3,4,6,7,8-HPCDD		32.6	1.09	0.94	1.000
OCDD		267	1.09	0.90	1.000
2,3,7,8-TCDF		2.17	1.09	0.85	1.001
1,2,3,7,8-PECDF		1.81	1.09	1.51	1.001
2,3,4,7,8-PECDF		8.33	1.09	1.71	1.000
1,2,3,4,7,8-HXCDF		19.2	1.09	1.24	1.000
1,2,3,6,7,8-HXCDF		12.0	1.09	1.23	1.000
1,2,3,7,8,9-HXCDF		1.09	1.09	1.12	1.000
2,3,4,6,7,8-HXCDF	NDR	2.54	1.09	1.51	1.000
1,2,3,4,6,7,8-HPCDF		35.1	1.09	1.01	1.000
1,2,3,4,7,8,9-HPCDF		3.98	1.09	1.08	1.000
OCDF		4.71	1.09	0.90	1.002
TOTAL TETRA-DIOXINS		9.42	1.09		
TOTAL PENTA-DIOXINS	ND		1.09		
TOTAL HEXA-DIOXINS		17.4	1.09		
TOTAL HEPTA-DIOXINS		42.4	1.09		
TOTAL TETRA-FURANS		2.17	1.09		
TOTAL PENTA-FURANS		11.6	1.09		
TOTAL HEXA-FURANS		31.1	1.09		
TOTAL HEPTA-FURANS		42.4	1.09		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.
NOTE: * Estimated value based on lipid data from 763 Vietnamese Males

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 21-Mar-2007 08:33:46; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-26_Form1A_SJ636309_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB006 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.170 g (lipid)	**Lab Sample I.D.:**	L9584-26 R
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_047 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		9.42	1.09	1	9.42e+00	9.42e+00	
1,2,3,7,8-PECDD	ND		1.09	1	0.00e+00	5.45e-01	
1,2,3,4,7,8-HXCDD	ND		1.09	0.1	0.00e+00	5.45e-02	
1,2,3,6,7,8-HXCDD		11.2	1.09	0.1	1.12e+00	1.12e+00	
1,2,3,7,8,9-HXCDD		4.35	1.09	0.1	4.35e-01	4.35e-01	
1,2,3,4,6,7,8-HPCDD		32.6	1.09	0.01	3.26e-01	3.26e-01	
OCDD		267	1.09	0.0001	2.67e-02	2.67e-02	
2,3,7,8-TCDF		2.17	1.09	0.1	2.17e-01	2.17e-01	
1,2,3,7,8-PECDF		1.81	1.09	0.05	9.05e-02	9.05e-02	
2,3,4,7,8-PECDF		8.33	1.09	0.5	4.17e+00	4.17e+00	
1,2,3,4,7,8-HXCDF		19.2	1.09	0.1	1.92e+00	1.92e+00	
1,2,3,6,7,8-HXCDF		12.0	1.09	0.1	1.20e+00	1.20e+00	
1,2,3,7,8,9-HXCDF		1.09	1.09	0.1	1.09e-01	1.09e-01	
2,3,4,6,7,8-HXCDF	ND		1.09	0.1	0.00e+00	5.45e-02	
1,2,3,4,6,7,8-HPCDF		35.1	1.09	0.01	3.51e-01	3.51e-01	
1,2,3,4,7,8,9-HPCDF		3.98	1.09	0.01	3.98e-02	3.98e-02	
OCDF		4.71	1.09	0.0001	4.71e-04	4.71e-04	
			TOTAL TEQ		19.4	20.1	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		9.42	1.09	1	9.42e+00	9.42e+00	
1,2,3,7,8-PECDD	ND		1.09	1	0.00e+00	5.45e-01	
1,2,3,4,7,8-HXCDD	ND		1.09	0.1	0.00e+00	5.45e-02	
1,2,3,6,7,8-HXCDD		11.2	1.09	0.1	1.12e+00	1.12e+00	
1,2,3,7,8,9-HXCDD		4.35	1.09	0.1	4.35e-01	4.35e-01	
1,2,3,4,6,7,8-HPCDD		32.6	1.09	0.01	3.26e-01	3.26e-01	
OCDD		267	1.09	0.0003	8.01e-02	8.01e-02	
2,3,7,8-TCDF		2.17	1.09	0.1	2.17e-01	2.17e-01	
1,2,3,7,8-PECDF		1.81	1.09	0.03	5.43e-02	5.43e-02	
2,3,4,7,8-PECDF		8.33	1.09	0.3	2.50e+00	2.50e+00	
1,2,3,4,7,8-HXCDF		19.2	1.09	0.1	1.92e+00	1.92e+00	
1,2,3,6,7,8-HXCDF		12.0	1.09	0.1	1.20e+00	1.20e+00	
1,2,3,7,8,9-HXCDF		1.09	1.09	0.1	1.09e-01	1.09e-01	
2,3,4,6,7,8-HXCDF	ND		1.09	0.1	0.00e+00	5.45e-02	
1,2,3,4,6,7,8-HPCDF		35.1	1.09	0.01	3.51e-01	3.51e-01	
1,2,3,4,7,8,9-HPCDF		3.98	1.09	0.01	3.98e-02	3.98e-02	
OCDF		4.71	1.09	0.0003	1.41e-03	1.41e-03	
			TOTAL TEQ		17.8	18.4	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

NOTE: * Estimated value based on lipid data from 763 Vietnamese Males

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 21-Mar-2007 08:39:57; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-26_TEQ_SJ636309_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB007 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-29 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	54.0 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 14:21:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.020	0.0040	0.88	1.001
1,2,3,7,8-PECDD [3]		0.051	0.0040	0.66	1.000
1,2,3,4,7,8-HXCDD		0.033	0.0040	1.24	1.000
1,2,3,6,7,8-HXCDD		0.139	0.0040	1.28	1.000
1,2,3,7,8,9-HXCDD		0.036	0.0040	1.07	1.011
1,2,3,4,6,7,8-HPCDD		0.239	0.0040	1.00	1.000
OCDD		1.89	0.0051	0.88	1.000
2,3,7,8-TCDF	NDR	0.004	0.0040	0.58	1.001
1,2,3,7,8-PECDF	NDR	0.006	0.0040	2.58	1.001
2,3,4,7,8-PECDF		0.068	0.0040	1.53	1.000
1,2,3,4,7,8-HXCDF		0.251	0.0040	1.25	1.000
1,2,3,6,7,8-HXCDF		0.191	0.0040	1.21	1.001
1,2,3,7,8,9-HXCDF	NDR	0.006	0.0040	0.82	1.000
2,3,4,6,7,8-HXCDF		0.014	0.0040	1.12	1.000
1,2,3,4,6,7,8-HPCDF		0.272	0.0040	1.04	1.000
1,2,3,4,7,8,9-HPCDF		0.020	0.0040	0.94	1.000
OCDF	NDR	0.029	0.0040	1.11	1.002
TOTAL TETRA-DIOXINS		0.020	0.0040		
TOTAL PENTA-DIOXINS		0.051	0.0040		
TOTAL HEXA-DIOXINS		0.209	0.0040		
TOTAL HEPTA-DIOXINS		0.298	0.0040		
TOTAL TETRA-FURANS	ND		0.0040		
TOTAL PENTA-FURANS		0.068	0.0040		
TOTAL HEXA-FURANS		0.455	0.0040		
TOTAL HEPTA-FURANS		0.319	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB007 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-29 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	54.0 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 14:21:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_064 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	818	81.8	0.80	1.012
13C-1,2,3,7,8-PECDD [4]		1000	955	95.5	0.62	1.380
13C-1,2,3,4,7,8-HXCDD		1000	844	84.4	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		1000	840	84.0	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	626	62.6	1.03	1.094
13C-OCDD		2000	957	47.8	0.89	1.178
13C-2,3,7,8-TCDF		1000	822	82.2	0.77	0.965
13C-1,2,3,7,8-PECDF		1000	826	82.6	1.55	1.282
13C-2,3,4,7,8-PECDF		1000	821	82.1	1.53	1.349
13C-1,2,3,4,7,8-HXCDF		1000	801	80.1	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		1000	818	81.8	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		1000	742	74.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	756	75.6	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	630	63.0	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	597	59.7	0.47	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-29_Form2_SJ641410.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB007 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	54.0 g (wet)	**Lab Sample I.D.:**	L9584-29 RL
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_064 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.020	0.0040	1	2.00e-02	2.00e-02	
1,2,3,7,8-PECDD		0.051	0.0040	1	5.10e-02	5.10e-02	
1,2,3,4,7,8-HXCDD		0.033	0.0040	0.1	3.30e-03	3.30e-03	
1,2,3,6,7,8-HXCDD		0.139	0.0040	0.1	1.39e-02	1.39e-02	
1,2,3,7,8,9-HXCDD		0.036	0.0040	0.1	3.60e-03	3.60e-03	
1,2,3,4,6,7,8-HPCDD		0.239	0.0040	0.01	2.39e-03	2.39e-03	
OCDD		1.89	0.0051	0.0001	1.89e-04	1.89e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.05	0.00e+00	1.00e-04	
2,3,4,7,8-PECDF		0.068	0.0040	0.5	3.40e-02	3.40e-02	
1,2,3,4,7,8-HXCDF		0.251	0.0040	0.1	2.51e-02	2.51e-02	
1,2,3,6,7,8-HXCDF		0.191	0.0040	0.1	1.91e-02	1.91e-02	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.014	0.0040	0.1	1.40e-03	1.40e-03	
1,2,3,4,6,7,8-HPCDF		0.272	0.0040	0.01	2.72e-03	2.72e-03	
1,2,3,4,7,8,9-HPCDF		0.020	0.0040	0.01	2.00e-04	2.00e-04	
OCDF	ND		0.0040	0.0001	0.00e+00	2.00e-07	
			TOTAL TEQ		0.177	0.177	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.020	0.0040	1	2.00e-02	2.00e-02	
1,2,3,7,8-PECDD		0.051	0.0040	1	5.10e-02	5.10e-02	
1,2,3,4,7,8-HXCDD		0.033	0.0040	0.1	3.30e-03	3.30e-03	
1,2,3,6,7,8-HXCDD		0.139	0.0040	0.1	1.39e-02	1.39e-02	
1,2,3,7,8,9-HXCDD		0.036	0.0040	0.1	3.60e-03	3.60e-03	
1,2,3,4,6,7,8-HPCDD		0.239	0.0040	0.01	2.39e-03	2.39e-03	
OCDD		1.89	0.0051	0.0003	5.67e-04	5.67e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.03	0.00e+00	6.00e-05	
2,3,4,7,8-PECDF		0.068	0.0040	0.3	2.04e-02	2.04e-02	
1,2,3,4,7,8-HXCDF		0.251	0.0040	0.1	2.51e-02	2.51e-02	
1,2,3,6,7,8-HXCDF		0.191	0.0040	0.1	1.91e-02	1.91e-02	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.014	0.0040	0.1	1.40e-03	1.40e-03	
1,2,3,4,6,7,8-HPCDF		0.272	0.0040	0.01	2.72e-03	2.72e-03	
1,2,3,4,7,8,9-HPCDF		0.020	0.0040	0.01	2.00e-04	2.00e-04	
OCDF	ND		0.0040	0.0003	0.00e+00	6.00e-07	
			TOTAL TEQ		0.164	0.164	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-29_TEQ_SJ641410.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB007 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-29 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.170 g (lipid)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 14:21:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1
		% Lipid *:	0.31

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		6.36	1.27	0.88	1.001
1,2,3,7,8-PECDD [3]		16.2	1.27	0.66	1.000
1,2,3,4,7,8-HXCDD		10.5	1.27	1.24	1.000
1,2,3,6,7,8-HXCDD		44.2	1.27	1.28	1.000
1,2,3,7,8,9-HXCDD		11.4	1.27	1.07	1.011
1,2,3,4,6,7,8-HPCDD		76.0	1.27	1.00	1.000
OCDD		601	1.62	0.88	1.000
2,3,7,8-TCDF	NDR	1.27	1.27	0.58	1.001
1,2,3,7,8-PECDF	NDR	1.91	1.27	2.58	1.001
2,3,4,7,8-PECDF		21.6	1.27	1.53	1.000
1,2,3,4,7,8-HXCDF		79.8	1.27	1.25	1.000
1,2,3,6,7,8-HXCDF		60.7	1.27	1.21	1.001
1,2,3,7,8,9-HXCDF	NDR	1.91	1.27	0.82	1.000
2,3,4,6,7,8-HXCDF		4.45	1.27	1.12	1.000
1,2,3,4,6,7,8-HPCDF		86.5	1.27	1.04	1.000
1,2,3,4,7,8,9-HPCDF		6.36	1.27	0.94	1.000
OCDF	NDR	9.22	1.27	1.11	1.002
TOTAL TETRA-DIOXINS		6.36	1.27		
TOTAL PENTA-DIOXINS		16.2	1.27		
TOTAL HEXA-DIOXINS		66.4	1.27		
TOTAL HEPTA-DIOXINS		94.7	1.27		
TOTAL TETRA-FURANS	ND		1.27		
TOTAL PENTA-FURANS		21.6	1.27		
TOTAL HEXA-FURANS		145	1.27		
TOTAL HEPTA-FURANS		101	1.27		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.
NOTE: * Estimated value based on lipid data from 647 Vietnamese Females

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 21-Mar-2007 08:43:01; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-29_Form1A_SJ641410_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB007 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.170 g (lipid)	**Lab Sample I.D.:**	L9584-29 RL
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_064 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.36	1.27	1	6.36e+00	6.36e+00	
1,2,3,7,8-PECDD		16.2	1.27	1	1.62e+01	1.62e+01	
1,2,3,4,7,8-HXCDD		10.5	1.27	0.1	1.05e+00	1.05e+00	
1,2,3,6,7,8-HXCDD		44.2	1.27	0.1	4.42e+00	4.42e+00	
1,2,3,7,8,9-HXCDD		11.4	1.27	0.1	1.14e+00	1.14e+00	
1,2,3,4,6,7,8-HPCDD		76.0	1.27	0.01	7.60e-01	7.60e-01	
OCDD		601	1.62	0.0001	6.01e-02	6.01e-02	
2,3,7,8-TCDF	ND		1.27	0.1	0.00e+00	6.35e-02	
1,2,3,7,8-PECDF	ND		1.27	0.05	0.00e+00	3.18e-02	
2,3,4,7,8-PECDF		21.6	1.27	0.5	1.08e+01	1.08e+01	
1,2,3,4,7,8-HXCDF		79.8	1.27	0.1	7.98e+00	7.98e+00	
1,2,3,6,7,8-HXCDF		60.7	1.27	0.1	6.07e+00	6.07e+00	
1,2,3,7,8,9-HXCDF	ND		1.27	0.1	0.00e+00	6.35e-02	
2,3,4,6,7,8-HXCDF		4.45	1.27	0.1	4.45e-01	4.45e-01	
1,2,3,4,6,7,8-HPCDF		86.5	1.27	0.01	8.65e-01	8.65e-01	
1,2,3,4,7,8,9-HPCDF		6.36	1.27	0.01	6.36e-02	6.36e-02	
OCDF	ND		1.27	0.0001	0.00e+00	6.35e-05	
			TOTAL TEQ		56.2	56.4	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.36	1.27	1	6.36e+00	6.36e+00	
1,2,3,7,8-PECDD		16.2	1.27	1	1.62e+01	1.62e+01	
1,2,3,4,7,8-HXCDD		10.5	1.27	0.1	1.05e+00	1.05e+00	
1,2,3,6,7,8-HXCDD		44.2	1.27	0.1	4.42e+00	4.42e+00	
1,2,3,7,8,9-HXCDD		11.4	1.27	0.1	1.14e+00	1.14e+00	
1,2,3,4,6,7,8-HPCDD		76.0	1.27	0.01	7.60e-01	7.60e-01	
OCDD		601	1.62	0.0003	1.80e-01	1.80e-01	
2,3,7,8-TCDF	ND		1.27	0.1	0.00e+00	6.35e-02	
1,2,3,7,8-PECDF	ND		1.27	0.03	0.00e+00	1.91e-02	
2,3,4,7,8-PECDF		21.6	1.27	0.3	6.48e+00	6.48e+00	
1,2,3,4,7,8-HXCDF		79.8	1.27	0.1	7.98e+00	7.98e+00	
1,2,3,6,7,8-HXCDF		60.7	1.27	0.1	6.07e+00	6.07e+00	
1,2,3,7,8,9-HXCDF	ND		1.27	0.1	0.00e+00	6.35e-02	
2,3,4,6,7,8-HXCDF		4.45	1.27	0.1	4.45e-01	4.45e-01	
1,2,3,4,6,7,8-HPCDF		86.5	1.27	0.01	8.65e-01	8.65e-01	
1,2,3,4,7,8,9-HPCDF		6.36	1.27	0.01	6.36e-02	6.36e-02	
OCDF	ND		1.27	0.0003	0.00e+00	1.91e-04	
			TOTAL TEQ		52.0	52.2	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

NOTE: * Estimated value based on lipid data from 647 Vietnamese Females

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 21-Mar-2007 08:51:27; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-29_TEQ_SJ641410_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB008 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-13 RW
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	50.3 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	02-Feb-2007 Time: 17:29:24	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_051 S: 9**
Dilution Factor:	2.5	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_051 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	0.173	0.0040	0.81	1.001
1,2,3,7,8-PECDD [3]	D	0.031	0.0040	0.56	1.001
1,2,3,4,7,8-HXCDD	NDR D	0.016	0.0040	2.08	1.000
1,2,3,6,7,8-HXCDD	D	0.095	0.0040	1.22	1.000
1,2,3,7,8,9-HXCDD	NDR D	0.015	0.0040	1.54	1.010
1,2,3,4,6,7,8-HPCDD	D	0.105	0.0040	1.05	1.000
OCDD	D	2.02	0.0099	0.90	1.000
2,3,7,8-TCDF	NDR D	0.011	0.0040	1.03	1.002
1,2,3,7,8-PECDF	ND D		0.0040		
2,3,4,7,8-PECDF	D	0.046	0.0040	1.74	1.001
1,2,3,4,7,8-HXCDF	D	0.123	0.0040	1.36	1.000
1,2,3,6,7,8-HXCDF	D	0.087	0.0040	1.09	1.000
1,2,3,7,8,9-HXCDF	ND D		0.0040		
2,3,4,6,7,8-HXCDF	NDR D	0.006	0.0040	0.71	1.000
1,2,3,4,6,7,8-HPCDF	D	0.259	0.0040	1.09	1.000
1,2,3,4,7,8,9-HPCDF	D	0.020	0.0040	0.99	1.000
OCDF	NDR D	0.019	0.0099	1.13	1.002
TOTAL TETRA-DIOXINS	D	0.173	0.0040		
TOTAL PENTA-DIOXINS	D	0.031	0.0040		
TOTAL HEXA-DIOXINS	D	0.095	0.0040		
TOTAL HEPTA-DIOXINS	D	0.131	0.0040		
TOTAL TETRA-FURANS	ND D		0.0040		
TOTAL PENTA-FURANS	D	0.046	0.0040		
TOTAL HEXA-FURANS	D	0.215	0.0040		
TOTAL HEPTA-FURANS	D	0.280	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; D = dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9584-13_Form1A_SJ636313.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB008 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-13 RW
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	50.3 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	02-Feb-2007 Time: 17:29:24	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_051 S: 9**
Dilution Factor:	2.5	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_051 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	1000	736	73.6	0.79	1.013
13C-1,2,3,7,8-PECDD [4]	D	1000	825	82.5	0.64	1.383
13C-1,2,3,4,7,8-HXCDD	D	1000	764	76.4	1.25	0.987
13C-1,2,3,6,7,8-HXCDD	D	1000	738	73.8	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD	D	1000	712	71.2	1.05	1.095
13C-OCDD	D	2000	1240	61.8	0.90	1.179
13C-2,3,7,8-TCDF	D	1000	711	71.1	0.79	0.967
13C-1,2,3,7,8-PECDF	D	1000	771	77.1	1.59	1.285
13C-2,3,4,7,8-PECDF	D	1000	782	78.2	1.57	1.353
13C-1,2,3,4,7,8-HXCDF	D	1000	729	72.9	0.53	0.954
13C-1,2,3,6,7,8-HXCDF	D	1000	679	67.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF	D	1000	718	71.8	0.54	1.005
13C-2,3,4,6,7,8-HXCDF	D	1000	706	70.6	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF	D	1000	660	66.0	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF	D	1000	680	68.0	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-13_Form2_SJ636313.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB008 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	50.3 g (wet)	**Lab Sample I.D.:**	L9584-13 RW
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_051 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.173	0.0040	1	1.73e-01	1.73e-01	
1,2,3,7,8-PECDD		0.031	0.0040	1	3.10e-02	3.10e-02	
1,2,3,4,7,8-HXCDD	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,6,7,8-HXCDD		0.095	0.0040	0.1	9.50e-03	9.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDD		0.105	0.0040	0.01	1.05e-03	1.05e-03	
OCDD		2.02	0.0099	0.0001	2.02e-04	2.02e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.05	0.00e+00	1.00e-04	
2,3,4,7,8-PECDF		0.046	0.0040	0.5	2.30e-02	2.30e-02	
1,2,3,4,7,8-HXCDF		0.123	0.0040	0.1	1.23e-02	1.23e-02	
1,2,3,6,7,8-HXCDF		0.087	0.0040	0.1	8.70e-03	8.70e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDF		0.259	0.0040	0.01	2.59e-03	2.59e-03	
1,2,3,4,7,8,9-HPCDF		0.020	0.0040	0.01	2.00e-04	2.00e-04	
OCDF	ND		0.0099	0.0001	0.00e+00	4.95e-07	
			TOTAL TEQ		0.262	0.263	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.173	0.0040	1	1.73e-01	1.73e-01	
1,2,3,7,8-PECDD		0.031	0.0040	1	3.10e-02	3.10e-02	
1,2,3,4,7,8-HXCDD	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,6,7,8-HXCDD		0.095	0.0040	0.1	9.50e-03	9.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDD		0.105	0.0040	0.01	1.05e-03	1.05e-03	
OCDD		2.02	0.0099	0.0003	6.06e-04	6.06e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.03	0.00e+00	6.00e-05	
2,3,4,7,8-PECDF		0.046	0.0040	0.3	1.38e-02	1.38e-02	
1,2,3,4,7,8-HXCDF		0.123	0.0040	0.1	1.23e-02	1.23e-02	
1,2,3,6,7,8-HXCDF		0.087	0.0040	0.1	8.70e-03	8.70e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDF		0.259	0.0040	0.01	2.59e-03	2.59e-03	
1,2,3,4,7,8,9-HPCDF		0.020	0.0040	0.01	2.00e-04	2.00e-04	
OCDF	ND		0.0099	0.0003	0.00e+00	1.49e-06	
			TOTAL TEQ		0.253	0.254	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-13_TEQ_SJ636313.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB008 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-13 RW
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.140 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	02-Feb-2007 **Time:** 17:29:24	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_051 S: 9**
Dilution Factor:	2.5	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_051 S: 2
		% Lipid *:	0.28

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	62.1	1.44	0.81	1.001
1,2,3,7,8-PECDD [3]	D	11.1	1.44	0.56	1.001
1,2,3,4,7,8-HXCDD	NDR D	5.74	1.44	2.08	1.000
1,2,3,6,7,8-HXCDD	D	34.1	1.44	1.22	1.000
1,2,3,7,8,9-HXCDD	NDR D	5.39	1.44	1.54	1.010
1,2,3,4,6,7,8-HPCDD	D	37.7	1.44	1.05	1.000
OCDD	D	725	3.55	0.90	1.000
2,3,7,8-TCDF	NDR D	3.95	1.44	1.03	1.002
1,2,3,7,8-PECDF	ND D		1.44		
2,3,4,7,8-PECDF	D	16.5	1.44	1.74	1.001
1,2,3,4,7,8-HXCDF	D	44.2	1.44	1.36	1.000
1,2,3,6,7,8-HXCDF	D	31.2	1.44	1.09	1.000
1,2,3,7,8,9-HXCDF	ND D		1.44		
2,3,4,6,7,8-HXCDF	NDR D	2.15	1.44	0.71	1.000
1,2,3,4,6,7,8-HPCDF	D	93.0	1.44	1.09	1.000
1,2,3,4,7,8,9-HPCDF	D	7.18	1.44	0.99	1.000
OCDF	NDR D	6.82	3.55	1.13	1.002
TOTAL TETRA-DIOXINS	D	62.1	1.44		
TOTAL PENTA-DIOXINS	D	11.1	1.44		
TOTAL HEXA-DIOXINS	D	34.1	1.44		
TOTAL HEPTA-DIOXINS	D	47.0	1.44		
TOTAL TETRA-FURANS	ND D		1.44		
TOTAL PENTA-FURANS	D	16.5	1.44		
TOTAL HEXA-FURANS	D	77.2	1.44		
TOTAL HEPTA-FURANS	D	101	1.44		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; D = dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.
NOTE: * Estimated value based on lipid data from 763 Vietnamese Males

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 21-Mar-2007 08:33:46; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-13_Form1A_SJ636313_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB008 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.140 g (lipid)	**Lab Sample I.D.:**	L9584-13 RW
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_051 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		62.1	1.44	1	6.21e+01	6.21e+01	
1,2,3,7,8-PECDD		11.1	1.44	1	1.11e+01	1.11e+01	
1,2,3,4,7,8-HXCDD	ND		1.44	0.1	0.00e+00	7.20e-02	
1,2,3,6,7,8-HXCDD		34.1	1.44	0.1	3.41e+00	3.41e+00	
1,2,3,7,8,9-HXCDD	ND		1.44	0.1	0.00e+00	7.20e-02	
1,2,3,4,6,7,8-HPCDD		37.7	1.44	0.01	3.77e-01	3.77e-01	
OCDD		725	3.55	0.0001	7.25e-02	7.25e-02	
2,3,7,8-TCDF	ND		1.44	0.1	0.00e+00	7.20e-02	
1,2,3,7,8-PECDF	ND		1.44	0.05	0.00e+00	3.60e-02	
2,3,4,7,8-PECDF		16.5	1.44	0.5	8.25e+00	8.25e+00	
1,2,3,4,7,8-HXCDF		44.2	1.44	0.1	4.42e+00	4.42e+00	
1,2,3,6,7,8-HXCDF		31.2	1.44	0.1	3.12e+00	3.12e+00	
1,2,3,7,8,9-HXCDF	ND		1.44	0.1	0.00e+00	7.20e-02	
2,3,4,6,7,8-HXCDF	ND		1.44	0.1	0.00e+00	7.20e-02	
1,2,3,4,6,7,8-HPCDF		93.0	1.44	0.01	9.30e-01	9.30e-01	
1,2,3,4,7,8,9-HPCDF		7.18	1.44	0.01	7.18e-02	7.18e-02	
OCDF	ND		3.55	0.0001	0.00e+00	1.78e-04	
			TOTAL TEQ		93.9	94.2	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		62.1	1.44	1	6.21e+01	6.21e+01	
1,2,3,7,8-PECDD		11.1	1.44	1	1.11e+01	1.11e+01	
1,2,3,4,7,8-HXCDD	ND		1.44	0.1	0.00e+00	7.20e-02	
1,2,3,6,7,8-HXCDD		34.1	1.44	0.1	3.41e+00	3.41e+00	
1,2,3,7,8,9-HXCDD	ND		1.44	0.1	0.00e+00	7.20e-02	
1,2,3,4,6,7,8-HPCDD		37.7	1.44	0.01	3.77e-01	3.77e-01	
OCDD		725	3.55	0.0003	2.18e-01	2.18e-01	
2,3,7,8-TCDF	ND		1.44	0.1	0.00e+00	7.20e-02	
1,2,3,7,8-PECDF	ND		1.44	0.03	0.00e+00	2.16e-02	
2,3,4,7,8-PECDF		16.5	1.44	0.3	4.95e+00	4.95e+00	
1,2,3,4,7,8-HXCDF		44.2	1.44	0.1	4.42e+00	4.42e+00	
1,2,3,6,7,8-HXCDF		31.2	1.44	0.1	3.12e+00	3.12e+00	
1,2,3,7,8,9-HXCDF	ND		1.44	0.1	0.00e+00	7.20e-02	
2,3,4,6,7,8-HXCDF	ND		1.44	0.1	0.00e+00	7.20e-02	
1,2,3,4,6,7,8-HPCDF		93.0	1.44	0.01	9.30e-01	9.30e-01	
1,2,3,4,7,8,9-HPCDF		7.18	1.44	0.01	7.18e-02	7.18e-02	
OCDF	ND		3.55	0.0003	0.00e+00	5.33e-04	
			TOTAL TEQ		90.7	91.1	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

NOTE: * Estimated value based on lipid data from 763 Vietnamese Males

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 21-Mar-2007 08:39:57; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-13_TEQ_SJ636313_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB009 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-25 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	49.3 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 13:26:56	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.040	0.0040	0.86	1.001
1,2,3,7,8-PECDD [3]	NDR	0.027	0.0040	0.90	1.000
1,2,3,4,7,8-HXCDD	NDR	0.013	0.0040	1.56	1.001
1,2,3,6,7,8-HXCDD		0.056	0.0040	1.13	1.000
1,2,3,7,8,9-HXCDD	NDR	0.016	0.0040	0.99	1.010
1,2,3,4,6,7,8-HPCDD		0.101	0.0040	1.00	1.000
OCDD		0.985	0.0040	0.91	1.001
2,3,7,8-TCDF	NDR	0.009	0.0040	1.17	1.001
1,2,3,7,8-PECDF	ND		0.0040		
2,3,4,7,8-PECDF		0.040	0.0040	1.37	1.001
1,2,3,4,7,8-HXCDF		0.106	0.0040	1.21	1.000
1,2,3,6,7,8-HXCDF		0.081	0.0040	1.25	1.000
1,2,3,7,8,9-HXCDF	ND		0.0040		
2,3,4,6,7,8-HXCDF		0.009	0.0040	1.38	1.000
1,2,3,4,6,7,8-HPCDF		0.166	0.0040	1.01	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.017	0.0040	1.60	1.000
OCDF	NDR	0.010	0.0040	0.59	1.002
TOTAL TETRA-DIOXINS		0.040	0.0040		
TOTAL PENTA-DIOXINS	ND		0.0040		
TOTAL HEXA-DIOXINS		0.062	0.0040		
TOTAL HEPTA-DIOXINS		0.121	0.0040		
TOTAL TETRA-FURANS	ND		0.0040		
TOTAL PENTA-FURANS		0.040	0.0040		
TOTAL HEXA-FURANS		0.195	0.0040		
TOTAL HEPTA-FURANS		0.166	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB009 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-25 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	49.3 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 13:26:56	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_064 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	800	80.0	0.80	1.012
13C-1,2,3,7,8-PECDD [4]		1000	891	89.1	0.62	1.381
13C-1,2,3,4,7,8-HXCDD		1000	852	85.2	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		1000	815	81.5	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	637	63.7	1.04	1.094
13C-OCDD		2000	1170	58.6	0.89	1.178
13C-2,3,7,8-TCDF		1000	799	79.9	0.78	0.966
13C-1,2,3,7,8-PECDF		1000	807	80.7	1.52	1.283
13C-2,3,4,7,8-PECDF		1000	803	80.3	1.54	1.349
13C-1,2,3,4,7,8-HXCDF		1000	776	77.6	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		1000	782	78.2	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	765	76.5	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		1000	733	73.3	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	665	66.5	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	634	63.4	0.46	1.103

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-25_Form2_SJ641399.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB009 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	49.3 g (wet)	**Lab Sample I.D.:**	L9584-25 RL
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_064 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.040	0.0040	1	4.00e-02	4.00e-02	
1,2,3,7,8-PECDD	ND		0.0040	1	0.00e+00	2.00e-03	
1,2,3,4,7,8-HXCDD	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,6,7,8-HXCDD		0.056	0.0040	0.1	5.60e-03	5.60e-03	
1,2,3,7,8,9-HXCDD	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDD		0.101	0.0040	0.01	1.01e-03	1.01e-03	
OCDD		0.985	0.0040	0.0001	9.85e-05	9.85e-05	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.05	0.00e+00	1.00e-04	
2,3,4,7,8-PECDF		0.040	0.0040	0.5	2.00e-02	2.00e-02	
1,2,3,4,7,8-HXCDF		0.106	0.0040	0.1	1.06e-02	1.06e-02	
1,2,3,6,7,8-HXCDF		0.081	0.0040	0.1	8.10e-03	8.10e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.009	0.0040	0.1	9.00e-04	9.00e-04	
1,2,3,4,6,7,8-HPCDF		0.166	0.0040	0.01	1.66e-03	1.66e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0040	0.01	0.00e+00	2.00e-05	
OCDF	ND		0.0040	0.0001	0.00e+00	2.00e-07	
			TOTAL TEQ		0.0880	0.0909	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.040	0.0040	1	4.00e-02	4.00e-02	
1,2,3,7,8-PECDD	ND		0.0040	1	0.00e+00	2.00e-03	
1,2,3,4,7,8-HXCDD	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,6,7,8-HXCDD		0.056	0.0040	0.1	5.60e-03	5.60e-03	
1,2,3,7,8,9-HXCDD	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDD		0.101	0.0040	0.01	1.01e-03	1.01e-03	
OCDD		0.985	0.0040	0.0003	2.96e-04	2.96e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.03	0.00e+00	6.00e-05	
2,3,4,7,8-PECDF		0.040	0.0040	0.3	1.20e-02	1.20e-02	
1,2,3,4,7,8-HXCDF		0.106	0.0040	0.1	1.06e-02	1.06e-02	
1,2,3,6,7,8-HXCDF		0.081	0.0040	0.1	8.10e-03	8.10e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.009	0.0040	0.1	9.00e-04	9.00e-04	
1,2,3,4,6,7,8-HPCDF		0.166	0.0040	0.01	1.66e-03	1.66e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0040	0.01	0.00e+00	2.00e-05	
OCDF	ND		0.0040	0.0003	0.00e+00	6.00e-07	
			TOTAL TEQ		0.0802	0.0830	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L9584-25_TEQ_SJ641399.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB009 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-25 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.100 g (lipid)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 13:26:56	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1
		% Lipid:	0.21

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		19.7	1.97	0.86	1.001
1,2,3,7,8-PECDD [3]	NDR	13.3	1.97	0.90	1.000
1,2,3,4,7,8-HXCDD	NDR	6.41	1.97	1.56	1.001
1,2,3,6,7,8-HXCDD		27.6	1.97	1.13	1.000
1,2,3,7,8,9-HXCDD	NDR	7.89	1.97	0.99	1.010
1,2,3,4,6,7,8-HPCDD		49.8	1.97	1.00	1.000
OCDD		486	1.97	0.91	1.001
2,3,7,8-TCDF	NDR	4.44	1.97	1.17	1.001
1,2,3,7,8-PECDF	ND		1.97		
2,3,4,7,8-PECDF		19.7	1.97	1.37	1.001
1,2,3,4,7,8-HXCDF		52.3	1.97	1.21	1.000
1,2,3,6,7,8-HXCDF		39.9	1.97	1.25	1.000
1,2,3,7,8,9-HXCDF	ND		1.97		
2,3,4,6,7,8-HXCDF		4.44	1.97	1.38	1.000
1,2,3,4,6,7,8-HPCDF		81.8	1.97	1.01	1.000
1,2,3,4,7,8,9-HPCDF	NDR	8.38	1.97	1.60	1.000
OCDF	NDR	4.93	1.97	0.59	1.002
TOTAL TETRA-DIOXINS		19.7	1.97		
TOTAL PENTA-DIOXINS	ND		1.97		
TOTAL HEXA-DIOXINS		30.6	1.97		
TOTAL HEPTA-DIOXINS		59.7	1.97		
TOTAL TETRA-FURANS	ND		1.97		
TOTAL PENTA-FURANS		19.7	1.97		
TOTAL HEXA-FURANS		96.1	1.97		
TOTAL HEPTA-FURANS		81.8	1.97		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9584-25_Form1A_DX72_064S7_SJ641399_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB009 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-25 RL
Sample Size:	0.100 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	DX72_064 S: 7

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		19.7	1.97	1	1.97e+01	1.97e+01	
1,2,3,7,8-PECDD	ND		1.97	1	0.00e+00	9.85e-01	
1,2,3,4,7,8-HXCDD	ND		1.97	0.1	0.00e+00	9.85e-02	
1,2,3,6,7,8-HXCDD		27.6	1.97	0.1	2.76e+00	2.76e+00	
1,2,3,7,8,9-HXCDD	ND		1.97	0.1	0.00e+00	9.85e-02	
1,2,3,4,6,7,8-HPCDD		49.8	1.97	0.01	4.98e-01	4.98e-01	
OCDD		486	1.97	0.0001	4.86e-02	4.86e-02	
2,3,7,8-TCDF	ND		1.97	0.1	0.00e+00	9.85e-02	
1,2,3,7,8-PECDF	ND		1.97	0.05	0.00e+00	4.93e-02	
2,3,4,7,8-PECDF		19.7	1.97	0.5	9.85e+00	9.85e+00	
1,2,3,4,7,8-HXCDF		52.3	1.97	0.1	5.23e+00	5.23e+00	
1,2,3,6,7,8-HXCDF		39.9	1.97	0.1	3.99e+00	3.99e+00	
1,2,3,7,8,9-HXCDF	ND		1.97	0.1	0.00e+00	9.85e-02	
2,3,4,6,7,8-HXCDF		4.44	1.97	0.1	4.44e-01	4.44e-01	
1,2,3,4,6,7,8-HPCDF		81.8	1.97	0.01	8.18e-01	8.18e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.97	0.01	0.00e+00	9.85e-03	
OCDF	ND		1.97	0.0001	0.00e+00	9.85e-05	
			TOTAL TEQ		43.3	44.8	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		19.7	1.97	1	1.97e+01	1.97e+01	
1,2,3,7,8-PECDD	ND		1.97	1	0.00e+00	9.85e-01	
1,2,3,4,7,8-HXCDD	ND		1.97	0.1	0.00e+00	9.85e-02	
1,2,3,6,7,8-HXCDD		27.6	1.97	0.1	2.76e+00	2.76e+00	
1,2,3,7,8,9-HXCDD	ND		1.97	0.1	0.00e+00	9.85e-02	
1,2,3,4,6,7,8-HPCDD		49.8	1.97	0.01	4.98e-01	4.98e-01	
OCDD		486	1.97	0.0003	1.46e-01	1.46e-01	
2,3,7,8-TCDF	ND		1.97	0.1	0.00e+00	9.85e-02	
1,2,3,7,8-PECDF	ND		1.97	0.03	0.00e+00	2.96e-02	
2,3,4,7,8-PECDF		19.7	1.97	0.3	5.91e+00	5.91e+00	
1,2,3,4,7,8-HXCDF		52.3	1.97	0.1	5.23e+00	5.23e+00	
1,2,3,6,7,8-HXCDF		39.9	1.97	0.1	3.99e+00	3.99e+00	
1,2,3,7,8,9-HXCDF	ND		1.97	0.1	0.00e+00	9.85e-02	
2,3,4,6,7,8-HXCDF		4.44	1.97	0.1	4.44e-01	4.44e-01	
1,2,3,4,6,7,8-HPCDF		81.8	1.97	0.01	8.18e-01	8.18e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.97	0.01	0.00e+00	9.85e-03	
OCDF	ND		1.97	0.0003	0.00e+00	2.96e-04	
			TOTAL TEQ		39.5	40.9	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 26-Apr-2007 19:05:32; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-25_TEQ_SJ641399_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB010 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-9 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	56.4 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 14:21:30	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_049 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.518	0.0040	0.78	1.001
1,2,3,7,8-PECDD [3]		0.060	0.0040	0.59	1.001
1,2,3,4,7,8-HXCDD		0.025	0.0040	1.27	1.000
1,2,3,6,7,8-HXCDD		0.195	0.0040	1.25	1.000
1,2,3,7,8,9-HXCDD		0.031	0.0040	1.24	1.010
1,2,3,4,6,7,8-HPCDD		0.131	0.0040	1.03	1.000
OCDD		2.69	0.0040	0.90	1.001
2,3,7,8-TCDF	ND		0.0040		
1,2,3,7,8-PECDF	ND		0.0040		
2,3,4,7,8-PECDF		0.075	0.0040	1.60	1.000
1,2,3,4,7,8-HXCDF		0.209	0.0040	1.27	1.000
1,2,3,6,7,8-HXCDF		0.151	0.0040	1.25	1.000
1,2,3,7,8,9-HXCDF	ND		0.0040		
2,3,4,6,7,8-HXCDF	NDR	0.009	0.0040	0.86	1.000
1,2,3,4,6,7,8-HPCDF		0.499	0.0040	1.06	1.000
1,2,3,4,7,8,9-HPCDF		0.028	0.0040	0.95	1.000
OCDF		0.022	0.0040	0.96	1.002
TOTAL TETRA-DIOXINS		0.518	0.0040		
TOTAL PENTA-DIOXINS		0.060	0.0040		
TOTAL HEXA-DIOXINS		0.257	0.0040		
TOTAL HEPTA-DIOXINS		0.155	0.0040		
TOTAL TETRA-FURANS	ND		0.0040		
TOTAL PENTA-FURANS		0.075	0.0040		
TOTAL HEXA-FURANS		0.365	0.0040		
TOTAL HEPTA-FURANS		0.527	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-9_Form1A_SJ640664.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB010 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-9 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	56.4 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 14:21:30	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_049 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	638	63.8	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	780	78.0	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		1000	639	63.9	1.32	0.987
13C-1,2,3,6,7,8-HXCDD		1000	613	61.3	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	584	58.4	1.06	1.095
13C-OCDD		2000	1020	51.1	0.91	1.179
13C-2,3,7,8-TCDF		1000	621	62.1	0.81	0.967
13C-1,2,3,7,8-PECDF		1000	685	68.5	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	697	69.7	1.59	1.351
13C-1,2,3,4,7,8-HXCDF		1000	621	62.1	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		1000	589	58.9	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	610	61.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	600	60.0	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF		1000	540	54.0	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	565	56.5	0.45	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-9_Form2_SJ640664.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB010 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	56.4 g (wet)	**Lab Sample I.D.:**	L9584-9 R
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	DX72_049 S: 8

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.518	0.0040	1	5.18e-01	5.18e-01	
1,2,3,7,8-PECDD		0.060	0.0040	1	6.00e-02	6.00e-02	
1,2,3,4,7,8-HXCDD		0.025	0.0040	0.1	2.50e-03	2.50e-03	
1,2,3,6,7,8-HXCDD		0.195	0.0040	0.1	1.95e-02	1.95e-02	
1,2,3,7,8,9-HXCDD		0.031	0.0040	0.1	3.10e-03	3.10e-03	
1,2,3,4,6,7,8-HPCDD		0.131	0.0040	0.01	1.31e-03	1.31e-03	
OCDD		2.69	0.0040	0.0001	2.69e-04	2.69e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.05	0.00e+00	1.00e-04	
2,3,4,7,8-PECDF		0.075	0.0040	0.5	3.75e-02	3.75e-02	
1,2,3,4,7,8-HXCDF		0.209	0.0040	0.1	2.09e-02	2.09e-02	
1,2,3,6,7,8-HXCDF		0.151	0.0040	0.1	1.51e-02	1.51e-02	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDF		0.499	0.0040	0.01	4.99e-03	4.99e-03	
1,2,3,4,7,8,9-HPCDF		0.028	0.0040	0.01	2.80e-04	2.80e-04	
OCDF		0.022	0.0040	0.0001	2.20e-06	2.20e-06	
			TOTAL TEQ		0.683	0.684	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.518	0.0040	1	5.18e-01	5.18e-01	
1,2,3,7,8-PECDD		0.060	0.0040	1	6.00e-02	6.00e-02	
1,2,3,4,7,8-HXCDD		0.025	0.0040	0.1	2.50e-03	2.50e-03	
1,2,3,6,7,8-HXCDD		0.195	0.0040	0.1	1.95e-02	1.95e-02	
1,2,3,7,8,9-HXCDD		0.031	0.0040	0.1	3.10e-03	3.10e-03	
1,2,3,4,6,7,8-HPCDD		0.131	0.0040	0.01	1.31e-03	1.31e-03	
OCDD		2.69	0.0040	0.0003	8.07e-04	8.07e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.03	0.00e+00	6.00e-05	
2,3,4,7,8-PECDF		0.075	0.0040	0.3	2.25e-02	2.25e-02	
1,2,3,4,7,8-HXCDF		0.209	0.0040	0.1	2.09e-02	2.09e-02	
1,2,3,6,7,8-HXCDF		0.151	0.0040	0.1	1.51e-02	1.51e-02	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDF		0.499	0.0040	0.01	4.99e-03	4.99e-03	
1,2,3,4,7,8,9-HPCDF		0.028	0.0040	0.01	2.80e-04	2.80e-04	
OCDF		0.022	0.0040	0.0003	6.60e-06	6.60e-06	
			TOTAL TEQ		0.669	0.670	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-9_TEQ_SJ640664.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB010 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-9 R
Matrix:	BLOOD	**Sample Size:**	0.0850 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	22-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 **Time:** 14:21:30	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_049 S: 8**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_048 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_049 S: 2
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.15

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		343	2.65	0.78	1.001
1,2,3,7,8-PECDD [3]		39.8	2.65	0.59	1.001
1,2,3,4,7,8-HXCDD		16.6	2.65	1.27	1.000
1,2,3,6,7,8-HXCDD		129	2.65	1.25	1.000
1,2,3,7,8,9-HXCDD		20.6	2.65	1.24	1.010
1,2,3,4,6,7,8-HPCDD		86.8	2.65	1.03	1.000
OCDD		1780	2.65	0.90	1.001
2,3,7,8-TCDF	ND		2.65		
1,2,3,7,8-PECDF	ND		2.65		
2,3,4,7,8-PECDF		49.7	2.65	1.60	1.000
1,2,3,4,7,8-HXCDF		139	2.65	1.27	1.000
1,2,3,6,7,8-HXCDF		100	2.65	1.25	1.000
1,2,3,7,8,9-HXCDF	ND		2.65		
2,3,4,6,7,8-HXCDF	NDR	5.97	2.65	0.86	1.000
1,2,3,4,6,7,8-HPCDF		331	2.65	1.06	1.000
1,2,3,4,7,8,9-HPCDF		18.6	2.65	0.95	1.000
OCDF		14.6	2.65	0.96	1.002
TOTAL TETRA-DIOXINS		343	2.65		
TOTAL PENTA-DIOXINS		39.8	2.65		
TOTAL HEXA-DIOXINS		170	2.65		
TOTAL HEPTA-DIOXINS		103	2.65		
TOTAL TETRA-FURANS	ND		2.65		
TOTAL PENTA-FURANS		49.7	2.65		
TOTAL HEXA-FURANS		242	2.65		
TOTAL HEPTA-FURANS		349	2.65		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 26-Apr-2007 19:01:59; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-9_Form1A_DX72_049S8_SJ640664_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB010 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-9 R
Sample Size:	0.0850 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	**DX72_049 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		343	2.65	1	3.43e+02	3.43e+02	
1,2,3,7,8-PECDD		39.8	2.65	1	3.98e+01	3.98e+01	
1,2,3,4,7,8-HXCDD		16.6	2.65	0.1	1.66e+00	1.66e+00	
1,2,3,6,7,8-HXCDD		129	2.65	0.1	1.29e+01	1.29e+01	
1,2,3,7,8,9-HXCDD		20.6	2.65	0.1	2.06e+00	2.06e+00	
1,2,3,4,6,7,8-HPCDD		86.8	2.65	0.01	8.68e-01	8.68e-01	
OCDD		1780	2.65	0.0001	1.78e-01	1.78e-01	
2,3,7,8-TCDF	ND		2.65	0.1	0.00e+00	1.33e-01	
1,2,3,7,8-PECDF	ND		2.65	0.05	0.00e+00	6.63e-02	
2,3,4,7,8-PECDF		49.7	2.65	0.5	2.49e+01	2.49e+01	
1,2,3,4,7,8-HXCDF		139	2.65	0.1	1.39e+01	1.39e+01	
1,2,3,6,7,8-HXCDF		100	2.65	0.1	1.00e+01	1.00e+01	
1,2,3,7,8,9-HXCDF	ND		2.65	0.1	0.00e+00	1.33e-01	
2,3,4,6,7,8-HXCDF	ND		2.65	0.1	0.00e+00	1.33e-01	
1,2,3,4,6,7,8-HPCDF		331	2.65	0.01	3.31e+00	3.31e+00	
1,2,3,4,7,8,9-HPCDF		18.6	2.65	0.01	1.86e-01	1.86e-01	
OCDF		14.6	2.65	0.0001	1.46e-03	1.46e-03	
			TOTAL TEQ		453	453	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		343	2.65	1	3.43e+02	3.43e+02	
1,2,3,7,8-PECDD		39.8	2.65	1	3.98e+01	3.98e+01	
1,2,3,4,7,8-HXCDD		16.6	2.65	0.1	1.66e+00	1.66e+00	
1,2,3,6,7,8-HXCDD		129	2.65	0.1	1.29e+01	1.29e+01	
1,2,3,7,8,9-HXCDD		20.6	2.65	0.1	2.06e+00	2.06e+00	
1,2,3,4,6,7,8-HPCDD		86.8	2.65	0.01	8.68e-01	8.68e-01	
OCDD		1780	2.65	0.0003	5.34e-01	5.34e-01	
2,3,7,8-TCDF	ND		2.65	0.1	0.00e+00	1.33e-01	
1,2,3,7,8-PECDF	ND		2.65	0.03	0.00e+00	3.98e-02	
2,3,4,7,8-PECDF		49.7	2.65	0.3	1.49e+01	1.49e+01	
1,2,3,4,7,8-HXCDF		139	2.65	0.1	1.39e+01	1.39e+01	
1,2,3,6,7,8-HXCDF		100	2.65	0.1	1.00e+01	1.00e+01	
1,2,3,7,8,9-HXCDF	ND		2.65	0.1	0.00e+00	1.33e-01	
2,3,4,6,7,8-HXCDF	ND		2.65	0.1	0.00e+00	1.33e-01	
1,2,3,4,6,7,8-HPCDF		331	2.65	0.01	3.31e+00	3.31e+00	
1,2,3,4,7,8,9-HPCDF		18.6	2.65	0.01	1.86e-01	1.86e-01	
OCDF		14.6	2.65	0.0003	4.38e-03	4.38e-03	
			TOTAL TEQ		443	444	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 26-Apr-2007 19:05:32; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-9_TEQ_SJ640664_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB011 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-24
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	47.2 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 **Time:** 05:03:56	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_043 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.165	0.0040	0.77	1.001
1,2,3,7,8-PECDD [3]		0.026	0.0040	0.62	1.001
1,2,3,4,7,8-HXCDD		0.018	0.0040	1.09	1.000
1,2,3,6,7,8-HXCDD		0.093	0.0040	1.19	1.000
1,2,3,7,8,9-HXCDD		0.019	0.0040	1.37	1.010
1,2,3,4,6,7,8-HPCDD		0.132	0.0040	1.00	1.000
OCDD		1.87	0.0040	0.90	1.000
2,3,7,8-TCDF	ND		0.0040		
1,2,3,7,8-PECDF	ND		0.0040		
2,3,4,7,8-PECDF		0.049	0.0040	1.51	1.001
1,2,3,4,7,8-HXCDF		0.142	0.0040	1.25	1.000
1,2,3,6,7,8-HXCDF		0.099	0.0040	1.25	1.000
1,2,3,7,8,9-HXCDF	ND		0.0040		
2,3,4,6,7,8-HXCDF		0.016	0.0040	1.40	1.000
1,2,3,4,6,7,8-HPCDF		0.200	0.0040	1.01	1.000
1,2,3,4,7,8,9-HPCDF		0.020	0.0040	0.97	1.000
OCDF		0.009	0.0040	0.99	1.002
TOTAL TETRA-DIOXINS		0.165	0.0040		
TOTAL PENTA-DIOXINS		0.026	0.0040		
TOTAL HEXA-DIOXINS		0.130	0.0040		
TOTAL HEPTA-DIOXINS		0.145	0.0040		
TOTAL TETRA-FURANS	ND		0.0040		
TOTAL PENTA-FURANS		0.049	0.0040		
TOTAL HEXA-FURANS		0.257	0.0040		
TOTAL HEPTA-FURANS		0.220	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Henry Huang QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB011 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-24
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	47.2 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 **Time:** 05:03:56	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_043 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	622	62.2	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	743	74.3	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	641	64.1	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		1000	596	59.6	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	574	57.4	1.06	1.094
13C-OCDD		2000	990	49.5	0.90	1.178
13C-2,3,7,8-TCDF		1000	615	61.5	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	687	68.7	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	682	68.2	1.60	1.352
13C-1,2,3,4,7,8-HXCDF		1000	606	60.6	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	561	56.1	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	597	59.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	584	58.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	540	54.0	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	558	55.8	0.47	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-24_Form2_SJ638387.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB011 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	47.2 g (wet)	**Lab Sample I.D.:**	L9584-24
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_043 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.165	0.0040	1	1.65e-01	1.65e-01	
1,2,3,7,8-PECDD		0.026	0.0040	1	2.60e-02	2.60e-02	
1,2,3,4,7,8-HXCDD		0.018	0.0040	0.1	1.80e-03	1.80e-03	
1,2,3,6,7,8-HXCDD		0.093	0.0040	0.1	9.30e-03	9.30e-03	
1,2,3,7,8,9-HXCDD		0.019	0.0040	0.1	1.90e-03	1.90e-03	
1,2,3,4,6,7,8-HPCDD		0.132	0.0040	0.01	1.32e-03	1.32e-03	
OCDD		1.87	0.0040	0.0001	1.87e-04	1.87e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.05	0.00e+00	1.00e-04	
2,3,4,7,8-PECDF		0.049	0.0040	0.5	2.45e-02	2.45e-02	
1,2,3,4,7,8-HXCDF		0.142	0.0040	0.1	1.42e-02	1.42e-02	
1,2,3,6,7,8-HXCDF		0.099	0.0040	0.1	9.90e-03	9.90e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.016	0.0040	0.1	1.60e-03	1.60e-03	
1,2,3,4,6,7,8-HPCDF		0.200	0.0040	0.01	2.00e-03	2.00e-03	
1,2,3,4,7,8,9-HPCDF		0.020	0.0040	0.01	2.00e-04	2.00e-04	
OCDF		0.009	0.0040	0.0001	9.00e-07	9.00e-07	
			TOTAL TEQ		0.258	0.258	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.165	0.0040	1	1.65e-01	1.65e-01	
1,2,3,7,8-PECDD		0.026	0.0040	1	2.60e-02	2.60e-02	
1,2,3,4,7,8-HXCDD		0.018	0.0040	0.1	1.80e-03	1.80e-03	
1,2,3,6,7,8-HXCDD		0.093	0.0040	0.1	9.30e-03	9.30e-03	
1,2,3,7,8,9-HXCDD		0.019	0.0040	0.1	1.90e-03	1.90e-03	
1,2,3,4,6,7,8-HPCDD		0.132	0.0040	0.01	1.32e-03	1.32e-03	
OCDD		1.87	0.0040	0.0003	5.61e-04	5.61e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.03	0.00e+00	6.00e-05	
2,3,4,7,8-PECDF		0.049	0.0040	0.3	1.47e-02	1.47e-02	
1,2,3,4,7,8-HXCDF		0.142	0.0040	0.1	1.42e-02	1.42e-02	
1,2,3,6,7,8-HXCDF		0.099	0.0040	0.1	9.90e-03	9.90e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.016	0.0040	0.1	1.60e-03	1.60e-03	
1,2,3,4,6,7,8-HPCDF		0.200	0.0040	0.01	2.00e-03	2.00e-03	
1,2,3,4,7,8,9-HPCDF		0.020	0.0040	0.01	2.00e-04	2.00e-04	
OCDF		0.009	0.0040	0.0003	2.70e-06	2.70e-06	
			TOTAL TEQ		0.248	0.249	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-24_TEQ_SJ638387.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB011 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-24
Matrix:	BLOOD	**Sample Size:**	0.110 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jan-2007 **Time:** 05:03:56	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_043 S: 10**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_042 S: 8
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_043 S: 2
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.23

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		70.8	1.72	0.77	1.001
1,2,3,7,8-PECDD [3]		11.2	1.72	0.62	1.001
1,2,3,4,7,8-HXCDD		7.72	1.72	1.09	1.000
1,2,3,6,7,8-HXCDD		39.9	1.72	1.19	1.000
1,2,3,7,8,9-HXCDD		8.15	1.72	1.37	1.010
1,2,3,4,6,7,8-HPCDD		56.6	1.72	1.00	1.000
OCDD		802	1.72	0.90	1.000
2,3,7,8-TCDF	ND		1.72		
1,2,3,7,8-PECDF	ND		1.72		
2,3,4,7,8-PECDF		21.0	1.72	1.51	1.001
1,2,3,4,7,8-HXCDF		60.9	1.72	1.25	1.000
1,2,3,6,7,8-HXCDF		42.5	1.72	1.25	1.000
1,2,3,7,8,9-HXCDF	ND		1.72		
2,3,4,6,7,8-HXCDF		6.86	1.72	1.40	1.000
1,2,3,4,6,7,8-HPCDF		85.8	1.72	1.01	1.000
1,2,3,4,7,8,9-HPCDF		8.58	1.72	0.97	1.000
OCDF		3.86	1.72	0.99	1.002
TOTAL TETRA-DIOXINS		70.8	1.72		
TOTAL PENTA-DIOXINS		11.2	1.72		
TOTAL HEXA-DIOXINS		55.8	1.72		
TOTAL HEPTA-DIOXINS		62.2	1.72		
TOTAL TETRA-FURANS	ND		1.72		
TOTAL PENTA-FURANS		21.0	1.72		
TOTAL HEXA-FURANS		110	1.72		
TOTAL HEPTA-FURANS		94.4	1.72		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 26-Apr-2007 18:45:56; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-24_Form1A_DX72_043S10_SJ638387_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB011 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-24
Sample Size:	0.110 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	**DX72_043 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		70.8	1.72	1	7.08e+01	7.08e+01	
1,2,3,7,8-PECDD		11.2	1.72	1	1.12e+01	1.12e+01	
1,2,3,4,7,8-HXCDD		7.72	1.72	0.1	7.72e-01	7.72e-01	
1,2,3,6,7,8-HXCDD		39.9	1.72	0.1	3.99e+00	3.99e+00	
1,2,3,7,8,9-HXCDD		8.15	1.72	0.1	8.15e-01	8.15e-01	
1,2,3,4,6,7,8-HPCDD		56.6	1.72	0.01	5.66e-01	5.66e-01	
OCDD		802	1.72	0.0001	8.02e-02	8.02e-02	
2,3,7,8-TCDF	ND		1.72	0.1	0.00e+00	8.60e-02	
1,2,3,7,8-PECDF	ND		1.72	0.05	0.00e+00	4.30e-02	
2,3,4,7,8-PECDF		21.0	1.72	0.5	1.05e+01	1.05e+01	
1,2,3,4,7,8-HXCDF		60.9	1.72	0.1	6.09e+00	6.09e+00	
1,2,3,6,7,8-HXCDF		42.5	1.72	0.1	4.25e+00	4.25e+00	
1,2,3,7,8,9-HXCDF	ND		1.72	0.1	0.00e+00	8.60e-02	
2,3,4,6,7,8-HXCDF		6.86	1.72	0.1	6.86e-01	6.86e-01	
1,2,3,4,6,7,8-HPCDF		85.8	1.72	0.01	8.58e-01	8.58e-01	
1,2,3,4,7,8,9-HPCDF		8.58	1.72	0.01	8.58e-02	8.58e-02	
OCDF		3.86	1.72	0.0001	3.86e-04	3.86e-04	
			TOTAL TEQ		111	111	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		70.8	1.72	1	7.08e+01	7.08e+01	
1,2,3,7,8-PECDD		11.2	1.72	1	1.12e+01	1.12e+01	
1,2,3,4,7,8-HXCDD		7.72	1.72	0.1	7.72e-01	7.72e-01	
1,2,3,6,7,8-HXCDD		39.9	1.72	0.1	3.99e+00	3.99e+00	
1,2,3,7,8,9-HXCDD		8.15	1.72	0.1	8.15e-01	8.15e-01	
1,2,3,4,6,7,8-HPCDD		56.6	1.72	0.01	5.66e-01	5.66e-01	
OCDD		802	1.72	0.0003	2.41e-01	2.41e-01	
2,3,7,8-TCDF	ND		1.72	0.1	0.00e+00	8.60e-02	
1,2,3,7,8-PECDF	ND		1.72	0.03	0.00e+00	2.58e-02	
2,3,4,7,8-PECDF		21.0	1.72	0.3	6.30e+00	6.30e+00	
1,2,3,4,7,8-HXCDF		60.9	1.72	0.1	6.09e+00	6.09e+00	
1,2,3,6,7,8-HXCDF		42.5	1.72	0.1	4.25e+00	4.25e+00	
1,2,3,7,8,9-HXCDF	ND		1.72	0.1	0.00e+00	8.60e-02	
2,3,4,6,7,8-HXCDF		6.86	1.72	0.1	6.86e-01	6.86e-01	
1,2,3,4,6,7,8-HPCDF		85.8	1.72	0.01	8.58e-01	8.58e-01	
1,2,3,4,7,8,9-HPCDF		8.58	1.72	0.01	8.58e-02	8.58e-02	
OCDF		3.86	1.72	0.0003	1.16e-03	1.16e-03	
			TOTAL TEQ		107	107	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 26-Apr-2007 18:49:45; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-24_TEQ_SJ638387_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB012 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-55
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.5 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 12:32:13	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: **7**
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_049 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.101	0.0030	0.78	1.001
1,2,3,7,8-PECDD [3]		0.058	0.0030	0.64	1.000
1,2,3,4,7,8-HXCDD		0.039	0.0030	1.27	1.000
1,2,3,6,7,8-HXCDD		0.232	0.0030	1.26	1.000
1,2,3,7,8,9-HXCDD		0.061	0.0030	1.17	1.011
1,2,3,4,6,7,8-HPCDD		0.344	0.0030	1.03	1.000
OCDD		3.60	0.0032	0.90	1.000
2,3,7,8-TCDF		0.003	0.0030	0.77	1.001
1,2,3,7,8-PECDF		0.008	0.0030	1.43	1.000
2,3,4,7,8-PECDF		0.092	0.0030	1.60	1.000
1,2,3,4,7,8-HXCDF		0.282	0.0030	1.27	1.000
1,2,3,6,7,8-HXCDF		0.230	0.0030	1.24	1.000
1,2,3,7,8,9-HXCDF		0.004	0.0030	1.34	1.000
2,3,4,6,7,8-HXCDF		0.015	0.0030	1.31	1.000
1,2,3,4,6,7,8-HPCDF		0.326	0.0030	1.05	1.000
1,2,3,4,7,8,9-HPCDF		0.022	0.0030	1.05	1.000
OCDF		0.028	0.0030	0.87	1.002
TOTAL TETRA-DIOXINS		0.101	0.0030		
TOTAL PENTA-DIOXINS		0.058	0.0030		
TOTAL HEXA-DIOXINS		0.336	0.0030		
TOTAL HEPTA-DIOXINS		0.376	0.0030		
TOTAL TETRA-FURANS		0.003	0.0030		
TOTAL PENTA-FURANS		0.105	0.0030		
TOTAL HEXA-FURANS		0.532	0.0030		
TOTAL HEPTA-FURANS		0.357	0.0030		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-55_Form1A_SJ635622.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB012 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-55
Matrix:	BLOOD	**Sample Size:**	60.5 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 **Time:** 12:32:13	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_049 S: 6**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_049 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	652	65.2	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	795	79.5	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	616	61.6	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	598	59.8	1.26	0.989
13C-1,2,3,4,6,7,8-HPCDD		1000	548	54.8	1.06	1.095
13C-OCDD		2000	892	44.6	0.91	1.179
13C-2,3,7,8-TCDF		1000	623	62.3	0.80	0.967
13C-1,2,3,7,8-PECDF		1000	712	71.2	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	708	70.8	1.59	1.352
13C-1,2,3,4,7,8-HXCDF		1000	589	58.9	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	576	57.6	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	606	60.6	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	589	58.9	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	512	51.2	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	535	53.5	0.45	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB012 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.5 g (wet)	**Lab Sample I.D.:**	L9584-55
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_049 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.101	0.0030	1	1.01e-01	1.01e-01	
1,2,3,7,8-PECDD		0.058	0.0030	1	5.80e-02	5.80e-02	
1,2,3,4,7,8-HXCDD		0.039	0.0030	0.1	3.90e-03	3.90e-03	
1,2,3,6,7,8-HXCDD		0.232	0.0030	0.1	2.32e-02	2.32e-02	
1,2,3,7,8,9-HXCDD		0.061	0.0030	0.1	6.10e-03	6.10e-03	
1,2,3,4,6,7,8-HPCDD		0.344	0.0030	0.01	3.44e-03	3.44e-03	
OCDD		3.60	0.0032	0.0001	3.60e-04	3.60e-04	
2,3,7,8-TCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,7,8-PECDF		0.008	0.0030	0.05	4.00e-04	4.00e-04	
2,3,4,7,8-PECDF		0.092	0.0030	0.5	4.60e-02	4.60e-02	
1,2,3,4,7,8-HXCDF		0.282	0.0030	0.1	2.82e-02	2.82e-02	
1,2,3,6,7,8-HXCDF		0.230	0.0030	0.1	2.30e-02	2.30e-02	
1,2,3,7,8,9-HXCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
2,3,4,6,7,8-HXCDF		0.015	0.0030	0.1	1.50e-03	1.50e-03	
1,2,3,4,6,7,8-HPCDF		0.326	0.0030	0.01	3.26e-03	3.26e-03	
1,2,3,4,7,8,9-HPCDF		0.022	0.0030	0.01	2.20e-04	2.20e-04	
OCDF		0.028	0.0030	0.0001	2.80e-06	2.80e-06	
			TOTAL TEQ		0.299	0.299	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.101	0.0030	1	1.01e-01	1.01e-01	
1,2,3,7,8-PECDD		0.058	0.0030	1	5.80e-02	5.80e-02	
1,2,3,4,7,8-HXCDD		0.039	0.0030	0.1	3.90e-03	3.90e-03	
1,2,3,6,7,8-HXCDD		0.232	0.0030	0.1	2.32e-02	2.32e-02	
1,2,3,7,8,9-HXCDD		0.061	0.0030	0.1	6.10e-03	6.10e-03	
1,2,3,4,6,7,8-HPCDD		0.344	0.0030	0.01	3.44e-03	3.44e-03	
OCDD		3.60	0.0032	0.0003	1.08e-03	1.08e-03	
2,3,7,8-TCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,7,8-PECDF		0.008	0.0030	0.03	2.40e-04	2.40e-04	
2,3,4,7,8-PECDF		0.092	0.0030	0.3	2.76e-02	2.76e-02	
1,2,3,4,7,8-HXCDF		0.282	0.0030	0.1	2.82e-02	2.82e-02	
1,2,3,6,7,8-HXCDF		0.230	0.0030	0.1	2.30e-02	2.30e-02	
1,2,3,7,8,9-HXCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
2,3,4,6,7,8-HXCDF		0.015	0.0030	0.1	1.50e-03	1.50e-03	
1,2,3,4,6,7,8-HPCDF		0.326	0.0030	0.01	3.26e-03	3.26e-03	
1,2,3,4,7,8,9-HPCDF		0.022	0.0030	0.01	2.20e-04	2.20e-04	
OCDF		0.028	0.0030	0.0003	8.40e-06	8.40e-06	
			TOTAL TEQ		0.281	0.281	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-55_TEQ_SJ635622.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB012 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-55
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.140 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 12:32:13	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_049 S: 2
		% Lipid:	0.23

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		43.7	1.30	0.78	1.001
1,2,3,7,8-PECDD [3]		25.1	1.30	0.64	1.000
1,2,3,4,7,8-HXCDD		16.9	1.30	1.27	1.000
1,2,3,6,7,8-HXCDD		100	1.30	1.26	1.000
1,2,3,7,8,9-HXCDD		26.4	1.30	1.17	1.011
1,2,3,4,6,7,8-HPCDD		149	1.30	1.03	1.000
OCDD		1560	1.38	0.90	1.000
2,3,7,8-TCDF		1.30	1.30	0.77	1.001
1,2,3,7,8-PECDF		3.46	1.30	1.43	1.000
2,3,4,7,8-PECDF		39.8	1.30	1.60	1.000
1,2,3,4,7,8-HXCDF		122	1.30	1.27	1.000
1,2,3,6,7,8-HXCDF		99.4	1.30	1.24	1.000
1,2,3,7,8,9-HXCDF		1.73	1.30	1.34	1.000
2,3,4,6,7,8-HXCDF		6.48	1.30	1.31	1.000
1,2,3,4,6,7,8-HPCDF		141	1.30	1.05	1.000
1,2,3,4,7,8,9-HPCDF		9.51	1.30	1.05	1.000
OCDF		12.1	1.30	0.87	1.002
TOTAL TETRA-DIOXINS		43.7	1.30		
TOTAL PENTA-DIOXINS		25.1	1.30		
TOTAL HEXA-DIOXINS		145	1.30		
TOTAL HEPTA-DIOXINS		163	1.30		
TOTAL TETRA-FURANS		1.30	1.30		
TOTAL PENTA-FURANS		45.4	1.30		
TOTAL HEXA-FURANS		230	1.30		
TOTAL HEPTA-FURANS		154	1.30		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 08:55:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-55_Form1A_SJ635622_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB012 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.140 g (lipid)	**Lab Sample I.D.:**	L9584-55
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_049 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		43.7	1.30	1	4.37e+01	4.37e+01	
1,2,3,7,8-PECDD		25.1	1.30	1	2.51e+01	2.51e+01	
1,2,3,4,7,8-HXCDD		16.9	1.30	0.1	1.69e+00	1.69e+00	
1,2,3,6,7,8-HXCDD		100	1.30	0.1	1.00e+01	1.00e+01	
1,2,3,7,8,9-HXCDD		26.4	1.30	0.1	2.64e+00	2.64e+00	
1,2,3,4,6,7,8-HPCDD		149	1.30	0.01	1.49e+00	1.49e+00	
OCDD		1560	1.38	0.0001	1.56e-01	1.56e-01	
2,3,7,8-TCDF		1.30	1.30	0.1	1.30e-01	1.30e-01	
1,2,3,7,8-PECDF		3.46	1.30	0.05	1.73e-01	1.73e-01	
2,3,4,7,8-PECDF		39.8	1.30	0.5	1.99e+01	1.99e+01	
1,2,3,4,7,8-HXCDF		122	1.30	0.1	1.22e+01	1.22e+01	
1,2,3,6,7,8-HXCDF		99.4	1.30	0.1	9.94e+00	9.94e+00	
1,2,3,7,8,9-HXCDF		1.73	1.30	0.1	1.73e-01	1.73e-01	
2,3,4,6,7,8-HXCDF		6.48	1.30	0.1	6.48e-01	6.48e-01	
1,2,3,4,6,7,8-HPCDF		141	1.30	0.01	1.41e+00	1.41e+00	
1,2,3,4,7,8,9-HPCDF		9.51	1.30	0.01	9.51e-02	9.51e-02	
OCDF		12.1	1.30	0.0001	1.21e-03	1.21e-03	
			TOTAL TEQ		129	129	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		43.7	1.30	1	4.37e+01	4.37e+01	
1,2,3,7,8-PECDD		25.1	1.30	1	2.51e+01	2.51e+01	
1,2,3,4,7,8-HXCDD		16.9	1.30	0.1	1.69e+00	1.69e+00	
1,2,3,6,7,8-HXCDD		100	1.30	0.1	1.00e+01	1.00e+01	
1,2,3,7,8,9-HXCDD		26.4	1.30	0.1	2.64e+00	2.64e+00	
1,2,3,4,6,7,8-HPCDD		149	1.30	0.01	1.49e+00	1.49e+00	
OCDD		1560	1.38	0.0003	4.68e-01	4.68e-01	
2,3,7,8-TCDF		1.30	1.30	0.1	1.30e-01	1.30e-01	
1,2,3,7,8-PECDF		3.46	1.30	0.03	1.04e-01	1.04e-01	
2,3,4,7,8-PECDF		39.8	1.30	0.3	1.19e+01	1.19e+01	
1,2,3,4,7,8-HXCDF		122	1.30	0.1	1.22e+01	1.22e+01	
1,2,3,6,7,8-HXCDF		99.4	1.30	0.1	9.94e+00	9.94e+00	
1,2,3,7,8,9-HXCDF		1.73	1.30	0.1	1.73e-01	1.73e-01	
2,3,4,6,7,8-HXCDF		6.48	1.30	0.1	6.48e-01	6.48e-01	
1,2,3,4,6,7,8-HPCDF		141	1.30	0.01	1.41e+00	1.41e+00	
1,2,3,4,7,8,9-HPCDF		9.51	1.30	0.01	9.51e-02	9.51e-02	
OCDF		12.1	1.30	0.0003	3.63e-03	3.63e-03	
			TOTAL TEQ		122	122	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 19:03:16; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-55_TEQ_SJ635622_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB013 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-34 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	41.3 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 17:05:08	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.122	0.0050	0.76	1.001
1,2,3,7,8-PECDD [3]	NDR	0.062	0.0050	0.76	1.000
1,2,3,4,7,8-HXCDD		0.041	0.0050	1.36	1.000
1,2,3,6,7,8-HXCDD		0.195	0.0050	1.28	1.000
1,2,3,7,8,9-HXCDD		0.072	0.0050	1.33	1.010
1,2,3,4,6,7,8-HPCDD		0.405	0.0050	1.04	1.000
OCDD		3.39	0.0050	0.87	1.000
2,3,7,8-TCDF	ND		0.0050		
1,2,3,7,8-PECDF	NDR	0.010	0.0050	1.07	1.001
2,3,4,7,8-PECDF		0.096	0.0050	1.68	1.000
1,2,3,4,7,8-HXCDF		0.414	0.0050	1.23	1.000
1,2,3,6,7,8-HXCDF		0.333	0.0050	1.20	1.000
1,2,3,7,8,9-HXCDF		0.011	0.0050	1.19	1.000
2,3,4,6,7,8-HXCDF		0.028	0.0050	1.39	1.000
1,2,3,4,6,7,8-HPCDF		0.467	0.0050	0.99	1.000
1,2,3,4,7,8,9-HPCDF		0.028	0.0050	1.14	1.000
OCDF		0.020	0.0050	0.76	1.002
TOTAL TETRA-DIOXINS		0.122	0.0050		
TOTAL PENTA-DIOXINS	ND		0.0050		
TOTAL HEXA-DIOXINS		0.307	0.0050		
TOTAL HEPTA-DIOXINS		0.405	0.0050		
TOTAL TETRA-FURANS	ND		0.0050		
TOTAL PENTA-FURANS		0.096	0.0050		
TOTAL HEXA-FURANS		0.786	0.0050		
TOTAL HEPTA-FURANS		0.503	0.0050		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-34_Form1A_SJ641413.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB013 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-34 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	41.3 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 17:05:08	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_064 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	898	89.8	0.77	1.012
13C-1,2,3,7,8-PECDD [4]		1000	991	99.1	0.61	1.380
13C-1,2,3,4,7,8-HXCDD		1000	946	94.6	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		1000	913	91.3	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	739	73.9	1.05	1.094
13C-OCDD		2000	1240	61.8	0.90	1.178
13C-2,3,7,8-TCDF		1000	895	89.5	0.77	0.965
13C-1,2,3,7,8-PECDF		1000	891	89.1	1.54	1.282
13C-2,3,4,7,8-PECDF		1000	873	87.3	1.53	1.349
13C-1,2,3,4,7,8-HXCDF		1000	893	89.3	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	901	90.1	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		1000	850	85.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	844	84.4	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	758	75.8	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	727	72.7	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB013 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	41.3 g (wet)	**Lab Sample I.D.:**	L9584-34 RL
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_064 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.122	0.0050	1	1.22e-01	1.22e-01	
1,2,3,7,8-PECDD	ND		0.0050	1	0.00e+00	2.50e-03	
1,2,3,4,7,8-HXCDD		0.041	0.0050	0.1	4.10e-03	4.10e-03	
1,2,3,6,7,8-HXCDD		0.195	0.0050	0.1	1.95e-02	1.95e-02	
1,2,3,7,8,9-HXCDD		0.072	0.0050	0.1	7.20e-03	7.20e-03	
1,2,3,4,6,7,8-HPCDD		0.405	0.0050	0.01	4.05e-03	4.05e-03	
OCDD		3.39	0.0050	0.0001	3.39e-04	3.39e-04	
2,3,7,8-TCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
1,2,3,7,8-PECDF	ND		0.0050	0.05	0.00e+00	1.25e-04	
2,3,4,7,8-PECDF		0.096	0.0050	0.5	4.80e-02	4.80e-02	
1,2,3,4,7,8-HXCDF		0.414	0.0050	0.1	4.14e-02	4.14e-02	
1,2,3,6,7,8-HXCDF		0.333	0.0050	0.1	3.33e-02	3.33e-02	
1,2,3,7,8,9-HXCDF		0.011	0.0050	0.1	1.10e-03	1.10e-03	
2,3,4,6,7,8-HXCDF		0.028	0.0050	0.1	2.80e-03	2.80e-03	
1,2,3,4,6,7,8-HPCDF		0.467	0.0050	0.01	4.67e-03	4.67e-03	
1,2,3,4,7,8,9-HPCDF		0.028	0.0050	0.01	2.80e-04	2.80e-04	
OCDF		0.020	0.0050	0.0001	2.00e-06	2.00e-06	
			TOTAL TEQ		0.289	0.292	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.122	0.0050	1	1.22e-01	1.22e-01	
1,2,3,7,8-PECDD	ND		0.0050	1	0.00e+00	2.50e-03	
1,2,3,4,7,8-HXCDD		0.041	0.0050	0.1	4.10e-03	4.10e-03	
1,2,3,6,7,8-HXCDD		0.195	0.0050	0.1	1.95e-02	1.95e-02	
1,2,3,7,8,9-HXCDD		0.072	0.0050	0.1	7.20e-03	7.20e-03	
1,2,3,4,6,7,8-HPCDD		0.405	0.0050	0.01	4.05e-03	4.05e-03	
OCDD		3.39	0.0050	0.0003	1.02e-03	1.02e-03	
2,3,7,8-TCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
1,2,3,7,8-PECDF	ND		0.0050	0.03	0.00e+00	7.50e-05	
2,3,4,7,8-PECDF		0.096	0.0050	0.3	2.88e-02	2.88e-02	
1,2,3,4,7,8-HXCDF		0.414	0.0050	0.1	4.14e-02	4.14e-02	
1,2,3,6,7,8-HXCDF		0.333	0.0050	0.1	3.33e-02	3.33e-02	
1,2,3,7,8,9-HXCDF		0.011	0.0050	0.1	1.10e-03	1.10e-03	
2,3,4,6,7,8-HXCDF		0.028	0.0050	0.1	2.80e-03	2.80e-03	
1,2,3,4,6,7,8-HPCDF		0.467	0.0050	0.01	4.67e-03	4.67e-03	
1,2,3,4,7,8,9-HPCDF		0.028	0.0050	0.01	2.80e-04	2.80e-04	
OCDF		0.020	0.0050	0.0003	6.00e-06	6.00e-06	
			TOTAL TEQ		0.270	0.273	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-34_TEQ_SJ641413.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB013 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-34 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.0740 g (lipid)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 17:05:08	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: **7**
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1
		% Lipid:	0.18

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		68.1	2.79	0.76	1.001
1,2,3,7,8-PECDD [3]	NDR	34.6	2.79	0.76	1.000
1,2,3,4,7,8-HXCDD		22.9	2.79	1.36	1.000
1,2,3,6,7,8-HXCDD		109	2.79	1.28	1.000
1,2,3,7,8,9-HXCDD		40.2	2.79	1.33	1.010
1,2,3,4,6,7,8-HPCDD		226	2.79	1.04	1.000
OCDD		1890	2.79	0.87	1.000
2,3,7,8-TCDF	ND		2.79		
1,2,3,7,8-PECDF	NDR	5.59	2.79	1.07	1.001
2,3,4,7,8-PECDF		53.6	2.79	1.68	1.000
1,2,3,4,7,8-HXCDF		231	2.79	1.23	1.000
1,2,3,6,7,8-HXCDF		186	2.79	1.20	1.000
1,2,3,7,8,9-HXCDF		6.14	2.79	1.19	1.000
2,3,4,6,7,8-HXCDF		15.6	2.79	1.39	1.000
1,2,3,4,6,7,8-HPCDF		261	2.79	0.99	1.000
1,2,3,4,7,8,9-HPCDF		15.6	2.79	1.14	1.000
OCDF		11.2	2.79	0.76	1.002
TOTAL TETRA-DIOXINS		68.1	2.79		
TOTAL PENTA-DIOXINS	ND		2.79		
TOTAL HEXA-DIOXINS		171	2.79		
TOTAL HEPTA-DIOXINS		226	2.79		
TOTAL TETRA-FURANS	ND		2.79		
TOTAL PENTA-FURANS		53.6	2.79		
TOTAL HEXA-FURANS		439	2.79		
TOTAL HEPTA-FURANS		281	2.79		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 26-Apr-2007 19:01:59; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-34_Form1A_DX72_064S11_SJ641413_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB013 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.0740 g (lipid)	**Lab Sample I.D.:**	L9584-34 RL
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_064 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		68.1	2.79	1	6.81e+01	6.81e+01	
1,2,3,7,8-PECDD	ND		2.79	1	0.00e+00	1.40e+00	
1,2,3,4,7,8-HXCDD		22.9	2.79	0.1	2.29e+00	2.29e+00	
1,2,3,6,7,8-HXCDD		109	2.79	0.1	1.09e+01	1.09e+01	
1,2,3,7,8,9-HXCDD		40.2	2.79	0.1	4.02e+00	4.02e+00	
1,2,3,4,6,7,8-HPCDD		226	2.79	0.01	2.26e+00	2.26e+00	
OCDD		1890	2.79	0.0001	1.89e-01	1.89e-01	
2,3,7,8-TCDF	ND		2.79	0.1	0.00e+00	1.40e-01	
1,2,3,7,8-PECDF	ND		2.79	0.05	0.00e+00	6.98e-02	
2,3,4,7,8-PECDF		53.6	2.79	0.5	2.68e+01	2.68e+01	
1,2,3,4,7,8-HXCDF		231	2.79	0.1	2.31e+01	2.31e+01	
1,2,3,6,7,8-HXCDF		186	2.79	0.1	1.86e+01	1.86e+01	
1,2,3,7,8,9-HXCDF		6.14	2.79	0.1	6.14e-01	6.14e-01	
2,3,4,6,7,8-HXCDF		15.6	2.79	0.1	1.56e+00	1.56e+00	
1,2,3,4,6,7,8-HPCDF		261	2.79	0.01	2.61e+00	2.61e+00	
1,2,3,4,7,8,9-HPCDF		15.6	2.79	0.01	1.56e-01	1.56e-01	
OCDF		11.2	2.79	0.0001	1.12e-03	1.12e-03	
			TOTAL TEQ		161	163	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		68.1	2.79	1	6.81e+01	6.81e+01	
1,2,3,7,8-PECDD	ND		2.79	1	0.00e+00	1.40e+00	
1,2,3,4,7,8-HXCDD		22.9	2.79	0.1	2.29e+00	2.29e+00	
1,2,3,6,7,8-HXCDD		109	2.79	0.1	1.09e+01	1.09e+01	
1,2,3,7,8,9-HXCDD		40.2	2.79	0.1	4.02e+00	4.02e+00	
1,2,3,4,6,7,8-HPCDD		226	2.79	0.01	2.26e+00	2.26e+00	
OCDD		1890	2.79	0.0003	5.67e-01	5.67e-01	
2,3,7,8-TCDF	ND		2.79	0.1	0.00e+00	1.40e-01	
1,2,3,7,8-PECDF	ND		2.79	0.03	0.00e+00	4.19e-02	
2,3,4,7,8-PECDF		53.6	2.79	0.3	1.61e+01	1.61e+01	
1,2,3,4,7,8-HXCDF		231	2.79	0.1	2.31e+01	2.31e+01	
1,2,3,6,7,8-HXCDF		186	2.79	0.1	1.86e+01	1.86e+01	
1,2,3,7,8,9-HXCDF		6.14	2.79	0.1	6.14e-01	6.14e-01	
2,3,4,6,7,8-HXCDF		15.6	2.79	0.1	1.56e+00	1.56e+00	
1,2,3,4,6,7,8-HPCDF		261	2.79	0.01	2.61e+00	2.61e+00	
1,2,3,4,7,8,9-HPCDF		15.6	2.79	0.01	1.56e-01	1.56e-01	
OCDF		11.2	2.79	0.0003	3.36e-03	3.36e-03	
			TOTAL TEQ		151	152	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 26-Apr-2007 19:05:32; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-34_TEQ_SJ641413_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB014 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-45
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.4 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 16:51:50	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.015	0.0030	0.83	1.001
1,2,3,7,8-PECDD [3]		0.017	0.0030	0.54	1.001
1,2,3,4,7,8-HXCDD		0.011	0.0030	1.39	1.000
1,2,3,6,7,8-HXCDD		0.053	0.0030	1.29	1.000
1,2,3,7,8,9-HXCDD		0.016	0.0030	1.27	1.010
1,2,3,4,6,7,8-HPCDD		0.102	0.0030	1.00	1.000
OCDD		0.988	0.0030	0.91	1.000
2,3,7,8-TCDF	ND		0.0030		
1,2,3,7,8-PECDF		0.003	0.0030	1.42	1.000
2,3,4,7,8-PECDF		0.027	0.0030	1.45	1.000
1,2,3,4,7,8-HXCDF		0.087	0.0030	1.24	1.000
1,2,3,6,7,8-HXCDF		0.072	0.0030	1.25	1.000
1,2,3,7,8,9-HXCDF	ND		0.0030		
2,3,4,6,7,8-HXCDF		0.009	0.0030	1.40	1.000
1,2,3,4,6,7,8-HPCDF		0.177	0.0030	1.06	1.000
1,2,3,4,7,8,9-HPCDF		0.016	0.0030	0.96	1.000
OCDF	NDR	0.005	0.0030	1.11	1.002
TOTAL TETRA-DIOXINS		0.015	0.0030		
TOTAL PENTA-DIOXINS		0.017	0.0030		
TOTAL HEXA-DIOXINS		0.079	0.0030		
TOTAL HEPTA-DIOXINS		0.111	0.0030		
TOTAL TETRA-FURANS	ND		0.0030		
TOTAL PENTA-FURANS		0.030	0.0030		
TOTAL HEXA-FURANS		0.168	0.0030		
TOTAL HEPTA-FURANS		0.194	0.0030		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-45_Form1A_SJ637818.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB014 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-45
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.4 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 16:51:50	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_044 S: 3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	793	79.3	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	972	97.2	0.63	1.384
13C-1,2,3,4,7,8-HXCDD		1000	809	80.9	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	773	77.3	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	803	80.3	1.06	1.094
13C-OCDD		2000	1480	73.9	0.90	1.179
13C-2,3,7,8-TCDF		1000	765	76.5	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	873	87.3	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	903	90.3	1.58	1.352
13C-1,2,3,4,7,8-HXCDF		1000	763	76.3	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	699	69.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	778	77.8	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	746	74.6	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	701	70.1	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	760	76.0	0.47	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB014 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.4 g (wet)	**Lab Sample I.D.:**	L9584-45
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_044 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.015	0.0030	1	1.50e-02	1.50e-02	
1,2,3,7,8-PECDD		0.017	0.0030	1	1.70e-02	1.70e-02	
1,2,3,4,7,8-HXCDD		0.011	0.0030	0.1	1.10e-03	1.10e-03	
1,2,3,6,7,8-HXCDD		0.053	0.0030	0.1	5.30e-03	5.30e-03	
1,2,3,7,8,9-HXCDD		0.016	0.0030	0.1	1.60e-03	1.60e-03	
1,2,3,4,6,7,8-HPCDD		0.102	0.0030	0.01	1.02e-03	1.02e-03	
OCDD		0.988	0.0030	0.0001	9.88e-05	9.88e-05	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF		0.003	0.0030	0.05	1.50e-04	1.50e-04	
2,3,4,7,8-PECDF		0.027	0.0030	0.5	1.35e-02	1.35e-02	
1,2,3,4,7,8-HXCDF		0.087	0.0030	0.1	8.70e-03	8.70e-03	
1,2,3,6,7,8-HXCDF		0.072	0.0030	0.1	7.20e-03	7.20e-03	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF		0.009	0.0030	0.1	9.00e-04	9.00e-04	
1,2,3,4,6,7,8-HPCDF		0.177	0.0030	0.01	1.77e-03	1.77e-03	
1,2,3,4,7,8,9-HPCDF		0.016	0.0030	0.01	1.60e-04	1.60e-04	
OCDF	ND		0.0030	0.0001	0.00e+00	1.50e-07	
			TOTAL TEQ		0.0735	0.0738	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.015	0.0030	1	1.50e-02	1.50e-02	
1,2,3,7,8-PECDD		0.017	0.0030	1	1.70e-02	1.70e-02	
1,2,3,4,7,8-HXCDD		0.011	0.0030	0.1	1.10e-03	1.10e-03	
1,2,3,6,7,8-HXCDD		0.053	0.0030	0.1	5.30e-03	5.30e-03	
1,2,3,7,8,9-HXCDD		0.016	0.0030	0.1	1.60e-03	1.60e-03	
1,2,3,4,6,7,8-HPCDD		0.102	0.0030	0.01	1.02e-03	1.02e-03	
OCDD		0.988	0.0030	0.0003	2.96e-04	2.96e-04	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF		0.003	0.0030	0.03	9.00e-05	9.00e-05	
2,3,4,7,8-PECDF		0.027	0.0030	0.3	8.10e-03	8.10e-03	
1,2,3,4,7,8-HXCDF		0.087	0.0030	0.1	8.70e-03	8.70e-03	
1,2,3,6,7,8-HXCDF		0.072	0.0030	0.1	7.20e-03	7.20e-03	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF		0.009	0.0030	0.1	9.00e-04	9.00e-04	
1,2,3,4,6,7,8-HPCDF		0.177	0.0030	0.01	1.77e-03	1.77e-03	
1,2,3,4,7,8,9-HPCDF		0.016	0.0030	0.01	1.60e-04	1.60e-04	
OCDF	ND		0.0030	0.0003	0.00e+00	4.50e-07	
			TOTAL TEQ		0.0682	0.0685	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-45_TEQ_SJ637818.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB014 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-45
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.110 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 16:51:50	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3
		% Lipid:	0.19

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		8.24	1.65	0.83	1.001
1,2,3,7,8-PECDD [3]		9.33	1.65	0.54	1.001
1,2,3,4,7,8-HXCDD		6.04	1.65	1.39	1.000
1,2,3,6,7,8-HXCDD		29.1	1.65	1.29	1.000
1,2,3,7,8,9-HXCDD		8.79	1.65	1.27	1.010
1,2,3,4,6,7,8-HPCDD		56.0	1.65	1.00	1.000
OCDD		543	1.65	0.91	1.000
2,3,7,8-TCDF	ND		1.65		
1,2,3,7,8-PECDF		1.65	1.65	1.42	1.000
2,3,4,7,8-PECDF		14.8	1.65	1.45	1.000
1,2,3,4,7,8-HXCDF		47.8	1.65	1.24	1.000
1,2,3,6,7,8-HXCDF		39.5	1.65	1.25	1.000
1,2,3,7,8,9-HXCDF	ND		1.65		
2,3,4,6,7,8-HXCDF		4.94	1.65	1.40	1.000
1,2,3,4,6,7,8-HPCDF		97.2	1.65	1.06	1.000
1,2,3,4,7,8,9-HPCDF		8.79	1.65	0.96	1.000
OCDF	NDR	2.75	1.65	1.11	1.002
TOTAL TETRA-DIOXINS		8.24	1.65		
TOTAL PENTA-DIOXINS		9.33	1.65		
TOTAL HEXA-DIOXINS		43.4	1.65		
TOTAL HEPTA-DIOXINS		60.9	1.65		
TOTAL TETRA-FURANS	ND		1.65		
TOTAL PENTA-FURANS		16.5	1.65		
TOTAL HEXA-FURANS		92.2	1.65		
TOTAL HEPTA-FURANS		107	1.65		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 09:13:50; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-45_Form1A_SJ637818_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB014 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.110 g (lipid)	**Lab Sample I.D.:**	L9584-45
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_044 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		8.24	1.65	1	8.24e+00	8.24e+00	
1,2,3,7,8-PECDD		9.33	1.65	1	9.33e+00	9.33e+00	
1,2,3,4,7,8-HXCDD		6.04	1.65	0.1	6.04e-01	6.04e-01	
1,2,3,6,7,8-HXCDD		29.1	1.65	0.1	2.91e+00	2.91e+00	
1,2,3,7,8,9-HXCDD		8.79	1.65	0.1	8.79e-01	8.79e-01	
1,2,3,4,6,7,8-HPCDD		56.0	1.65	0.01	5.60e-01	5.60e-01	
OCDD		543	1.65	0.0001	5.43e-02	5.43e-02	
2,3,7,8-TCDF	ND		1.65	0.1	0.00e+00	8.25e-02	
1,2,3,7,8-PECDF		1.65	1.65	0.05	8.25e-02	8.25e-02	
2,3,4,7,8-PECDF		14.8	1.65	0.5	7.40e+00	7.40e+00	
1,2,3,4,7,8-HXCDF		47.8	1.65	0.1	4.78e+00	4.78e+00	
1,2,3,6,7,8-HXCDF		39.5	1.65	0.1	3.95e+00	3.95e+00	
1,2,3,7,8,9-HXCDF	ND		1.65	0.1	0.00e+00	8.25e-02	
2,3,4,6,7,8-HXCDF		4.94	1.65	0.1	4.94e-01	4.94e-01	
1,2,3,4,6,7,8-HPCDF		97.2	1.65	0.01	9.72e-01	9.72e-01	
1,2,3,4,7,8,9-HPCDF		8.79	1.65	0.01	8.79e-02	8.79e-02	
OCDF	ND		1.65	0.0001	0.00e+00	8.25e-05	
			TOTAL TEQ		40.3	40.5	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		8.24	1.65	1	8.24e+00	8.24e+00	
1,2,3,7,8-PECDD		9.33	1.65	1	9.33e+00	9.33e+00	
1,2,3,4,7,8-HXCDD		6.04	1.65	0.1	6.04e-01	6.04e-01	
1,2,3,6,7,8-HXCDD		29.1	1.65	0.1	2.91e+00	2.91e+00	
1,2,3,7,8,9-HXCDD		8.79	1.65	0.1	8.79e-01	8.79e-01	
1,2,3,4,6,7,8-HPCDD		56.0	1.65	0.01	5.60e-01	5.60e-01	
OCDD		543	1.65	0.0003	1.63e-01	1.63e-01	
2,3,7,8-TCDF	ND		1.65	0.1	0.00e+00	8.25e-02	
1,2,3,7,8-PECDF		1.65	1.65	0.03	4.95e-02	4.95e-02	
2,3,4,7,8-PECDF		14.8	1.65	0.3	4.44e+00	4.44e+00	
1,2,3,4,7,8-HXCDF		47.8	1.65	0.1	4.78e+00	4.78e+00	
1,2,3,6,7,8-HXCDF		39.5	1.65	0.1	3.95e+00	3.95e+00	
1,2,3,7,8,9-HXCDF	ND		1.65	0.1	0.00e+00	8.25e-02	
2,3,4,6,7,8-HXCDF		4.94	1.65	0.1	4.94e-01	4.94e-01	
1,2,3,4,6,7,8-HPCDF		97.2	1.65	0.01	9.72e-01	9.72e-01	
1,2,3,4,7,8,9-HPCDF		8.79	1.65	0.01	8.79e-02	8.79e-02	
OCDF	ND		1.65	0.0003	0.00e+00	2.48e-04	
			TOTAL TEQ		37.5	37.6	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 18:45:54; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-45_TEQ_SJ637818_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB015 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-54
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	50.0 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 19:35:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.033	0.0040	0.88	1.001
1,2,3,7,8-PECDD [3]		0.025	0.0040	0.58	1.000
1,2,3,4,7,8-HXCDD		0.013	0.0040	1.17	1.000
1,2,3,6,7,8-HXCDD		0.107	0.0040	1.26	1.000
1,2,3,7,8,9-HXCDD		0.021	0.0040	1.32	1.010
1,2,3,4,6,7,8-HPCDD		0.090	0.0040	1.03	1.000
OCDD		1.40	0.0040	0.90	1.000
2,3,7,8-TCDF	ND		0.0040		
1,2,3,7,8-PECDF	NDR	0.004	0.0040	2.22	1.000
2,3,4,7,8-PECDF		0.047	0.0040	1.72	1.000
1,2,3,4,7,8-HXCDF		0.110	0.0040	1.26	1.001
1,2,3,6,7,8-HXCDF		0.095	0.0040	1.19	1.000
1,2,3,7,8,9-HXCDF	ND		0.0040		
2,3,4,6,7,8-HXCDF		0.009	0.0040	1.41	1.000
1,2,3,4,6,7,8-HPCDF		0.142	0.0040	1.07	1.000
1,2,3,4,7,8,9-HPCDF		0.009	0.0040	0.98	1.000
OCDF		0.009	0.0040	0.99	1.002
TOTAL TETRA-DIOXINS		0.033	0.0040		
TOTAL PENTA-DIOXINS		0.025	0.0040		
TOTAL HEXA-DIOXINS		0.141	0.0040		
TOTAL HEPTA-DIOXINS		0.100	0.0040		
TOTAL TETRA-FURANS	ND		0.0040		
TOTAL PENTA-FURANS		0.047	0.0040		
TOTAL HEXA-FURANS		0.215	0.0040		
TOTAL HEPTA-FURANS		0.151	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB015 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-54
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	50.0 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 19:35:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_044 S: 3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	607	60.7	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		1000	806	80.6	0.64	1.383
13C-1,2,3,4,7,8-HXCDD		1000	772	77.2	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	719	71.9	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	745	74.5	1.05	1.094
13C-OCDD		2000	1420	70.8	0.90	1.179
13C-2,3,7,8-TCDF		1000	565	56.5	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	754	75.4	1.60	1.283
13C-2,3,4,7,8-PECDF		1000	781	78.1	1.58	1.351
13C-1,2,3,4,7,8-HXCDF		1000	723	72.3	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	673	67.3	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	728	72.8	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	711	71.1	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	669	66.9	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	704	70.4	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-54_Form2_SJ637821.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB015 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	50.0 g (wet)	**Lab Sample I.D.:**	L9584-54
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_044 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.033	0.0040	1	3.30e-02	3.30e-02	
1,2,3,7,8-PECDD		0.025	0.0040	1	2.50e-02	2.50e-02	
1,2,3,4,7,8-HXCDD		0.013	0.0040	0.1	1.30e-03	1.30e-03	
1,2,3,6,7,8-HXCDD		0.107	0.0040	0.1	1.07e-02	1.07e-02	
1,2,3,7,8,9-HXCDD		0.021	0.0040	0.1	2.10e-03	2.10e-03	
1,2,3,4,6,7,8-HPCDD		0.090	0.0040	0.01	9.00e-04	9.00e-04	
OCDD		1.40	0.0040	0.0001	1.40e-04	1.40e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.05	0.00e+00	1.00e-04	
2,3,4,7,8-PECDF		0.047	0.0040	0.5	2.35e-02	2.35e-02	
1,2,3,4,7,8-HXCDF		0.110	0.0040	0.1	1.10e-02	1.10e-02	
1,2,3,6,7,8-HXCDF		0.095	0.0040	0.1	9.50e-03	9.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.009	0.0040	0.1	9.00e-04	9.00e-04	
1,2,3,4,6,7,8-HPCDF		0.142	0.0040	0.01	1.42e-03	1.42e-03	
1,2,3,4,7,8,9-HPCDF		0.009	0.0040	0.01	9.00e-05	9.00e-05	
OCDF		0.009	0.0040	0.0001	9.00e-07	9.00e-07	
			TOTAL TEQ		0.120	0.120	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.033	0.0040	1	3.30e-02	3.30e-02	
1,2,3,7,8-PECDD		0.025	0.0040	1	2.50e-02	2.50e-02	
1,2,3,4,7,8-HXCDD		0.013	0.0040	0.1	1.30e-03	1.30e-03	
1,2,3,6,7,8-HXCDD		0.107	0.0040	0.1	1.07e-02	1.07e-02	
1,2,3,7,8,9-HXCDD		0.021	0.0040	0.1	2.10e-03	2.10e-03	
1,2,3,4,6,7,8-HPCDD		0.090	0.0040	0.01	9.00e-04	9.00e-04	
OCDD		1.40	0.0040	0.0003	4.20e-04	4.20e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.03	0.00e+00	6.00e-05	
2,3,4,7,8-PECDF		0.047	0.0040	0.3	1.41e-02	1.41e-02	
1,2,3,4,7,8-HXCDF		0.110	0.0040	0.1	1.10e-02	1.10e-02	
1,2,3,6,7,8-HXCDF		0.095	0.0040	0.1	9.50e-03	9.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.009	0.0040	0.1	9.00e-04	9.00e-04	
1,2,3,4,6,7,8-HPCDF		0.142	0.0040	0.01	1.42e-03	1.42e-03	
1,2,3,4,7,8,9-HPCDF		0.009	0.0040	0.01	9.00e-05	9.00e-05	
OCDF		0.009	0.0040	0.0003	2.70e-06	2.70e-06	
			TOTAL TEQ		0.110	0.111	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-54_TEQ_SJ637821.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB015 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-54
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.0700 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 19:35:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3
		% Lipid:	0.14

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		23.6	2.86	0.88	1.001
1,2,3,7,8-PECDD [3]		17.9	2.86	0.58	1.000
1,2,3,4,7,8-HXCDD		9.29	2.86	1.17	1.000
1,2,3,6,7,8-HXCDD		76.5	2.86	1.26	1.000
1,2,3,7,8,9-HXCDD		15.0	2.86	1.32	1.010
1,2,3,4,6,7,8-HPCDD		64.3	2.86	1.03	1.000
OCDD		1000	2.86	0.90	1.000
2,3,7,8-TCDF	ND		2.86		
1,2,3,7,8-PECDF	NDR	2.86	2.86	2.22	1.000
2,3,4,7,8-PECDF		33.6	2.86	1.72	1.000
1,2,3,4,7,8-HXCDF		78.6	2.86	1.26	1.001
1,2,3,6,7,8-HXCDF		67.9	2.86	1.19	1.000
1,2,3,7,8,9-HXCDF	ND		2.86		
2,3,4,6,7,8-HXCDF		6.43	2.86	1.41	1.000
1,2,3,4,6,7,8-HPCDF		102	2.86	1.07	1.000
1,2,3,4,7,8,9-HPCDF		6.43	2.86	0.98	1.000
OCDF		6.43	2.86	0.99	1.002
TOTAL TETRA-DIOXINS		23.6	2.86		
TOTAL PENTA-DIOXINS		17.9	2.86		
TOTAL HEXA-DIOXINS		101	2.86		
TOTAL HEPTA-DIOXINS		71.5	2.86		
TOTAL TETRA-FURANS	ND		2.86		
TOTAL PENTA-FURANS		33.6	2.86		
TOTAL HEXA-FURANS		154	2.86		
TOTAL HEPTA-FURANS		108	2.86		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 26-Apr-2007 18:45:56; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-54_Form1A_DX72_044S12_SJ637821_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB015 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.0700 g (lipid)	**Lab Sample I.D.:**	L9584-54
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	DX72_044 S: 12

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		23.6	2.86	1	2.36e+01	2.36e+01	
1,2,3,7,8-PECDD		17.9	2.86	1	1.79e+01	1.79e+01	
1,2,3,4,7,8-HXCDD		9.29	2.86	0.1	9.29e-01	9.29e-01	
1,2,3,6,7,8-HXCDD		76.5	2.86	0.1	7.65e+00	7.65e+00	
1,2,3,7,8,9-HXCDD		15.0	2.86	0.1	1.50e+00	1.50e+00	
1,2,3,4,6,7,8-HPCDD		64.3	2.86	0.01	6.43e-01	6.43e-01	
OCDD		1000	2.86	0.0001	1.00e-01	1.00e-01	
2,3,7,8-TCDF	ND		2.86	0.1	0.00e+00	1.43e-01	
1,2,3,7,8-PECDF	ND		2.86	0.05	0.00e+00	7.15e-02	
2,3,4,7,8-PECDF		33.6	2.86	0.5	1.68e+01	1.68e+01	
1,2,3,4,7,8-HXCDF		78.6	2.86	0.1	7.86e+00	7.86e+00	
1,2,3,6,7,8-HXCDF		67.9	2.86	0.1	6.79e+00	6.79e+00	
1,2,3,7,8,9-HXCDF	ND		2.86	0.1	0.00e+00	1.43e-01	
2,3,4,6,7,8-HXCDF		6.43	2.86	0.1	6.43e-01	6.43e-01	
1,2,3,4,6,7,8-HPCDF		102	2.86	0.01	1.02e+00	1.02e+00	
1,2,3,4,7,8,9-HPCDF		6.43	2.86	0.01	6.43e-02	6.43e-02	
OCDF		6.43	2.86	0.0001	6.43e-04	6.43e-04	
			TOTAL TEQ		85.5	85.9	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		23.6	2.86	1	2.36e+01	2.36e+01	
1,2,3,7,8-PECDD		17.9	2.86	1	1.79e+01	1.79e+01	
1,2,3,4,7,8-HXCDD		9.29	2.86	0.1	9.29e-01	9.29e-01	
1,2,3,6,7,8-HXCDD		76.5	2.86	0.1	7.65e+00	7.65e+00	
1,2,3,7,8,9-HXCDD		15.0	2.86	0.1	1.50e+00	1.50e+00	
1,2,3,4,6,7,8-HPCDD		64.3	2.86	0.01	6.43e-01	6.43e-01	
OCDD		1000	2.86	0.0003	3.00e-01	3.00e-01	
2,3,7,8-TCDF	ND		2.86	0.1	0.00e+00	1.43e-01	
1,2,3,7,8-PECDF	ND		2.86	0.03	0.00e+00	4.29e-02	
2,3,4,7,8-PECDF		33.6	2.86	0.3	1.01e+01	1.01e+01	
1,2,3,4,7,8-HXCDF		78.6	2.86	0.1	7.86e+00	7.86e+00	
1,2,3,6,7,8-HXCDF		67.9	2.86	0.1	6.79e+00	6.79e+00	
1,2,3,7,8,9-HXCDF	ND		2.86	0.1	0.00e+00	1.43e-01	
2,3,4,6,7,8-HXCDF		6.43	2.86	0.1	6.43e-01	6.43e-01	
1,2,3,4,6,7,8-HPCDF		102	2.86	0.01	1.02e+00	1.02e+00	
1,2,3,4,7,8,9-HPCDF		6.43	2.86	0.01	6.43e-02	6.43e-02	
OCDF		6.43	2.86	0.0003	1.93e-03	1.93e-03	
			TOTAL TEQ		79.0	79.3	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 26-Apr-2007 18:49:45; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-54_TEQ_SJ637821_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB016 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-53
Matrix:	BLOOD	**Sample Size:**	56.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 **Time:** 11:37:34	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_049 S: 5**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_049 S: 2
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.011	0.0040	0.88	1.001
1,2,3,7,8-PECDD [3]		0.023	0.0040	0.70	1.000
1,2,3,4,7,8-HXCDD		0.016	0.0040	1.25	1.000
1,2,3,6,7,8-HXCDD		0.074	0.0040	1.33	1.000
1,2,3,7,8,9-HXCDD		0.018	0.0040	1.22	1.011
1,2,3,4,6,7,8-HPCDD		0.157	0.0040	1.00	1.000
OCDD		1.11	0.0040	0.91	1.000
2,3,7,8-TCDF	ND		0.0040		
1,2,3,7,8-PECDF		0.005	0.0040	1.57	1.000
2,3,4,7,8-PECDF		0.042	0.0040	1.57	1.000
1,2,3,4,7,8-HXCDF		0.133	0.0040	1.23	1.000
1,2,3,6,7,8-HXCDF		0.103	0.0040	1.28	1.001
1,2,3,7,8,9-HXCDF	ND		0.0040		
2,3,4,6,7,8-HXCDF		0.009	0.0040	1.25	1.000
1,2,3,4,6,7,8-HPCDF		0.186	0.0040	1.03	1.000
1,2,3,4,7,8,9-HPCDF		0.014	0.0040	1.05	1.000
OCDF		0.047	0.0040	0.92	1.002
TOTAL TETRA-DIOXINS		0.011	0.0040		
TOTAL PENTA-DIOXINS		0.023	0.0040		
TOTAL HEXA-DIOXINS		0.108	0.0040		
TOTAL HEPTA-DIOXINS		0.229	0.0040		
TOTAL TETRA-FURANS	ND		0.0040		
TOTAL PENTA-FURANS		0.046	0.0040		
TOTAL HEXA-FURANS		0.265	0.0040		
TOTAL HEPTA-FURANS		0.240	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-53_Form1A_SJ635621.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
06VNB016 Composite
Sample Collection:
N/A

Form 2

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-53
Matrix:	BLOOD	**Sample Size:**	56.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 **Time:** 11:37:34	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_049 S: 5**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_049 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	652	65.2	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	819	81.9	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		1000	645	64.5	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	643	64.3	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	588	58.8	1.05	1.095
13C-OCDD		2000	995	49.7	0.91	1.180
13C-2,3,7,8-TCDF		1000	627	62.7	0.80	0.967
13C-1,2,3,7,8-PECDF		1000	724	72.4	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	710	71.0	1.59	1.351
13C-1,2,3,4,7,8-HXCDF		1000	622	62.2	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	609	60.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	627	62.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	616	61.6	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	552	55.2	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	575	57.5	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-53_Form2_SJ635621.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB016 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	56.1 g (wet)	**Lab Sample I.D.:**	L9584-53
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_049 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.011	0.0040	1	1.10e-02	1.10e-02	
1,2,3,7,8-PECDD		0.023	0.0040	1	2.30e-02	2.30e-02	
1,2,3,4,7,8-HXCDD		0.016	0.0040	0.1	1.60e-03	1.60e-03	
1,2,3,6,7,8-HXCDD		0.074	0.0040	0.1	7.40e-03	7.40e-03	
1,2,3,7,8,9-HXCDD		0.018	0.0040	0.1	1.80e-03	1.80e-03	
1,2,3,4,6,7,8-HPCDD		0.157	0.0040	0.01	1.57e-03	1.57e-03	
OCDD		1.11	0.0040	0.0001	1.11e-04	1.11e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF		0.005	0.0040	0.05	2.50e-04	2.50e-04	
2,3,4,7,8-PECDF		0.042	0.0040	0.5	2.10e-02	2.10e-02	
1,2,3,4,7,8-HXCDF		0.133	0.0040	0.1	1.33e-02	1.33e-02	
1,2,3,6,7,8-HXCDF		0.103	0.0040	0.1	1.03e-02	1.03e-02	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.009	0.0040	0.1	9.00e-04	9.00e-04	
1,2,3,4,6,7,8-HPCDF		0.186	0.0040	0.01	1.86e-03	1.86e-03	
1,2,3,4,7,8,9-HPCDF		0.014	0.0040	0.01	1.40e-04	1.40e-04	
OCDF		0.047	0.0040	0.0001	4.70e-06	4.70e-06	
			TOTAL TEQ		0.0942	0.0946	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.011	0.0040	1	1.10e-02	1.10e-02	
1,2,3,7,8-PECDD		0.023	0.0040	1	2.30e-02	2.30e-02	
1,2,3,4,7,8-HXCDD		0.016	0.0040	0.1	1.60e-03	1.60e-03	
1,2,3,6,7,8-HXCDD		0.074	0.0040	0.1	7.40e-03	7.40e-03	
1,2,3,7,8,9-HXCDD		0.018	0.0040	0.1	1.80e-03	1.80e-03	
1,2,3,4,6,7,8-HPCDD		0.157	0.0040	0.01	1.57e-03	1.57e-03	
OCDD		1.11	0.0040	0.0003	3.33e-04	3.33e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF		0.005	0.0040	0.03	1.50e-04	1.50e-04	
2,3,4,7,8-PECDF		0.042	0.0040	0.3	1.26e-02	1.26e-02	
1,2,3,4,7,8-HXCDF		0.133	0.0040	0.1	1.33e-02	1.33e-02	
1,2,3,6,7,8-HXCDF		0.103	0.0040	0.1	1.03e-02	1.03e-02	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.009	0.0040	0.1	9.00e-04	9.00e-04	
1,2,3,4,6,7,8-HPCDF		0.186	0.0040	0.01	1.86e-03	1.86e-03	
1,2,3,4,7,8,9-HPCDF		0.014	0.0040	0.01	1.40e-04	1.40e-04	
OCDF		0.047	0.0040	0.0003	1.41e-05	1.41e-05	
			TOTAL TEQ		0.0860	0.0864	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-53_TEQ_SJ635621.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB016 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-53
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.120 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 11:37:34	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_049 S: 2
		% Lipid:	0.22

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		5.14	1.87	0.88	1.001
1,2,3,7,8-PECDD [3]		10.8	1.87	0.70	1.000
1,2,3,4,7,8-HXCDD		7.48	1.87	1.25	1.000
1,2,3,6,7,8-HXCDD		34.6	1.87	1.33	1.000
1,2,3,7,8,9-HXCDD		8.42	1.87	1.22	1.011
1,2,3,4,6,7,8-HPCDD		73.4	1.87	1.00	1.000
OCDD		519	1.87	0.91	1.000
2,3,7,8-TCDF	ND		1.87		
1,2,3,7,8-PECDF		2.34	1.87	1.57	1.000
2,3,4,7,8-PECDF		19.6	1.87	1.57	1.000
1,2,3,4,7,8-HXCDF		62.2	1.87	1.23	1.000
1,2,3,6,7,8-HXCDF		48.2	1.87	1.28	1.001
1,2,3,7,8,9-HXCDF	ND		1.87		
2,3,4,6,7,8-HXCDF		4.21	1.87	1.25	1.000
1,2,3,4,6,7,8-HPCDF		87.0	1.87	1.03	1.000
1,2,3,4,7,8,9-HPCDF		6.55	1.87	1.05	1.000
OCDF		22.0	1.87	0.92	1.002
TOTAL TETRA-DIOXINS		5.14	1.87		
TOTAL PENTA-DIOXINS		10.8	1.87		
TOTAL HEXA-DIOXINS		50.5	1.87		
TOTAL HEPTA-DIOXINS		107	1.87		
TOTAL TETRA-FURANS	ND		1.87		
TOTAL PENTA-FURANS		21.5	1.87		
TOTAL HEXA-FURANS		124	1.87		
TOTAL HEPTA-FURANS		112	1.87		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 27-Apr-2007 15:27:12; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-53_Form1A_DX72_049S5_SJ635621_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB016 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.120 g (lipid)	**Lab Sample I.D.:**	L9584-53
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	DX72_049 S: 5

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5.14	1.87	1	5.14e+00	5.14e+00	
1,2,3,7,8-PECDD		10.8	1.87	1	1.08e+01	1.08e+01	
1,2,3,4,7,8-HXCDD		7.48	1.87	0.1	7.48e-01	7.48e-01	
1,2,3,6,7,8-HXCDD		34.6	1.87	0.1	3.46e+00	3.46e+00	
1,2,3,7,8,9-HXCDD		8.42	1.87	0.1	8.42e-01	8.42e-01	
1,2,3,4,6,7,8-HPCDD		73.4	1.87	0.01	7.34e-01	7.34e-01	
OCDD		519	1.87	0.0001	5.19e-02	5.19e-02	
2,3,7,8-TCDF	ND		1.87	0.1	0.00e+00	9.35e-02	
1,2,3,7,8-PECDF		2.34	1.87	0.05	1.17e-01	1.17e-01	
2,3,4,7,8-PECDF		19.6	1.87	0.5	9.80e+00	9.80e+00	
1,2,3,4,7,8-HXCDF		62.2	1.87	0.1	6.22e+00	6.22e+00	
1,2,3,6,7,8-HXCDF		48.2	1.87	0.1	4.82e+00	4.82e+00	
1,2,3,7,8,9-HXCDF	ND		1.87	0.1	0.00e+00	9.35e-02	
2,3,4,6,7,8-HXCDF		4.21	1.87	0.1	4.21e-01	4.21e-01	
1,2,3,4,6,7,8-HPCDF		87.0	1.87	0.01	8.70e-01	8.70e-01	
1,2,3,4,7,8,9-HPCDF		6.55	1.87	0.01	6.55e-02	6.55e-02	
OCDF		22.0	1.87	0.0001	2.20e-03	2.20e-03	
			TOTAL TEQ		44.1	44.3	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5.14	1.87	1	5.14e+00	5.14e+00	
1,2,3,7,8-PECDD		10.8	1.87	1	1.08e+01	1.08e+01	
1,2,3,4,7,8-HXCDD		7.48	1.87	0.1	7.48e-01	7.48e-01	
1,2,3,6,7,8-HXCDD		34.6	1.87	0.1	3.46e+00	3.46e+00	
1,2,3,7,8,9-HXCDD		8.42	1.87	0.1	8.42e-01	8.42e-01	
1,2,3,4,6,7,8-HPCDD		73.4	1.87	0.01	7.34e-01	7.34e-01	
OCDD		519	1.87	0.0003	1.56e-01	1.56e-01	
2,3,7,8-TCDF	ND		1.87	0.1	0.00e+00	9.35e-02	
1,2,3,7,8-PECDF		2.34	1.87	0.03	7.02e-02	7.02e-02	
2,3,4,7,8-PECDF		19.6	1.87	0.3	5.88e+00	5.88e+00	
1,2,3,4,7,8-HXCDF		62.2	1.87	0.1	6.22e+00	6.22e+00	
1,2,3,6,7,8-HXCDF		48.2	1.87	0.1	4.82e+00	4.82e+00	
1,2,3,7,8,9-HXCDF	ND		1.87	0.1	0.00e+00	9.35e-02	
2,3,4,6,7,8-HXCDF		4.21	1.87	0.1	4.21e-01	4.21e-01	
1,2,3,4,6,7,8-HPCDF		87.0	1.87	0.01	8.70e-01	8.70e-01	
1,2,3,4,7,8,9-HPCDF		6.55	1.87	0.01	6.55e-02	6.55e-02	
OCDF		22.0	1.87	0.0003	6.60e-03	6.60e-03	
			TOTAL TEQ		40.2	40.4	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 15:29:25; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-53_TEQ_SJ635621_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
06VNB017 Composite
Sample Collection:
N/A

Form 1A

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-18
Matrix:	BLOOD	**Sample Size:**	12.3 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	10-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Jan-2007 **Time:** 16:50:35	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_030 S: 11**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_030 S: 8
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_030 S: 2
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0160		
1,2,3,7,8-PECDD [3]	NDR	0.017	0.0160	0.81	1.000
1,2,3,4,7,8-HXCDD	ND		0.0160		
1,2,3,6,7,8-HXCDD		0.047	0.0160	1.25	1.000
1,2,3,7,8,9-HXCDD		0.026	0.0160	1.27	1.011
1,2,3,4,6,7,8-HPCDD		0.117	0.0160	1.17	1.000
OCDD		0.935	0.0160	0.95	1.000
2,3,7,8-TCDF	ND		0.0160		
1,2,3,7,8-PECDF	NDR	0.022	0.0160	2.04	1.001
2,3,4,7,8-PECDF		0.048	0.0160	1.41	1.000
1,2,3,4,7,8-HXCDF		0.125	0.0160	1.34	1.000
1,2,3,6,7,8-HXCDF		0.108	0.0160	1.34	1.000
1,2,3,7,8,9-HXCDF	ND		0.0160		
2,3,4,6,7,8-HXCDF	ND		0.0160		
1,2,3,4,6,7,8-HPCDF		0.221	0.0160	1.16	1.000
1,2,3,4,7,8,9-HPCDF		0.017	0.0160	0.90	1.000
OCDF		0.025	0.0160	1.01	1.002
TOTAL TETRA-DIOXINS	ND		0.0160		
TOTAL PENTA-DIOXINS	ND		0.0160		
TOTAL HEXA-DIOXINS		0.073	0.0160		
TOTAL HEPTA-DIOXINS		0.117	0.0160		
TOTAL TETRA-FURANS	ND		0.0160		
TOTAL PENTA-FURANS		0.048	0.0160		
TOTAL HEXA-FURANS		0.233	0.0160		
TOTAL HEPTA-FURANS		0.238	0.0160		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 06-Feb-2007 11:31:10; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-18_Form1A_SJ631331.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB017 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-18
Matrix:	BLOOD	**Sample Size:**	12.3 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	10-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Jan-2007 **Time:** 16:50:35	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_030 S: 11**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_030 S: 8
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_030 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	464	46.4	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	652	65.2	0.63	1.384
13C-1,2,3,4,7,8-HXCDD		1000	458	45.8	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	461	46.1	1.25	0.989
13C-1,2,3,4,6,7,8-HPCDD		1000	460	46.0	1.06	1.095
13C-OCDD		2000	852	42.6	0.90	1.179
13C-2,3,7,8-TCDF		1000	442	44.2	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	537	53.7	1.56	1.283
13C-2,3,4,7,8-PECDF		1000	562	56.2	1.58	1.352
13C-1,2,3,4,7,8-HXCDF		1000	462	46.2	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		1000	466	46.6	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	502	50.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	471	47.1	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	480	48.0	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	488	48.8	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 06-Feb-2007 11:31:10; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-18_Form2_SJ631331.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB017 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	12.3 g (wet)	**Lab Sample I.D.:**	L9584-18
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_030 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0160	1	0.00e+00	8.00e-03	
1,2,3,7,8-PECDD	ND		0.0160	1	0.00e+00	8.00e-03	
1,2,3,4,7,8-HXCDD	ND		0.0160	0.1	0.00e+00	8.00e-04	
1,2,3,6,7,8-HXCDD		0.047	0.0160	0.1	4.70e-03	4.70e-03	
1,2,3,7,8,9-HXCDD		0.026	0.0160	0.1	2.60e-03	2.60e-03	
1,2,3,4,6,7,8-HPCDD		0.117	0.0160	0.01	1.17e-03	1.17e-03	
OCDD		0.935	0.0160	0.0001	9.35e-05	9.35e-05	
2,3,7,8-TCDF	ND		0.0160	0.1	0.00e+00	8.00e-04	
1,2,3,7,8-PECDF	ND		0.0160	0.05	0.00e+00	4.00e-04	
2,3,4,7,8-PECDF		0.048	0.0160	0.5	2.40e-02	2.40e-02	
1,2,3,4,7,8-HXCDF		0.125	0.0160	0.1	1.25e-02	1.25e-02	
1,2,3,6,7,8-HXCDF		0.108	0.0160	0.1	1.08e-02	1.08e-02	
1,2,3,7,8,9-HXCDF	ND		0.0160	0.1	0.00e+00	8.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0160	0.1	0.00e+00	8.00e-04	
1,2,3,4,6,7,8-HPCDF		0.221	0.0160	0.01	2.21e-03	2.21e-03	
1,2,3,4,7,8,9-HPCDF		0.017	0.0160	0.01	1.70e-04	1.70e-04	
OCDF		0.025	0.0160	0.0001	2.50e-06	2.50e-06	
			TOTAL TEQ		0.0582	0.0778	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0160	1	0.00e+00	8.00e-03	
1,2,3,7,8-PECDD	ND		0.0160	1	0.00e+00	8.00e-03	
1,2,3,4,7,8-HXCDD	ND		0.0160	0.1	0.00e+00	8.00e-04	
1,2,3,6,7,8-HXCDD		0.047	0.0160	0.1	4.70e-03	4.70e-03	
1,2,3,7,8,9-HXCDD		0.026	0.0160	0.1	2.60e-03	2.60e-03	
1,2,3,4,6,7,8-HPCDD		0.117	0.0160	0.01	1.17e-03	1.17e-03	
OCDD		0.935	0.0160	0.0003	2.81e-04	2.81e-04	
2,3,7,8-TCDF	ND		0.0160	0.1	0.00e+00	8.00e-04	
1,2,3,7,8-PECDF	ND		0.0160	0.03	0.00e+00	2.40e-04	
2,3,4,7,8-PECDF		0.048	0.0160	0.3	1.44e-02	1.44e-02	
1,2,3,4,7,8-HXCDF		0.125	0.0160	0.1	1.25e-02	1.25e-02	
1,2,3,6,7,8-HXCDF		0.108	0.0160	0.1	1.08e-02	1.08e-02	
1,2,3,7,8,9-HXCDF	ND		0.0160	0.1	0.00e+00	8.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0160	0.1	0.00e+00	8.00e-04	
1,2,3,4,6,7,8-HPCDF		0.221	0.0160	0.01	2.21e-03	2.21e-03	
1,2,3,4,7,8,9-HPCDF		0.017	0.0160	0.01	1.70e-04	1.70e-04	
OCDF		0.025	0.0160	0.0003	7.50e-06	7.50e-06	
			TOTAL TEQ		0.0488	0.0683	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 06-Feb-2007 11:32:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-18_TEQ_SJ631331.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB017 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-18
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.0230 g (lipid)
Extraction Date:	10-Jan-2007	**Initial Calibration Date:**	13-Jan-2007
Analysis Date:	20-Jan-2007 **Time:** 16:50:35	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_030 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_030 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_030 S: 2
		% Lipid:	0.19

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		8.54		
1,2,3,7,8-PECDD [3]	NDR	9.08	8.54	0.81	1.000
1,2,3,4,7,8-HXCDD	ND		8.54		
1,2,3,6,7,8-HXCDD		25.1	8.54	1.25	1.000
1,2,3,7,8,9-HXCDD		13.9	8.54	1.27	1.011
1,2,3,4,6,7,8-HPCDD		62.5	8.54	1.17	1.000
OCDD		499	8.54	0.95	1.000
2,3,7,8-TCDF	ND		8.54		
1,2,3,7,8-PECDF	NDR	11.7	8.54	2.04	1.001
2,3,4,7,8-PECDF		25.6	8.54	1.41	1.000
1,2,3,4,7,8-HXCDF		66.7	8.54	1.34	1.000
1,2,3,6,7,8-HXCDF		57.7	8.54	1.34	1.000
1,2,3,7,8,9-HXCDF	ND		8.54		
2,3,4,6,7,8-HXCDF	ND		8.54		
1,2,3,4,6,7,8-HPCDF		118	8.54	1.16	1.000
1,2,3,4,7,8,9-HPCDF		9.08	8.54	0.90	1.000
OCDF		13.3	8.54	1.01	1.002
TOTAL TETRA-DIOXINS	ND		8.54		
TOTAL PENTA-DIOXINS	ND		8.54		
TOTAL HEXA-DIOXINS		39.0	8.54		
TOTAL HEPTA-DIOXINS		62.5	8.54		
TOTAL TETRA-FURANS	ND		8.54		
TOTAL PENTA-FURANS		25.6	8.54		
TOTAL HEXA-FURANS		124	8.54		
TOTAL HEPTA-FURANS		127	8.54		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB017 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-18
Sample Size:	0.0230 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	**DX72_030 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		8.54	1	0.00e+00	4.27e+00	
1,2,3,7,8-PECDD	ND		8.54	1	0.00e+00	4.27e+00	
1,2,3,4,7,8-HXCDD	ND		8.54	0.1	0.00e+00	4.27e-01	
1,2,3,6,7,8-HXCDD		25.1	8.54	0.1	2.51e+00	2.51e+00	
1,2,3,7,8,9-HXCDD		13.9	8.54	0.1	1.39e+00	1.39e+00	
1,2,3,4,6,7,8-HPCDD		62.5	8.54	0.01	6.25e-01	6.25e-01	
OCDD		499	8.54	0.0001	4.99e-02	4.99e-02	
2,3,7,8-TCDF	ND		8.54	0.1	0.00e+00	4.27e-01	
1,2,3,7,8-PECDF	ND		8.54	0.05	0.00e+00	2.14e-01	
2,3,4,7,8-PECDF		25.6	8.54	0.5	1.28e+01	1.28e+01	
1,2,3,4,7,8-HXCDF		66.7	8.54	0.1	6.67e+00	6.67e+00	
1,2,3,6,7,8-HXCDF		57.7	8.54	0.1	5.77e+00	5.77e+00	
1,2,3,7,8,9-HXCDF	ND		8.54	0.1	0.00e+00	4.27e-01	
2,3,4,6,7,8-HXCDF	ND		8.54	0.1	0.00e+00	4.27e-01	
1,2,3,4,6,7,8-HPCDF		118	8.54	0.01	1.18e+00	1.18e+00	
1,2,3,4,7,8,9-HPCDF		9.08	8.54	0.01	9.08e-02	9.08e-02	
OCDF		13.3	8.54	0.0001	1.33e-03	1.33e-03	
			TOTAL TEQ		31.1	41.5	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		8.54	1	0.00e+00	4.27e+00	
1,2,3,7,8-PECDD	ND		8.54	1	0.00e+00	4.27e+00	
1,2,3,4,7,8-HXCDD	ND		8.54	0.1	0.00e+00	4.27e-01	
1,2,3,6,7,8-HXCDD		25.1	8.54	0.1	2.51e+00	2.51e+00	
1,2,3,7,8,9-HXCDD		13.9	8.54	0.1	1.39e+00	1.39e+00	
1,2,3,4,6,7,8-HPCDD		62.5	8.54	0.01	6.25e-01	6.25e-01	
OCDD		499	8.54	0.0003	1.50e-01	1.50e-01	
2,3,7,8-TCDF	ND		8.54	0.1	0.00e+00	4.27e-01	
1,2,3,7,8-PECDF	ND		8.54	0.03	0.00e+00	1.28e-01	
2,3,4,7,8-PECDF		25.6	8.54	0.3	7.68e+00	7.68e+00	
1,2,3,4,7,8-HXCDF		66.7	8.54	0.1	6.67e+00	6.67e+00	
1,2,3,6,7,8-HXCDF		57.7	8.54	0.1	5.77e+00	5.77e+00	
1,2,3,7,8,9-HXCDF	ND		8.54	0.1	0.00e+00	4.27e-01	
2,3,4,6,7,8-HXCDF	ND		8.54	0.1	0.00e+00	4.27e-01	
1,2,3,4,6,7,8-HPCDF		118	8.54	0.01	1.18e+00	1.18e+00	
1,2,3,4,7,8,9-HPCDF		9.08	8.54	0.01	9.08e-02	9.08e-02	
OCDF		13.3	8.54	0.0003	3.99e-03	3.99e-03	
			TOTAL TEQ		26.1	36.4	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 26-Apr-2007 18:15:21; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-18_TEQ_SJ631331_lipid.html; Workgroup: WG21001; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB018 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-40
Matrix:	BLOOD	**Sample Size:**	60.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	31-Jan-2007 **Time:** 15:48:01	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_047 S: 10**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_047 S: 2
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.017	0.0030	0.70	1.001
1,2,3,7,8-PECDD [3]		0.045	0.0030	0.70	1.001
1,2,3,4,7,8-HXCDD		0.029	0.0030	1.39	1.000
1,2,3,6,7,8-HXCDD		0.118	0.0030	1.32	1.000
1,2,3,7,8,9-HXCDD		0.048	0.0030	1.31	1.011
1,2,3,4,6,7,8-HPCDD		0.288	0.0030	1.05	1.000
OCDD		1.93	0.0030	0.90	1.000
2,3,7,8-TCDF		0.004	0.0030	0.85	1.001
1,2,3,7,8-PECDF		0.020	0.0030	1.53	1.001
2,3,4,7,8-PECDF		0.081	0.0030	1.54	1.000
1,2,3,4,7,8-HXCDF		0.321	0.0030	1.23	1.000
1,2,3,6,7,8-HXCDF		0.229	0.0030	1.27	1.000
1,2,3,7,8,9-HXCDF		0.008	0.0030	1.18	1.000
2,3,4,6,7,8-HXCDF		0.019	0.0030	1.21	1.000
1,2,3,4,6,7,8-HPCDF		0.444	0.0030	1.05	1.000
1,2,3,4,7,8,9-HPCDF		0.025	0.0030	1.03	1.000
OCDF		0.017	0.0030	0.89	1.002
TOTAL TETRA-DIOXINS		0.017	0.0030		
TOTAL PENTA-DIOXINS		0.045	0.0030		
TOTAL HEXA-DIOXINS		0.198	0.0030		
TOTAL HEPTA-DIOXINS		0.308	0.0030		
TOTAL TETRA-FURANS		0.004	0.0030		
TOTAL PENTA-FURANS		0.108	0.0030		
TOTAL HEXA-FURANS		0.585	0.0030		
TOTAL HEPTA-FURANS		0.474	0.0030		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-40_Form1A_SJ631343.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB018 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-40
Matrix:	BLOOD	**Sample Size:**	60.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	31-Jan-2007 **Time:** 15:48:01	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_047 S: 10**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_047 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	772	77.2	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	956	95.6	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		1000	766	76.6	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	713	71.3	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	756	75.6	1.06	1.095
13C-OCDD		2000	1370	68.7	0.90	1.179
13C-2,3,7,8-TCDF		1000	723	72.3	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	831	83.1	1.58	1.283
13C-2,3,4,7,8-PECDF		1000	828	82.8	1.58	1.351
13C-1,2,3,4,7,8-HXCDF		1000	746	74.6	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	709	70.9	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	724	72.4	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		1000	704	70.4	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	682	68.2	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	708	70.8	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-40_Form2_SJ631343.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB018 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.0 g (wet)	**Lab Sample I.D.:**	L9584-40
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_047 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.017	0.0030	1	1.70e-02	1.70e-02	
1,2,3,7,8-PECDD		0.045	0.0030	1	4.50e-02	4.50e-02	
1,2,3,4,7,8-HXCDD		0.029	0.0030	0.1	2.90e-03	2.90e-03	
1,2,3,6,7,8-HXCDD		0.118	0.0030	0.1	1.18e-02	1.18e-02	
1,2,3,7,8,9-HXCDD		0.048	0.0030	0.1	4.80e-03	4.80e-03	
1,2,3,4,6,7,8-HPCDD		0.288	0.0030	0.01	2.88e-03	2.88e-03	
OCDD		1.93	0.0030	0.0001	1.93e-04	1.93e-04	
2,3,7,8-TCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
1,2,3,7,8-PECDF		0.020	0.0030	0.05	1.00e-03	1.00e-03	
2,3,4,7,8-PECDF		0.081	0.0030	0.5	4.05e-02	4.05e-02	
1,2,3,4,7,8-HXCDF		0.321	0.0030	0.1	3.21e-02	3.21e-02	
1,2,3,6,7,8-HXCDF		0.229	0.0030	0.1	2.29e-02	2.29e-02	
1,2,3,7,8,9-HXCDF		0.008	0.0030	0.1	8.00e-04	8.00e-04	
2,3,4,6,7,8-HXCDF		0.019	0.0030	0.1	1.90e-03	1.90e-03	
1,2,3,4,6,7,8-HPCDF		0.444	0.0030	0.01	4.44e-03	4.44e-03	
1,2,3,4,7,8,9-HPCDF		0.025	0.0030	0.01	2.50e-04	2.50e-04	
OCDF		0.017	0.0030	0.0001	1.70e-06	1.70e-06	
			TOTAL TEQ		0.189	0.189	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.017	0.0030	1	1.70e-02	1.70e-02	
1,2,3,7,8-PECDD		0.045	0.0030	1	4.50e-02	4.50e-02	
1,2,3,4,7,8-HXCDD		0.029	0.0030	0.1	2.90e-03	2.90e-03	
1,2,3,6,7,8-HXCDD		0.118	0.0030	0.1	1.18e-02	1.18e-02	
1,2,3,7,8,9-HXCDD		0.048	0.0030	0.1	4.80e-03	4.80e-03	
1,2,3,4,6,7,8-HPCDD		0.288	0.0030	0.01	2.88e-03	2.88e-03	
OCDD		1.93	0.0030	0.0003	5.79e-04	5.79e-04	
2,3,7,8-TCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
1,2,3,7,8-PECDF		0.020	0.0030	0.03	6.00e-04	6.00e-04	
2,3,4,7,8-PECDF		0.081	0.0030	0.3	2.43e-02	2.43e-02	
1,2,3,4,7,8-HXCDF		0.321	0.0030	0.1	3.21e-02	3.21e-02	
1,2,3,6,7,8-HXCDF		0.229	0.0030	0.1	2.29e-02	2.29e-02	
1,2,3,7,8,9-HXCDF		0.008	0.0030	0.1	8.00e-04	8.00e-04	
2,3,4,6,7,8-HXCDF		0.019	0.0030	0.1	1.90e-03	1.90e-03	
1,2,3,4,6,7,8-HPCDF		0.444	0.0030	0.01	4.44e-03	4.44e-03	
1,2,3,4,7,8,9-HPCDF		0.025	0.0030	0.01	2.50e-04	2.50e-04	
OCDF		0.017	0.0030	0.0003	5.10e-06	5.10e-06	
			TOTAL TEQ		0.173	0.173	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-40_TEQ_SJ631343.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB018 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-40
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.260 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 **Time:** 15:48:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_047 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_047 S: 2
		% Lipid:	0.43

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		3.93	0.693	0.70	1.001
1,2,3,7,8-PECDD [3]		10.4	0.693	0.70	1.001
1,2,3,4,7,8-HXCDD		6.70	0.693	1.39	1.000
1,2,3,6,7,8-HXCDD		27.2	0.693	1.32	1.000
1,2,3,7,8,9-HXCDD		11.1	0.693	1.31	1.011
1,2,3,4,6,7,8-HPCDD		66.5	0.693	1.05	1.000
OCDD		446	0.693	0.90	1.000
2,3,7,8-TCDF		0.924	0.693	0.85	1.001
1,2,3,7,8-PECDF		4.62	0.693	1.53	1.001
2,3,4,7,8-PECDF		18.7	0.693	1.54	1.000
1,2,3,4,7,8-HXCDF		74.1	0.693	1.23	1.000
1,2,3,6,7,8-HXCDF		52.9	0.693	1.27	1.000
1,2,3,7,8,9-HXCDF		1.85	0.693	1.18	1.000
2,3,4,6,7,8-HXCDF		4.39	0.693	1.21	1.000
1,2,3,4,6,7,8-HPCDF		103	0.693	1.05	1.000
1,2,3,4,7,8,9-HPCDF		5.77	0.693	1.03	1.000
OCDF		3.93	0.693	0.89	1.002
TOTAL TETRA-DIOXINS		3.93	0.693		
TOTAL PENTA-DIOXINS		10.4	0.693		
TOTAL HEXA-DIOXINS		45.7	0.693		
TOTAL HEPTA-DIOXINS		71.1	0.693		
TOTAL TETRA-FURANS		0.924	0.693		
TOTAL PENTA-FURANS		24.9	0.693		
TOTAL HEXA-FURANS		135	0.693		
TOTAL HEPTA-FURANS		109	0.693		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 08:55:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-40_Form1A_SJ631343_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB018 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.260 g (lipid)	**Lab Sample I.D.:**	L9584-40
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_047 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3.93	0.693	1	3.93e+00	3.93e+00	
1,2,3,7,8-PECDD		10.4	0.693	1	1.04e+01	1.04e+01	
1,2,3,4,7,8-HXCDD		6.70	0.693	0.1	6.70e-01	6.70e-01	
1,2,3,6,7,8-HXCDD		27.2	0.693	0.1	2.72e+00	2.72e+00	
1,2,3,7,8,9-HXCDD		11.1	0.693	0.1	1.11e+00	1.11e+00	
1,2,3,4,6,7,8-HPCDD		66.5	0.693	0.01	6.65e-01	6.65e-01	
OCDD		446	0.693	0.0001	4.46e-02	4.46e-02	
2,3,7,8-TCDF		0.924	0.693	0.1	9.24e-02	9.24e-02	
1,2,3,7,8-PECDF		4.62	0.693	0.05	2.31e-01	2.31e-01	
2,3,4,7,8-PECDF		18.7	0.693	0.5	9.35e+00	9.35e+00	
1,2,3,4,7,8-HXCDF		74.1	0.693	0.1	7.41e+00	7.41e+00	
1,2,3,6,7,8-HXCDF		52.9	0.693	0.1	5.29e+00	5.29e+00	
1,2,3,7,8,9-HXCDF		1.85	0.693	0.1	1.85e-01	1.85e-01	
2,3,4,6,7,8-HXCDF		4.39	0.693	0.1	4.39e-01	4.39e-01	
1,2,3,4,6,7,8-HPCDF		103	0.693	0.01	1.03e+00	1.03e+00	
1,2,3,4,7,8,9-HPCDF		5.77	0.693	0.01	5.77e-02	5.77e-02	
OCDF		3.93	0.693	0.0001	3.93e-04	3.93e-04	
			TOTAL TEQ		43.6	43.6	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3.93	0.693	1	3.93e+00	3.93e+00	
1,2,3,7,8-PECDD		10.4	0.693	1	1.04e+01	1.04e+01	
1,2,3,4,7,8-HXCDD		6.70	0.693	0.1	6.70e-01	6.70e-01	
1,2,3,6,7,8-HXCDD		27.2	0.693	0.1	2.72e+00	2.72e+00	
1,2,3,7,8,9-HXCDD		11.1	0.693	0.1	1.11e+00	1.11e+00	
1,2,3,4,6,7,8-HPCDD		66.5	0.693	0.01	6.65e-01	6.65e-01	
OCDD		446	0.693	0.0003	1.34e-01	1.34e-01	
2,3,7,8-TCDF		0.924	0.693	0.1	9.24e-02	9.24e-02	
1,2,3,7,8-PECDF		4.62	0.693	0.03	1.39e-01	1.39e-01	
2,3,4,7,8-PECDF		18.7	0.693	0.3	5.61e+00	5.61e+00	
1,2,3,4,7,8-HXCDF		74.1	0.693	0.1	7.41e+00	7.41e+00	
1,2,3,6,7,8-HXCDF		52.9	0.693	0.1	5.29e+00	5.29e+00	
1,2,3,7,8,9-HXCDF		1.85	0.693	0.1	1.85e-01	1.85e-01	
2,3,4,6,7,8-HXCDF		4.39	0.693	0.1	4.39e-01	4.39e-01	
1,2,3,4,6,7,8-HPCDF		103	0.693	0.01	1.03e+00	1.03e+00	
1,2,3,4,7,8,9-HPCDF		5.77	0.693	0.01	5.77e-02	5.77e-02	
OCDF		3.93	0.693	0.0003	1.18e-03	1.18e-03	
			TOTAL TEQ		39.9	39.9	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 19:03:16; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-40_TEQ_SJ631343_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB019 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-30 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	50.1 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 15:16:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.013	0.0040	0.83	1.001
1,2,3,7,8-PECDD [3]		0.023	0.0040	0.68	1.001
1,2,3,4,7,8-HXCDD		0.014	0.0040	1.17	1.000
1,2,3,6,7,8-HXCDD		0.061	0.0040	1.29	1.000
1,2,3,7,8,9-HXCDD		0.016	0.0040	1.20	1.010
1,2,3,4,6,7,8-HPCDD		0.079	0.0040	1.18	1.000
OCDD		0.655	0.0040	0.85	1.001
2,3,7,8-TCDF		0.006	0.0040	0.66	1.002
1,2,3,7,8-PECDF	NDR	0.007	0.0040	0.95	1.001
2,3,4,7,8-PECDF		0.042	0.0040	1.44	1.000
1,2,3,4,7,8-HXCDF		0.065	0.0040	1.07	1.000
1,2,3,6,7,8-HXCDF		0.055	0.0040	1.41	1.000
1,2,3,7,8,9-HXCDF	ND		0.0040		
2,3,4,6,7,8-HXCDF	NDR	0.007	0.0040	0.81	1.000
1,2,3,4,6,7,8-HPCDF		0.064	0.0040	1.12	1.000
1,2,3,4,7,8,9-HPCDF		0.006	0.0040	1.14	1.000
OCDF	NDR	0.008	0.0040	0.64	1.002
TOTAL TETRA-DIOXINS		0.013	0.0040		
TOTAL PENTA-DIOXINS		0.023	0.0040		
TOTAL HEXA-DIOXINS		0.091	0.0040		
TOTAL HEPTA-DIOXINS		0.094	0.0040		
TOTAL TETRA-FURANS		0.006	0.0040		
TOTAL PENTA-FURANS		0.042	0.0040		
TOTAL HEXA-FURANS		0.120	0.0040		
TOTAL HEPTA-FURANS		0.070	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-30_Form1A_SJ641411.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB019 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-30 RL
Matrix:	BLOOD	**Sample Size:**	50.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	22-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 15:16:01	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_064 S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_048 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_064 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	771	77.1	0.78	1.012
13C-1,2,3,7,8-PECDD [4]		1000	884	88.4	0.62	1.380
13C-1,2,3,4,7,8-HXCDD		1000	803	80.3	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	776	77.6	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	652	65.2	1.04	1.094
13C-OCDD		2000	1130	56.5	0.89	1.178
13C-2,3,7,8-TCDF		1000	773	77.3	0.78	0.965
13C-1,2,3,7,8-PECDF		1000	807	80.7	1.51	1.282
13C-2,3,4,7,8-PECDF		1000	796	79.6	1.55	1.349
13C-1,2,3,4,7,8-HXCDF		1000	781	78.1	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	772	77.2	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	749	74.9	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	714	71.4	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	636	63.6	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	637	63.7	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_L9584-30_Form2_SJ641411.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB019 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	50.1 g (wet)	**Lab Sample I.D.:**	L9584-30 RL
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_064 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.013	0.0040	1	1.30e-02	1.30e-02	
1,2,3,7,8-PECDD		0.023	0.0040	1	2.30e-02	2.30e-02	
1,2,3,4,7,8-HXCDD		0.014	0.0040	0.1	1.40e-03	1.40e-03	
1,2,3,6,7,8-HXCDD		0.061	0.0040	0.1	6.10e-03	6.10e-03	
1,2,3,7,8,9-HXCDD		0.016	0.0040	0.1	1.60e-03	1.60e-03	
1,2,3,4,6,7,8-HPCDD		0.079	0.0040	0.01	7.90e-04	7.90e-04	
OCDD		0.655	0.0040	0.0001	6.55e-05	6.55e-05	
2,3,7,8-TCDF		0.006	0.0040	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.05	0.00e+00	1.00e-04	
2,3,4,7,8-PECDF		0.042	0.0040	0.5	2.10e-02	2.10e-02	
1,2,3,4,7,8-HXCDF		0.065	0.0040	0.1	6.50e-03	6.50e-03	
1,2,3,6,7,8-HXCDF		0.055	0.0040	0.1	5.50e-03	5.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDF		0.064	0.0040	0.01	6.40e-04	6.40e-04	
1,2,3,4,7,8,9-HPCDF		0.006	0.0040	0.01	6.00e-05	6.00e-05	
OCDF	ND		0.0040	0.0001	0.00e+00	2.00e-07	
			TOTAL TEQ		0.0803	0.0808	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.013	0.0040	1	1.30e-02	1.30e-02	
1,2,3,7,8-PECDD		0.023	0.0040	1	2.30e-02	2.30e-02	
1,2,3,4,7,8-HXCDD		0.014	0.0040	0.1	1.40e-03	1.40e-03	
1,2,3,6,7,8-HXCDD		0.061	0.0040	0.1	6.10e-03	6.10e-03	
1,2,3,7,8,9-HXCDD		0.016	0.0040	0.1	1.60e-03	1.60e-03	
1,2,3,4,6,7,8-HPCDD		0.079	0.0040	0.01	7.90e-04	7.90e-04	
OCDD		0.655	0.0040	0.0003	1.97e-04	1.97e-04	
2,3,7,8-TCDF		0.006	0.0040	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.03	0.00e+00	6.00e-05	
2,3,4,7,8-PECDF		0.042	0.0040	0.3	1.26e-02	1.26e-02	
1,2,3,4,7,8-HXCDF		0.065	0.0040	0.1	6.50e-03	6.50e-03	
1,2,3,6,7,8-HXCDF		0.055	0.0040	0.1	5.50e-03	5.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDF		0.064	0.0040	0.01	6.40e-04	6.40e-04	
1,2,3,4,7,8,9-HPCDF		0.006	0.0040	0.01	6.00e-05	6.00e-05	
OCDF	ND		0.0040	0.0003	0.00e+00	6.00e-07	
			TOTAL TEQ		0.0720	0.0724	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-30_TEQ_SJ641411.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB019 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-30 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.110 g (lipid)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 15:16:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1
		% Lipid:	0.22

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		5.92	1.82	0.83	1.001
1,2,3,7,8-PECDD [3]		10.5	1.82	0.68	1.001
1,2,3,4,7,8-HXCDD		6.38	1.82	1.17	1.000
1,2,3,6,7,8-HXCDD		27.8	1.82	1.29	1.000
1,2,3,7,8,9-HXCDD		7.29	1.82	1.20	1.010
1,2,3,4,6,7,8-HPCDD		36.0	1.82	1.18	1.000
OCDD		298	1.82	0.85	1.001
2,3,7,8-TCDF		2.73	1.82	0.66	1.002
1,2,3,7,8-PECDF	NDR	3.19	1.82	0.95	1.001
2,3,4,7,8-PECDF		19.1	1.82	1.44	1.000
1,2,3,4,7,8-HXCDF		29.6	1.82	1.07	1.000
1,2,3,6,7,8-HXCDF		25.1	1.82	1.41	1.000
1,2,3,7,8,9-HXCDF	ND		1.82		
2,3,4,6,7,8-HXCDF	NDR	3.19	1.82	0.81	1.000
1,2,3,4,6,7,8-HPCDF		29.1	1.82	1.12	1.000
1,2,3,4,7,8,9-HPCDF		2.73	1.82	1.14	1.000
OCDF	NDR	3.64	1.82	0.64	1.002
TOTAL TETRA-DIOXINS		5.92	1.82		
TOTAL PENTA-DIOXINS		10.5	1.82		
TOTAL HEXA-DIOXINS		41.4	1.82		
TOTAL HEPTA-DIOXINS		42.8	1.82		
TOTAL TETRA-FURANS		2.73	1.82		
TOTAL PENTA-FURANS		19.1	1.82		
TOTAL HEXA-FURANS		54.7	1.82		
TOTAL HEPTA-FURANS		31.9	1.82		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 26-Apr-2007 19:01:59; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-30_Form1A_DX72_064S9_SJ641411_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB019 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.110 g (lipid)	**Lab Sample I.D.:**	L9584-30 RL
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_064 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5.92	1.82	1	5.92e+00	5.92e+00	
1,2,3,7,8-PECDD		10.5	1.82	1	1.05e+01	1.05e+01	
1,2,3,4,7,8-HXCDD		6.38	1.82	0.1	6.38e-01	6.38e-01	
1,2,3,6,7,8-HXCDD		27.8	1.82	0.1	2.78e+00	2.78e+00	
1,2,3,7,8,9-HXCDD		7.29	1.82	0.1	7.29e-01	7.29e-01	
1,2,3,4,6,7,8-HPCDD		36.0	1.82	0.01	3.60e-01	3.60e-01	
OCDD		298	1.82	0.0001	2.98e-02	2.98e-02	
2,3,7,8-TCDF		2.73	1.82	0.1	2.73e-01	2.73e-01	
1,2,3,7,8-PECDF	ND		1.82	0.05	0.00e+00	4.55e-02	
2,3,4,7,8-PECDF		19.1	1.82	0.5	9.55e+00	9.55e+00	
1,2,3,4,7,8-HXCDF		29.6	1.82	0.1	2.96e+00	2.96e+00	
1,2,3,6,7,8-HXCDF		25.1	1.82	0.1	2.51e+00	2.51e+00	
1,2,3,7,8,9-HXCDF	ND		1.82	0.1	0.00e+00	9.10e-02	
2,3,4,6,7,8-HXCDF	ND		1.82	0.1	0.00e+00	9.10e-02	
1,2,3,4,6,7,8-HPCDF		29.1	1.82	0.01	2.91e-01	2.91e-01	
1,2,3,4,7,8,9-HPCDF		2.73	1.82	0.01	2.73e-02	2.73e-02	
OCDF	ND		1.82	0.0001	0.00e+00	9.10e-05	
			TOTAL TEQ		36.6	36.8	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5.92	1.82	1	5.92e+00	5.92e+00	
1,2,3,7,8-PECDD		10.5	1.82	1	1.05e+01	1.05e+01	
1,2,3,4,7,8-HXCDD		6.38	1.82	0.1	6.38e-01	6.38e-01	
1,2,3,6,7,8-HXCDD		27.8	1.82	0.1	2.78e+00	2.78e+00	
1,2,3,7,8,9-HXCDD		7.29	1.82	0.1	7.29e-01	7.29e-01	
1,2,3,4,6,7,8-HPCDD		36.0	1.82	0.01	3.60e-01	3.60e-01	
OCDD		298	1.82	0.0003	8.94e-02	8.94e-02	
2,3,7,8-TCDF		2.73	1.82	0.1	2.73e-01	2.73e-01	
1,2,3,7,8-PECDF	ND		1.82	0.03	0.00e+00	2.73e-02	
2,3,4,7,8-PECDF		19.1	1.82	0.3	5.73e+00	5.73e+00	
1,2,3,4,7,8-HXCDF		29.6	1.82	0.1	2.96e+00	2.96e+00	
1,2,3,6,7,8-HXCDF		25.1	1.82	0.1	2.51e+00	2.51e+00	
1,2,3,7,8,9-HXCDF	ND		1.82	0.1	0.00e+00	9.10e-02	
2,3,4,6,7,8-HXCDF	ND		1.82	0.1	0.00e+00	9.10e-02	
1,2,3,4,6,7,8-HPCDF		29.1	1.82	0.01	2.91e-01	2.91e-01	
1,2,3,4,7,8,9-HPCDF		2.73	1.82	0.01	2.73e-02	2.73e-02	
OCDF	ND		1.82	0.0003	0.00e+00	2.73e-04	
			TOTAL TEQ		32.8	33.0	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 26-Apr-2007 19:05:32; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-30_TEQ_SJ641411_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB020 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-43
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.1 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 **Time:** 17:37:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_047 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_047 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.007	0.0030	0.85	1.001
1,2,3,7,8-PECDD [3]	NDR	0.023	0.0030	0.74	1.001
1,2,3,4,7,8-HXCDD		0.017	0.0030	1.26	1.000
1,2,3,6,7,8-HXCDD		0.064	0.0030	1.20	1.000
1,2,3,7,8,9-HXCDD		0.021	0.0030	1.23	1.010
1,2,3,4,6,7,8-HPCDD		0.298	0.0030	1.08	1.000
OCDD		2.08	0.0030	0.90	1.000
2,3,7,8-TCDF		0.003	0.0030	0.88	1.001
1,2,3,7,8-PECDF	NDR	0.006	0.0030	0.95	1.000
2,3,4,7,8-PECDF		0.040	0.0030	1.64	1.000
1,2,3,4,7,8-HXCDF		0.208	0.0030	1.26	1.000
1,2,3,6,7,8-HXCDF		0.190	0.0030	1.30	1.000
1,2,3,7,8,9-HXCDF		0.006	0.0030	1.35	1.000
2,3,4,6,7,8-HXCDF		0.012	0.0030	1.37	1.000
1,2,3,4,6,7,8-HPCDF		0.388	0.0030	1.03	1.000
1,2,3,4,7,8,9-HPCDF		0.054	0.0030	0.99	1.000
OCDF		0.033	0.0030	1.01	1.002
TOTAL TETRA-DIOXINS		0.007	0.0030		
TOTAL PENTA-DIOXINS	ND		0.0030		
TOTAL HEXA-DIOXINS		0.106	0.0030		
TOTAL HEPTA-DIOXINS		0.347	0.0030		
TOTAL TETRA-FURANS		0.003	0.0030		
TOTAL PENTA-FURANS		0.040	0.0030		
TOTAL HEXA-FURANS		0.431	0.0030		
TOTAL HEPTA-FURANS		0.471	0.0030		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-43_Form1A_SJ631345.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB020 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283	**Contract No.:**	2607
Lab Sample I.D.:	L9584-43	**Matrix:**	BLOOD
Sample Size:	60.1 g (wet)	**Sample Receipt Date:**	22-Dec-2006
Initial Calibration Date:	25-Jan-2007	**Extraction Date:**	17-Jan-2007
Instrument ID:	HR GC/MS	**Analysis Date:**	31-Jan-2007 **Time:** 17:37:18
GC Column ID:	DB5	**Extract Volume (uL):**	10
Sample Data Filename:	**DX72_047 S: 12**	**Injection Volume (uL):**	2.0
Blank Data Filename:	DX72_045B S: 7	**Dilution Factor:**	N/A
Cal. Ver. Data Filename:	DX72_047 S: 2	**Concentration Units:**	pg absolute

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	551	55.1	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	655	65.5	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		1000	521	52.1	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	518	51.8	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	526	52.6	1.05	1.095
13C-OCDD		2000	950	47.5	0.90	1.179
13C-2,3,7,8-TCDF		1000	473	47.3	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	561	56.1	1.57	1.284
13C-2,3,4,7,8-PECDF		1000	572	57.2	1.60	1.351
13C-1,2,3,4,7,8-HXCDF		1000	510	51.0	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	479	47.9	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	517	51.7	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		1000	493	49.3	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	480	48.0	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	506	50.6	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-43_Form2_SJ631345.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB020 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.1 g (wet)	**Lab Sample I.D.:**	L9584-43
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_047 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.007	0.0030	1	7.00e-03	7.00e-03	
1,2,3,7,8-PECDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,4,7,8-HXCDD		0.017	0.0030	0.1	1.70e-03	1.70e-03	
1,2,3,6,7,8-HXCDD		0.064	0.0030	0.1	6.40e-03	6.40e-03	
1,2,3,7,8,9-HXCDD		0.021	0.0030	0.1	2.10e-03	2.10e-03	
1,2,3,4,6,7,8-HPCDD		0.298	0.0030	0.01	2.98e-03	2.98e-03	
OCDD		2.08	0.0030	0.0001	2.08e-04	2.08e-04	
2,3,7,8-TCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,7,8-PECDF	ND		0.0030	0.05	0.00e+00	7.50e-05	
2,3,4,7,8-PECDF		0.040	0.0030	0.5	2.00e-02	2.00e-02	
1,2,3,4,7,8-HXCDF		0.208	0.0030	0.1	2.08e-02	2.08e-02	
1,2,3,6,7,8-HXCDF		0.190	0.0030	0.1	1.90e-02	1.90e-02	
1,2,3,7,8,9-HXCDF		0.006	0.0030	0.1	6.00e-04	6.00e-04	
2,3,4,6,7,8-HXCDF		0.012	0.0030	0.1	1.20e-03	1.20e-03	
1,2,3,4,6,7,8-HPCDF		0.388	0.0030	0.01	3.88e-03	3.88e-03	
1,2,3,4,7,8,9-HPCDF		0.054	0.0030	0.01	5.40e-04	5.40e-04	
OCDF		0.033	0.0030	0.0001	3.30e-06	3.30e-06	
			TOTAL TEQ		0.0867	0.0883	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.007	0.0030	1	7.00e-03	7.00e-03	
1,2,3,7,8-PECDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,4,7,8-HXCDD		0.017	0.0030	0.1	1.70e-03	1.70e-03	
1,2,3,6,7,8-HXCDD		0.064	0.0030	0.1	6.40e-03	6.40e-03	
1,2,3,7,8,9-HXCDD		0.021	0.0030	0.1	2.10e-03	2.10e-03	
1,2,3,4,6,7,8-HPCDD		0.298	0.0030	0.01	2.98e-03	2.98e-03	
OCDD		2.08	0.0030	0.0003	6.24e-04	6.24e-04	
2,3,7,8-TCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,7,8-PECDF	ND		0.0030	0.03	0.00e+00	4.50e-05	
2,3,4,7,8-PECDF		0.040	0.0030	0.3	1.20e-02	1.20e-02	
1,2,3,4,7,8-HXCDF		0.208	0.0030	0.1	2.08e-02	2.08e-02	
1,2,3,6,7,8-HXCDF		0.190	0.0030	0.1	1.90e-02	1.90e-02	
1,2,3,7,8,9-HXCDF		0.006	0.0030	0.1	6.00e-04	6.00e-04	
2,3,4,6,7,8-HXCDF		0.012	0.0030	0.1	1.20e-03	1.20e-03	
1,2,3,4,6,7,8-HPCDF		0.388	0.0030	0.01	3.88e-03	3.88e-03	
1,2,3,4,7,8,9-HPCDF		0.054	0.0030	0.01	5.40e-04	5.40e-04	
OCDF		0.033	0.0030	0.0003	9.90e-06	9.90e-06	
			TOTAL TEQ		0.0791	0.0807	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-43_TEQ_SJ631345.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB020 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-43
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.120 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 **Time:** 17:37:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_047 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_047 S: 2
		% Lipid:	0.20

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		3.50	1.50	0.85	1.001
1,2,3,7,8-PECDD [3]	NDR	11.5	1.50	0.74	1.001
1,2,3,4,7,8-HXCDD		8.51	1.50	1.26	1.000
1,2,3,6,7,8-HXCDD		32.0	1.50	1.20	1.000
1,2,3,7,8,9-HXCDD		10.5	1.50	1.23	1.010
1,2,3,4,6,7,8-HPCDD		149	1.50	1.08	1.000
OCDD		1040	1.50	0.90	1.000
2,3,7,8-TCDF		1.50	1.50	0.88	1.001
1,2,3,7,8-PECDF	NDR	3.00	1.50	0.95	1.000
2,3,4,7,8-PECDF		20.0	1.50	1.64	1.000
1,2,3,4,7,8-HXCDF		104	1.50	1.26	1.000
1,2,3,6,7,8-HXCDF		95.1	1.50	1.30	1.000
1,2,3,7,8,9-HXCDF		3.00	1.50	1.35	1.000
2,3,4,6,7,8-HXCDF		6.01	1.50	1.37	1.000
1,2,3,4,6,7,8-HPCDF		194	1.50	1.03	1.000
1,2,3,4,7,8,9-HPCDF		27.0	1.50	0.99	1.000
OCDF		16.5	1.50	1.01	1.002
TOTAL TETRA-DIOXINS		3.50	1.50		
TOTAL PENTA-DIOXINS	ND		1.50		
TOTAL HEXA-DIOXINS		53.0	1.50		
TOTAL HEPTA-DIOXINS		174	1.50		
TOTAL TETRA-FURANS		1.50	1.50		
TOTAL PENTA-FURANS		20.0	1.50		
TOTAL HEXA-FURANS		216	1.50		
TOTAL HEPTA-FURANS		236	1.50		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB020 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.120 g (lipid)	**Lab Sample I.D.:**	L9584-43
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_047 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3.50	1.50	1	3.50e+00	3.50e+00	
1,2,3,7,8-PECDD	ND		1.50	1	0.00e+00	7.50e-01	
1,2,3,4,7,8-HXCDD		8.51	1.50	0.1	8.51e-01	8.51e-01	
1,2,3,6,7,8-HXCDD		32.0	1.50	0.1	3.20e+00	3.20e+00	
1,2,3,7,8,9-HXCDD		10.5	1.50	0.1	1.05e+00	1.05e+00	
1,2,3,4,6,7,8-HPCDD		149	1.50	0.01	1.49e+00	1.49e+00	
OCDD		1040	1.50	0.0001	1.04e-01	1.04e-01	
2,3,7,8-TCDF		1.50	1.50	0.1	1.50e-01	1.50e-01	
1,2,3,7,8-PECDF	ND		1.50	0.05	0.00e+00	3.75e-02	
2,3,4,7,8-PECDF		20.0	1.50	0.5	1.00e+01	1.00e+01	
1,2,3,4,7,8-HXCDF		104	1.50	0.1	1.04e+01	1.04e+01	
1,2,3,6,7,8-HXCDF		95.1	1.50	0.1	9.51e+00	9.51e+00	
1,2,3,7,8,9-HXCDF		3.00	1.50	0.1	3.00e-01	3.00e-01	
2,3,4,6,7,8-HXCDF		6.01	1.50	0.1	6.01e-01	6.01e-01	
1,2,3,4,6,7,8-HPCDF		194	1.50	0.01	1.94e+00	1.94e+00	
1,2,3,4,7,8,9-HPCDF		27.0	1.50	0.01	2.70e-01	2.70e-01	
OCDF		16.5	1.50	0.0001	1.65e-03	1.65e-03	
			TOTAL TEQ		43.4	44.2	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3.50	1.50	1	3.50e+00	3.50e+00	
1,2,3,7,8-PECDD	ND		1.50	1	0.00e+00	7.50e-01	
1,2,3,4,7,8-HXCDD		8.51	1.50	0.1	8.51e-01	8.51e-01	
1,2,3,6,7,8-HXCDD		32.0	1.50	0.1	3.20e+00	3.20e+00	
1,2,3,7,8,9-HXCDD		10.5	1.50	0.1	1.05e+00	1.05e+00	
1,2,3,4,6,7,8-HPCDD		149	1.50	0.01	1.49e+00	1.49e+00	
OCDD		1040	1.50	0.0003	3.12e-01	3.12e-01	
2,3,7,8-TCDF		1.50	1.50	0.1	1.50e-01	1.50e-01	
1,2,3,7,8-PECDF	ND		1.50	0.03	0.00e+00	2.25e-02	
2,3,4,7,8-PECDF		20.0	1.50	0.3	6.00e+00	6.00e+00	
1,2,3,4,7,8-HXCDF		104	1.50	0.1	1.04e+01	1.04e+01	
1,2,3,6,7,8-HXCDF		95.1	1.50	0.1	9.51e+00	9.51e+00	
1,2,3,7,8,9-HXCDF		3.00	1.50	0.1	3.00e-01	3.00e-01	
2,3,4,6,7,8-HXCDF		6.01	1.50	0.1	6.01e-01	6.01e-01	
1,2,3,4,6,7,8-HPCDF		194	1.50	0.01	1.94e+00	1.94e+00	
1,2,3,4,7,8,9-HPCDF		27.0	1.50	0.01	2.70e-01	2.70e-01	
OCDF		16.5	1.50	0.0003	4.95e-03	4.95e-03	
			TOTAL TEQ		39.6	40.4	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 19:03:16; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613-TEQ_L9584-43_TEQ_SJ631345_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB021 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-3 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	40.1 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	12-Feb-2007
Analysis Date:	13-Feb-2007 **Time:** 13:33:57	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_062 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_062 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0089		
1,2,3,7,8-PECDD [3]		0.012	0.0093	0.60	1.000
1,2,3,4,7,8-HXCDD	ND		0.0240		
1,2,3,6,7,8-HXCDD		0.043	0.0240	1.39	1.000
1,2,3,7,8,9-HXCDD	ND		0.0240		
1,2,3,4,6,7,8-HPCDD		0.060	0.0416	1.18	1.001
OCDD	NQ				
2,3,7,8-TCDF	ND		0.0063		
1,2,3,7,8-PECDF	ND		0.0070		
2,3,4,7,8-PECDF		0.029	0.0070	1.41	1.001
1,2,3,4,7,8-HXCDF		0.059	0.0250	1.37	1.001
1,2,3,6,7,8-HXCDF		0.039	0.0250	1.08	1.000
1,2,3,7,8,9-HXCDF	ND		0.0250		
2,3,4,6,7,8-HXCDF	ND		0.0250		
1,2,3,4,6,7,8-HPCDF		0.070	0.0570	1.11	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.0570		
OCDF	NQ				
TOTAL TETRA-DIOXINS	ND		0.0089		
TOTAL PENTA-DIOXINS		0.012	0.0093		
TOTAL HEXA-DIOXINS		0.043	0.0240		
TOTAL HEPTA-DIOXINS		0.060	0.0416		
TOTAL TETRA-FURANS	ND		0.0063		
TOTAL PENTA-FURANS		0.029	0.0070		
TOTAL HEXA-FURANS		0.099	0.0250		
TOTAL HEPTA-FURANS		0.070	0.0570		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NQ = data not quantifiable.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Henry Huang QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-3_Form1A_SJ638702.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB021 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-3 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	40.1 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	12-Feb-2007
Analysis Date:	13-Feb-2007 **Time:** 13:33:57	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_062 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_062 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	835	83.5	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	784	78.4	0.61	1.379
13C-1,2,3,4,7,8-HXCDD		1000	1120	112	1.31	0.987
13C-1,2,3,6,7,8-HXCDD		1000	854	85.4	1.17	0.991
13C-1,2,3,4,6,7,8-HPCDD		1000	681	68.1	1.03	1.097
13C-OCDD	NQ					
13C-2,3,7,8-TCDF		1000	966	96.6	0.78	0.964
13C-1,2,3,7,8-PECDF		1000	813	81.3	1.55	1.284
13C-2,3,4,7,8-PECDF		1000	771	77.1	1.54	1.348
13C-1,2,3,4,7,8-HXCDF		1000	1290	129	0.51	0.955
13C-1,2,3,6,7,8-HXCDF		1000	925	92.5	0.52	0.959
13C-1,2,3,7,8,9-HXCDF		1000	786	78.6	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		1000	938	93.8	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	673	67.3	0.47	1.064
13C-1,2,3,4,7,8,9-HPCDF		1000	523	52.3	0.46	1.107

(1) Where applicable, custom lab flags have been used on this report; NQ = data not quantifiable.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-3_Form2_SJ638702.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB021 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	40.1 g (wet)	**Lab Sample I.D.:**	L9584-3 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_062 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0089	1	0.00e+00	4.45e-03	
1,2,3,7,8-PECDD		0.012	0.0093	1	1.20e-02	1.20e-02	
1,2,3,4,7,8-HXCDD	ND		0.0240	0.1	0.00e+00	1.20e-03	
1,2,3,6,7,8-HXCDD		0.043	0.0240	0.1	4.30e-03	4.30e-03	
1,2,3,7,8,9-HXCDD	ND		0.0240	0.1	0.00e+00	1.20e-03	
1,2,3,4,6,7,8-HPCDD		0.060	0.0416	0.01	6.00e-04	6.00e-04	
2,3,7,8-TCDF	ND		0.0063	0.1	0.00e+00	3.15e-04	
1,2,3,7,8-PECDF	ND		0.0070	0.05	0.00e+00	1.75e-04	
2,3,4,7,8-PECDF		0.029	0.0070	0.5	1.45e-02	1.45e-02	
1,2,3,4,7,8-HXCDF		0.059	0.0250	0.1	5.90e-03	5.90e-03	
1,2,3,6,7,8-HXCDF		0.039	0.0250	0.1	3.90e-03	3.90e-03	
1,2,3,7,8,9-HXCDF	ND		0.0250	0.1	0.00e+00	1.25e-03	
2,3,4,6,7,8-HXCDF	ND		0.0250	0.1	0.00e+00	1.25e-03	
1,2,3,4,6,7,8-HPCDF		0.070	0.0570	0.01	7.00e-04	7.00e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0570	0.01	0.00e+00	2.85e-04	
			TOTAL TEQ		0.0419	0.0520	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0089	1	0.00e+00	4.45e-03	
1,2,3,7,8-PECDD		0.012	0.0093	1	1.20e-02	1.20e-02	
1,2,3,4,7,8-HXCDD	ND		0.0240	0.1	0.00e+00	1.20e-03	
1,2,3,6,7,8-HXCDD		0.043	0.0240	0.1	4.30e-03	4.30e-03	
1,2,3,7,8,9-HXCDD	ND		0.0240	0.1	0.00e+00	1.20e-03	
1,2,3,4,6,7,8-HPCDD		0.060	0.0416	0.01	6.00e-04	6.00e-04	
2,3,7,8-TCDF	ND		0.0063	0.1	0.00e+00	3.15e-04	
1,2,3,7,8-PECDF	ND		0.0070	0.03	0.00e+00	1.05e-04	
2,3,4,7,8-PECDF		0.029	0.0070	0.3	8.70e-03	8.70e-03	
1,2,3,4,7,8-HXCDF		0.059	0.0250	0.1	5.90e-03	5.90e-03	
1,2,3,6,7,8-HXCDF		0.039	0.0250	0.1	3.90e-03	3.90e-03	
1,2,3,7,8,9-HXCDF	ND		0.0250	0.1	0.00e+00	1.25e-03	
2,3,4,6,7,8-HXCDF	ND		0.0250	0.1	0.00e+00	1.25e-03	
1,2,3,4,6,7,8-HPCDF		0.070	0.0570	0.01	7.00e-04	7.00e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0570	0.01	0.00e+00	2.85e-04	
			TOTAL TEQ		0.0361	0.0462	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30; Report Filename: 1613_DIOXINS_1613-TEQ_L9584-3_TEQ_SJ638702.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB021 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-3 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.0560 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	12-Feb-2007
Analysis Date:	13-Feb-2007 **Time:** 13:33:57	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_062 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_062 S: 1
		% Lipid:	0.14

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		6.37		
1,2,3,7,8-PECDD [3]		8.58	6.65	0.60	1.000
1,2,3,4,7,8-HXCDD	ND		17.2		
1,2,3,6,7,8-HXCDD		30.8	17.2	1.39	1.000
1,2,3,7,8,9-HXCDD	ND		17.2		
1,2,3,4,6,7,8-HPCDD		42.9	29.8	1.18	1.001
OCDD	NQ				
2,3,7,8-TCDF	ND		4.51		
1,2,3,7,8-PECDF	ND		5.01		
2,3,4,7,8-PECDF		20.7	5.01	1.41	1.001
1,2,3,4,7,8-HXCDF		42.2	17.9	1.37	1.001
1,2,3,6,7,8-HXCDF		27.9	17.9	1.08	1.000
1,2,3,7,8,9-HXCDF	ND		17.9		
2,3,4,6,7,8-HXCDF	ND		17.9		
1,2,3,4,6,7,8-HPCDF		50.1	40.8	1.11	1.000
1,2,3,4,7,8,9-HPCDF	ND		40.8		
OCDF	NQ				
TOTAL TETRA-DIOXINS	ND		6.37		
TOTAL PENTA-DIOXINS		8.58	6.65		
TOTAL HEXA-DIOXINS		30.8	17.2		
TOTAL HEPTA-DIOXINS		42.9	29.8		
TOTAL TETRA-FURANS	ND		4.51		
TOTAL PENTA-FURANS		20.7	5.01		
TOTAL HEXA-FURANS		70.8	17.9		
TOTAL HEPTA-FURANS		50.1	40.8		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NQ = data not quantifiable.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 26-Apr-2007 18:45:56; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-3_Form1A_DX72_062S8_SJ638702_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB021 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.0560 g (lipid)	**Lab Sample I.D.:**	L9584-3 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_062 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		6.37	1	0.00e+00	3.19e+00	
1,2,3,7,8-PECDD		8.58	6.65	1	8.58e+00	8.58e+00	
1,2,3,4,7,8-HXCDD	ND		17.2	0.1	0.00e+00	8.60e-01	
1,2,3,6,7,8-HXCDD		30.8	17.2	0.1	3.08e+00	3.08e+00	
1,2,3,7,8,9-HXCDD	ND		17.2	0.1	0.00e+00	8.60e-01	
1,2,3,4,6,7,8-HPCDD		42.9	29.8	0.01	4.29e-01	4.29e-01	
2,3,7,8-TCDF	ND		4.51	0.1	0.00e+00	2.26e-01	
1,2,3,7,8-PECDF	ND		5.01	0.05	0.00e+00	1.25e-01	
2,3,4,7,8-PECDF		20.7	5.01	0.5	1.04e+01	1.04e+01	
1,2,3,4,7,8-HXCDF		42.2	17.9	0.1	4.22e+00	4.22e+00	
1,2,3,6,7,8-HXCDF		27.9	17.9	0.1	2.79e+00	2.79e+00	
1,2,3,7,8,9-HXCDF	ND		17.9	0.1	0.00e+00	8.95e-01	
2,3,4,6,7,8-HXCDF	ND		17.9	0.1	0.00e+00	8.95e-01	
1,2,3,4,6,7,8-HPCDF		50.1	40.8	0.01	5.01e-01	5.01e-01	
1,2,3,4,7,8,9-HPCDF	ND		40.8	0.01	0.00e+00	2.04e-01	
			TOTAL TEQ		30.0	37.2	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		6.37	1	0.00e+00	3.19e+00	
1,2,3,7,8-PECDD		8.58	6.65	1	8.58e+00	8.58e+00	
1,2,3,4,7,8-HXCDD	ND		17.2	0.1	0.00e+00	8.60e-01	
1,2,3,6,7,8-HXCDD		30.8	17.2	0.1	3.08e+00	3.08e+00	
1,2,3,7,8,9-HXCDD	ND		17.2	0.1	0.00e+00	8.60e-01	
1,2,3,4,6,7,8-HPCDD		42.9	29.8	0.01	4.29e-01	4.29e-01	
2,3,7,8-TCDF	ND		4.51	0.1	0.00e+00	2.26e-01	
1,2,3,7,8-PECDF	ND		5.01	0.03	0.00e+00	7.52e-02	
2,3,4,7,8-PECDF		20.7	5.01	0.3	6.21e+00	6.21e+00	
1,2,3,4,7,8-HXCDF		42.2	17.9	0.1	4.22e+00	4.22e+00	
1,2,3,6,7,8-HXCDF		27.9	17.9	0.1	2.79e+00	2.79e+00	
1,2,3,7,8,9-HXCDF	ND		17.9	0.1	0.00e+00	8.95e-01	
2,3,4,6,7,8-HXCDF	ND		17.9	0.1	0.00e+00	8.95e-01	
1,2,3,4,6,7,8-HPCDF		50.1	40.8	0.01	5.01e-01	5.01e-01	
1,2,3,4,7,8,9-HPCDF	ND		40.8	0.01	0.00e+00	2.04e-01	
			TOTAL TEQ		25.8	33.0	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 26-Apr-2007 18:49:45; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-3_TEQ_SJ638702_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB022 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-2
Matrix:	BLOOD	**Sample Size:**	20.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	10-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Jan-2007 **Time:** 15:56:13	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_030 S: 10**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_030 S: 8
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_030 S: 2
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.016	0.0100	0.72	1.001
1,2,3,7,8-PECDD [3]		0.039	0.0100	0.56	1.000
1,2,3,4,7,8-HXCDD		0.024	0.0100	1.40	1.000
1,2,3,6,7,8-HXCDD		0.081	0.0100	1.34	1.000
1,2,3,7,8,9-HXCDD		0.024	0.0100	1.26	1.011
1,2,3,4,6,7,8-HPCDD		0.187	0.0100	1.03	1.000
OCDD		1.26	0.0100	0.89	1.000
2,3,7,8-TCDF	ND		0.0100		
1,2,3,7,8-PECDF	ND		0.0100		
2,3,4,7,8-PECDF		0.071	0.0100	1.62	1.000
1,2,3,4,7,8-HXCDF		0.146	0.0100	1.15	1.000
1,2,3,6,7,8-HXCDF		0.105	0.0100	1.22	1.000
1,2,3,7,8,9-HXCDF	ND		0.0100		
2,3,4,6,7,8-HXCDF		0.010	0.0100	1.38	1.000
1,2,3,4,6,7,8-HPCDF		0.146	0.0100	1.13	1.000
1,2,3,4,7,8,9-HPCDF		0.018	0.0100	1.13	1.000
OCDF		0.043	0.0100	0.82	1.002
TOTAL TETRA-DIOXINS		0.016	0.0100		
TOTAL PENTA-DIOXINS		0.039	0.0100		
TOTAL HEXA-DIOXINS		0.128	0.0100		
TOTAL HEPTA-DIOXINS		0.247	0.0100		
TOTAL TETRA-FURANS	ND		0.0100		
TOTAL PENTA-FURANS		0.071	0.0100		
TOTAL HEXA-FURANS		0.252	0.0100		
TOTAL HEPTA-FURANS		0.196	0.0100		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 06-Feb-2007 11:31:10; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-2_Form1A_SJ631330.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB022 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-2
Matrix:	BLOOD	**Sample Size:**	20.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	10-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Jan-2007 **Time:** 15:56:13	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_030 S: 10**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_030 S: 8
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_030 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	673	67.3	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	945	94.5	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	695	69.5	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	690	69.0	1.25	0.989
13C-1,2,3,4,6,7,8-HPCDD		1000	684	68.4	1.06	1.095
13C-OCDD		2000	1190	59.4	0.90	1.179
13C-2,3,7,8-TCDF		1000	660	66.0	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	819	81.9	1.58	1.282
13C-2,3,4,7,8-PECDF		1000	862	86.2	1.58	1.351
13C-1,2,3,4,7,8-HXCDF		1000	699	69.9	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	697	69.7	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	735	73.5	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	707	70.7	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	698	69.8	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	742	74.2	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB022 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	20.0 g (wet)	**Lab Sample I.D.:**	L9584-2
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_030 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.016	0.0100	1	1.60e-02	1.60e-02	
1,2,3,7,8-PECDD		0.039	0.0100	1	3.90e-02	3.90e-02	
1,2,3,4,7,8-HXCDD		0.024	0.0100	0.1	2.40e-03	2.40e-03	
1,2,3,6,7,8-HXCDD		0.081	0.0100	0.1	8.10e-03	8.10e-03	
1,2,3,7,8,9-HXCDD		0.024	0.0100	0.1	2.40e-03	2.40e-03	
1,2,3,4,6,7,8-HPCDD		0.187	0.0100	0.01	1.87e-03	1.87e-03	
OCDD		1.26	0.0100	0.0001	1.26e-04	1.26e-04	
2,3,7,8-TCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8-PECDF	ND		0.0100	0.05	0.00e+00	2.50e-04	
2,3,4,7,8-PECDF		0.071	0.0100	0.5	3.55e-02	3.55e-02	
1,2,3,4,7,8-HXCDF		0.146	0.0100	0.1	1.46e-02	1.46e-02	
1,2,3,6,7,8-HXCDF		0.105	0.0100	0.1	1.05e-02	1.05e-02	
1,2,3,7,8,9-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
2,3,4,6,7,8-HXCDF		0.010	0.0100	0.1	1.00e-03	1.00e-03	
1,2,3,4,6,7,8-HPCDF		0.146	0.0100	0.01	1.46e-03	1.46e-03	
1,2,3,4,7,8,9-HPCDF		0.018	0.0100	0.01	1.80e-04	1.80e-04	
OCDF		0.043	0.0100	0.0001	4.30e-06	4.30e-06	
			TOTAL TEQ		0.133	0.134	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.016	0.0100	1	1.60e-02	1.60e-02	
1,2,3,7,8-PECDD		0.039	0.0100	1	3.90e-02	3.90e-02	
1,2,3,4,7,8-HXCDD		0.024	0.0100	0.1	2.40e-03	2.40e-03	
1,2,3,6,7,8-HXCDD		0.081	0.0100	0.1	8.10e-03	8.10e-03	
1,2,3,7,8,9-HXCDD		0.024	0.0100	0.1	2.40e-03	2.40e-03	
1,2,3,4,6,7,8-HPCDD		0.187	0.0100	0.01	1.87e-03	1.87e-03	
OCDD		1.26	0.0100	0.0003	3.78e-04	3.78e-04	
2,3,7,8-TCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8-PECDF	ND		0.0100	0.03	0.00e+00	1.50e-04	
2,3,4,7,8-PECDF		0.071	0.0100	0.3	2.13e-02	2.13e-02	
1,2,3,4,7,8-HXCDF		0.146	0.0100	0.1	1.46e-02	1.46e-02	
1,2,3,6,7,8-HXCDF		0.105	0.0100	0.1	1.05e-02	1.05e-02	
1,2,3,7,8,9-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
2,3,4,6,7,8-HXCDF		0.010	0.0100	0.1	1.00e-03	1.00e-03	
1,2,3,4,6,7,8-HPCDF		0.146	0.0100	0.01	1.46e-03	1.46e-03	
1,2,3,4,7,8,9-HPCDF		0.018	0.0100	0.01	1.80e-04	1.80e-04	
OCDF		0.043	0.0100	0.0003	1.29e-05	1.29e-05	
			TOTAL TEQ		0.119	0.120	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 06-Feb-2007 11:32:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-2_TEQ_SJ631330.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB022 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-2
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.0520 g (lipid)
Extraction Date:	10-Jan-2007	**Initial Calibration Date:**	13-Jan-2007
Analysis Date:	20-Jan-2007 **Time:** 15:56:13	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_030 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_030 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_030 S: 2
		% Lipid:	0.26

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		6.15	3.84	0.72	1.001
1,2,3,7,8-PECDD [3]		15.0	3.84	0.56	1.000
1,2,3,4,7,8-HXCDD		9.23	3.84	1.40	1.000
1,2,3,6,7,8-HXCDD		31.1	3.84	1.34	1.000
1,2,3,7,8,9-HXCDD		9.23	3.84	1.26	1.011
1,2,3,4,6,7,8-HPCDD		71.9	3.84	1.03	1.000
OCDD		484	3.84	0.89	1.000
2,3,7,8-TCDF	ND		3.84		
1,2,3,7,8-PECDF	ND		3.84		
2,3,4,7,8-PECDF		27.3	3.84	1.62	1.000
1,2,3,4,7,8-HXCDF		56.1	3.84	1.15	1.000
1,2,3,6,7,8-HXCDF		40.4	3.84	1.22	1.000
1,2,3,7,8,9-HXCDF	ND		3.84		
2,3,4,6,7,8-HXCDF		3.84	3.84	1.38	1.000
1,2,3,4,6,7,8-HPCDF		56.1	3.84	1.13	1.000
1,2,3,4,7,8,9-HPCDF		6.92	3.84	1.13	1.000
OCDF		16.5	3.84	0.82	1.002
TOTAL TETRA-DIOXINS		6.15	3.84		
TOTAL PENTA-DIOXINS		15.0	3.84		
TOTAL HEXA-DIOXINS		49.2	3.84		
TOTAL HEPTA-DIOXINS		95.0	3.84		
TOTAL TETRA-FURANS	ND		3.84		
TOTAL PENTA-FURANS		27.3	3.84		
TOTAL HEXA-FURANS		96.9	3.84		
TOTAL HEPTA-FURANS		75.3	3.84		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Mar-2007 17:19:42; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-2_Form1A_SJ631330_lipid.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB022 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.0520 g (lipid)	**Lab Sample I.D.:**	L9584-2
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_030 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.15	3.84	1	6.15e+00	6.15e+00	
1,2,3,7,8-PECDD		15.0	3.84	1	1.50e+01	1.50e+01	
1,2,3,4,7,8-HXCDD		9.23	3.84	0.1	9.23e-01	9.23e-01	
1,2,3,6,7,8-HXCDD		31.1	3.84	0.1	3.11e+00	3.11e+00	
1,2,3,7,8,9-HXCDD		9.23	3.84	0.1	9.23e-01	9.23e-01	
1,2,3,4,6,7,8-HPCDD		71.9	3.84	0.01	7.19e-01	7.19e-01	
OCDD		484	3.84	0.0001	4.84e-02	4.84e-02	
2,3,7,8-TCDF	ND		3.84	0.1	0.00e+00	1.92e-01	
1,2,3,7,8-PECDF	ND		3.84	0.05	0.00e+00	9.60e-02	
2,3,4,7,8-PECDF		27.3	3.84	0.5	1.37e+01	1.37e+01	
1,2,3,4,7,8-HXCDF		56.1	3.84	0.1	5.61e+00	5.61e+00	
1,2,3,6,7,8-HXCDF		40.4	3.84	0.1	4.04e+00	4.04e+00	
1,2,3,7,8,9-HXCDF	ND		3.84	0.1	0.00e+00	1.92e-01	
2,3,4,6,7,8-HXCDF		3.84	3.84	0.1	3.84e-01	3.84e-01	
1,2,3,4,6,7,8-HPCDF		56.1	3.84	0.01	5.61e-01	5.61e-01	
1,2,3,4,7,8,9-HPCDF		6.92	3.84	0.01	6.92e-02	6.92e-02	
OCDF		16.5	3.84	0.0001	1.65e-03	1.65e-03	
			TOTAL TEQ		51.2	51.7	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.15	3.84	1	6.15e+00	6.15e+00	
1,2,3,7,8-PECDD		15.0	3.84	1	1.50e+01	1.50e+01	
1,2,3,4,7,8-HXCDD		9.23	3.84	0.1	9.23e-01	9.23e-01	
1,2,3,6,7,8-HXCDD		31.1	3.84	0.1	3.11e+00	3.11e+00	
1,2,3,7,8,9-HXCDD		9.23	3.84	0.1	9.23e-01	9.23e-01	
1,2,3,4,6,7,8-HPCDD		71.9	3.84	0.01	7.19e-01	7.19e-01	
OCDD		484	3.84	0.0003	1.45e-01	1.45e-01	
2,3,7,8-TCDF	ND		3.84	0.1	0.00e+00	1.92e-01	
1,2,3,7,8-PECDF	ND		3.84	0.03	0.00e+00	5.76e-02	
2,3,4,7,8-PECDF		27.3	3.84	0.3	8.19e+00	8.19e+00	
1,2,3,4,7,8-HXCDF		56.1	3.84	0.1	5.61e+00	5.61e+00	
1,2,3,6,7,8-HXCDF		40.4	3.84	0.1	4.04e+00	4.04e+00	
1,2,3,7,8,9-HXCDF	ND		3.84	0.1	0.00e+00	1.92e-01	
2,3,4,6,7,8-HXCDF		3.84	3.84	0.1	3.84e-01	3.84e-01	
1,2,3,4,6,7,8-HPCDF		56.1	3.84	0.01	5.61e-01	5.61e-01	
1,2,3,4,7,8,9-HPCDF		6.92	3.84	0.01	6.92e-02	6.92e-02	
OCDF		16.5	3.84	0.0003	4.95e-03	4.95e-03	
			TOTAL TEQ		45.8	46.3	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 17:16:31; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-2_TEQ_SJ631330_lipid.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB023 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-49
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	49.7 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 18:40:55	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.014	0.0040	0.83	1.001
1,2,3,7,8-PECDD [3]		0.050	0.0040	0.66	1.001
1,2,3,4,7,8-HXCDD		0.028	0.0040	1.29	1.000
1,2,3,6,7,8-HXCDD		0.161	0.0040	1.24	1.000
1,2,3,7,8,9-HXCDD		0.047	0.0040	1.28	1.010
1,2,3,4,6,7,8-HPCDD		0.164	0.0040	1.03	1.000
OCDD		1.75	0.0040	0.90	1.000
2,3,7,8-TCDF	ND		0.0040		
1,2,3,7,8-PECDF		0.011	0.0040	1.52	1.001
2,3,4,7,8-PECDF		0.082	0.0040	1.53	1.000
1,2,3,4,7,8-HXCDF		0.278	0.0040	1.26	1.000
1,2,3,6,7,8-HXCDF		0.243	0.0040	1.22	1.000
1,2,3,7,8,9-HXCDF	NDR	0.005	0.0040	0.96	1.000
2,3,4,6,7,8-HXCDF		0.014	0.0040	1.22	1.000
1,2,3,4,6,7,8-HPCDF		0.262	0.0040	1.04	1.000
1,2,3,4,7,8,9-HPCDF		0.015	0.0040	1.05	1.000
OCDF		0.007	0.0040	0.83	1.002
TOTAL TETRA-DIOXINS		0.014	0.0040		
TOTAL PENTA-DIOXINS		0.050	0.0040		
TOTAL HEXA-DIOXINS		0.236	0.0040		
TOTAL HEPTA-DIOXINS		0.173	0.0040		
TOTAL TETRA-FURANS	ND		0.0040		
TOTAL PENTA-FURANS		0.092	0.0040		
TOTAL HEXA-FURANS		0.535	0.0040		
TOTAL HEPTA-FURANS		0.277	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Henry Huang QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-49_Form1A_SJ637820.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB023 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-49
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	49.7 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 18:40:55	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_044 S: 3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	816	81.6	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	922	92.2	0.64	1.382
13C-1,2,3,4,7,8-HXCDD		1000	831	83.1	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	773	77.3	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	787	78.7	1.05	1.094
13C-OCDD		2000	1460	72.9	0.90	1.179
13C-2,3,7,8-TCDF		1000	797	79.7	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	915	91.5	1.57	1.283
13C-2,3,4,7,8-PECDF		1000	910	91.0	1.59	1.351
13C-1,2,3,4,7,8-HXCDF		1000	788	78.8	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	731	73.1	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	784	78.4	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	763	76.3	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	701	70.1	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	743	74.3	0.47	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-49_Form2_SJ637820.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB023 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	49.7 g (wet)	**Lab Sample I.D.:**	L9584-49
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_044 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.014	0.0040	1	1.40e-02	1.40e-02	
1,2,3,7,8-PECDD		0.050	0.0040	1	5.00e-02	5.00e-02	
1,2,3,4,7,8-HXCDD		0.028	0.0040	0.1	2.80e-03	2.80e-03	
1,2,3,6,7,8-HXCDD		0.161	0.0040	0.1	1.61e-02	1.61e-02	
1,2,3,7,8,9-HXCDD		0.047	0.0040	0.1	4.70e-03	4.70e-03	
1,2,3,4,6,7,8-HPCDD		0.164	0.0040	0.01	1.64e-03	1.64e-03	
OCDD		1.75	0.0040	0.0001	1.75e-04	1.75e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF		0.011	0.0040	0.05	5.50e-04	5.50e-04	
2,3,4,7,8-PECDF		0.082	0.0040	0.5	4.10e-02	4.10e-02	
1,2,3,4,7,8-HXCDF		0.278	0.0040	0.1	2.78e-02	2.78e-02	
1,2,3,6,7,8-HXCDF		0.243	0.0040	0.1	2.43e-02	2.43e-02	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.014	0.0040	0.1	1.40e-03	1.40e-03	
1,2,3,4,6,7,8-HPCDF		0.262	0.0040	0.01	2.62e-03	2.62e-03	
1,2,3,4,7,8,9-HPCDF		0.015	0.0040	0.01	1.50e-04	1.50e-04	
OCDF		0.007	0.0040	0.0001	7.00e-07	7.00e-07	
			TOTAL TEQ		0.187	0.188	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.014	0.0040	1	1.40e-02	1.40e-02	
1,2,3,7,8-PECDD		0.050	0.0040	1	5.00e-02	5.00e-02	
1,2,3,4,7,8-HXCDD		0.028	0.0040	0.1	2.80e-03	2.80e-03	
1,2,3,6,7,8-HXCDD		0.161	0.0040	0.1	1.61e-02	1.61e-02	
1,2,3,7,8,9-HXCDD		0.047	0.0040	0.1	4.70e-03	4.70e-03	
1,2,3,4,6,7,8-HPCDD		0.164	0.0040	0.01	1.64e-03	1.64e-03	
OCDD		1.75	0.0040	0.0003	5.25e-04	5.25e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF		0.011	0.0040	0.03	3.30e-04	3.30e-04	
2,3,4,7,8-PECDF		0.082	0.0040	0.3	2.46e-02	2.46e-02	
1,2,3,4,7,8-HXCDF		0.278	0.0040	0.1	2.78e-02	2.78e-02	
1,2,3,6,7,8-HXCDF		0.243	0.0040	0.1	2.43e-02	2.43e-02	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.014	0.0040	0.1	1.40e-03	1.40e-03	
1,2,3,4,6,7,8-HPCDF		0.262	0.0040	0.01	2.62e-03	2.62e-03	
1,2,3,4,7,8,9-HPCDF		0.015	0.0040	0.01	1.50e-04	1.50e-04	
OCDF		0.007	0.0040	0.0003	2.10e-06	2.10e-06	
			TOTAL TEQ		0.171	0.171	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-49_TEQ_SJ637820.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB023 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-49
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.140 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 18:40:55	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3
		% Lipid *:	0.28

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		4.97	1.42	0.83	1.001
1,2,3,7,8-PECDD [3]		17.8	1.42	0.66	1.001
1,2,3,4,7,8-HXCDD		9.94	1.42	1.29	1.000
1,2,3,6,7,8-HXCDD		57.2	1.42	1.24	1.000
1,2,3,7,8,9-HXCDD		16.7	1.42	1.28	1.010
1,2,3,4,6,7,8-HPCDD		58.2	1.42	1.03	1.000
OCDD		621	1.42	0.90	1.000
2,3,7,8-TCDF	ND		1.42		
1,2,3,7,8-PECDF		3.91	1.42	1.52	1.001
2,3,4,7,8-PECDF		29.1	1.42	1.53	1.000
1,2,3,4,7,8-HXCDF		98.7	1.42	1.26	1.000
1,2,3,6,7,8-HXCDF		86.3	1.42	1.22	1.000
1,2,3,7,8,9-HXCDF	NDR	1.78	1.42	0.96	1.000
2,3,4,6,7,8-HXCDF		4.97	1.42	1.22	1.000
1,2,3,4,6,7,8-HPCDF		93.0	1.42	1.04	1.000
1,2,3,4,7,8,9-HPCDF		5.33	1.42	1.05	1.000
OCDF		2.49	1.42	0.83	1.002
TOTAL TETRA-DIOXINS		4.97	1.42		
TOTAL PENTA-DIOXINS		17.8	1.42		
TOTAL HEXA-DIOXINS		83.8	1.42		
TOTAL HEPTA-DIOXINS		61.4	1.42		
TOTAL TETRA-FURANS	ND		1.42		
TOTAL PENTA-FURANS		32.7	1.42		
TOTAL HEXA-FURANS		190	1.42		
TOTAL HEPTA-FURANS		98.3	1.42		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.
NOTE: * Estimated value based on lipid data from 763 Vietnamese Males

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 21-Mar-2007 08:54:02; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9584-49_Form1A_SJ637820_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB023 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-49
Sample Size:	0.140 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	DX72_044 S: 11

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.97	1.42	1	4.97e+00	4.97e+00	
1,2,3,7,8-PECDD		17.8	1.42	1	1.78e+01	1.78e+01	
1,2,3,4,7,8-HXCDD		9.94	1.42	0.1	9.94e-01	9.94e-01	
1,2,3,6,7,8-HXCDD		57.2	1.42	0.1	5.72e+00	5.72e+00	
1,2,3,7,8,9-HXCDD		16.7	1.42	0.1	1.67e+00	1.67e+00	
1,2,3,4,6,7,8-HPCDD		58.2	1.42	0.01	5.82e-01	5.82e-01	
OCDD		621	1.42	0.0001	6.21e-02	6.21e-02	
2,3,7,8-TCDF	ND		1.42	0.1	0.00e+00	7.10e-02	
1,2,3,7,8-PECDF		3.91	1.42	0.05	1.96e-01	1.96e-01	
2,3,4,7,8-PECDF		29.1	1.42	0.5	1.46e+01	1.46e+01	
1,2,3,4,7,8-HXCDF		98.7	1.42	0.1	9.87e+00	9.87e+00	
1,2,3,6,7,8-HXCDF		86.3	1.42	0.1	8.63e+00	8.63e+00	
1,2,3,7,8,9-HXCDF	ND		1.42	0.1	0.00e+00	7.10e-02	
2,3,4,6,7,8-HXCDF		4.97	1.42	0.1	4.97e-01	4.97e-01	
1,2,3,4,6,7,8-HPCDF		93.0	1.42	0.01	9.30e-01	9.30e-01	
1,2,3,4,7,8,9-HPCDF		5.33	1.42	0.01	5.33e-02	5.33e-02	
OCDF		2.49	1.42	0.0001	2.49e-04	2.49e-04	
			TOTAL TEQ		66.5	66.7	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.97	1.42	1	4.97e+00	4.97e+00	
1,2,3,7,8-PECDD		17.8	1.42	1	1.78e+01	1.78e+01	
1,2,3,4,7,8-HXCDD		9.94	1.42	0.1	9.94e-01	9.94e-01	
1,2,3,6,7,8-HXCDD		57.2	1.42	0.1	5.72e+00	5.72e+00	
1,2,3,7,8,9-HXCDD		16.7	1.42	0.1	1.67e+00	1.67e+00	
1,2,3,4,6,7,8-HPCDD		58.2	1.42	0.01	5.82e-01	5.82e-01	
OCDD		621	1.42	0.0003	1.86e-01	1.86e-01	
2,3,7,8-TCDF	ND		1.42	0.1	0.00e+00	7.10e-02	
1,2,3,7,8-PECDF		3.91	1.42	0.03	1.17e-01	1.17e-01	
2,3,4,7,8-PECDF		29.1	1.42	0.3	8.73e+00	8.73e+00	
1,2,3,4,7,8-HXCDF		98.7	1.42	0.1	9.87e+00	9.87e+00	
1,2,3,6,7,8-HXCDF		86.3	1.42	0.1	8.63e+00	8.63e+00	
1,2,3,7,8,9-HXCDF	ND		1.42	0.1	0.00e+00	7.10e-02	
2,3,4,6,7,8-HXCDF		4.97	1.42	0.1	4.97e-01	4.97e-01	
1,2,3,4,6,7,8-HPCDF		93.0	1.42	0.01	9.30e-01	9.30e-01	
1,2,3,4,7,8,9-HPCDF		5.33	1.42	0.01	5.33e-02	5.33e-02	
OCDF		2.49	1.42	0.0003	7.47e-04	7.47e-04	
			TOTAL TEQ		60.8	60.9	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

NOTE: * Estimated value based on lipid data from 763 Vietnamese Males

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 21-Mar-2007 09:10:42; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-49_TEQ_SJ637820_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB024 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-15
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	43.2 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 **Time:** 03:14:50	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_043 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.006	0.0050	0.77	1.001
1,2,3,7,8-PECDD [3]		0.022	0.0050	0.66	1.000
1,2,3,4,7,8-HXCDD	NDR	0.013	0.0050	0.98	1.000
1,2,3,6,7,8-HXCDD		0.066	0.0050	1.29	1.000
1,2,3,7,8,9-HXCDD		0.017	0.0050	1.17	1.010
1,2,3,4,6,7,8-HPCDD		0.100	0.0050	1.01	1.000
OCDD		0.935	0.0050	0.91	1.000
2,3,7,8-TCDF	ND		0.0050		
1,2,3,7,8-PECDF		0.005	0.0050	1.32	1.001
2,3,4,7,8-PECDF		0.041	0.0050	1.60	1.000
1,2,3,4,7,8-HXCDF		0.128	0.0050	1.27	1.000
1,2,3,6,7,8-HXCDF		0.100	0.0050	1.25	1.000
1,2,3,7,8,9-HXCDF	ND		0.0050		
2,3,4,6,7,8-HXCDF		0.013	0.0050	1.22	1.000
1,2,3,4,6,7,8-HPCDF		0.177	0.0050	1.05	1.000
1,2,3,4,7,8,9-HPCDF		0.009	0.0050	1.10	1.000
OCDF	NDR	0.005	0.0050	1.08	1.002
TOTAL TETRA-DIOXINS		0.006	0.0050		
TOTAL PENTA-DIOXINS		0.022	0.0050		
TOTAL HEXA-DIOXINS		0.083	0.0050		
TOTAL HEPTA-DIOXINS		0.100	0.0050		
TOTAL TETRA-FURANS	ND		0.0050		
TOTAL PENTA-FURANS		0.046	0.0050		
TOTAL HEXA-FURANS		0.242	0.0050		
TOTAL HEPTA-FURANS		0.187	0.0050		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-15_Form1A_SJ638385.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB024 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-15
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	43.2 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 **Time:** 03:14:50	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_043 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	782	78.2	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	935	93.5	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	816	81.6	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		1000	782	78.2	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	750	75.0	1.06	1.094
13C-OCDD		2000	1320	65.8	0.90	1.178
13C-2,3,7,8-TCDF		1000	782	78.2	0.80	0.967
13C-1,2,3,7,8-PECDF		1000	838	83.8	1.60	1.283
13C-2,3,4,7,8-PECDF		1000	857	85.7	1.60	1.352
13C-1,2,3,4,7,8-HXCDF		1000	787	78.7	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	733	73.3	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	786	78.6	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	762	76.2	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	687	68.7	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	748	74.8	0.47	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-15_Form2_SJ638385.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB024 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	43.2 g (wet)	**Lab Sample I.D.:**	L9584-15
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_043 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.006	0.0050	1	6.00e-03	6.00e-03	
1,2,3,7,8-PECDD		0.022	0.0050	1	2.20e-02	2.20e-02	
1,2,3,4,7,8-HXCDD	ND		0.0050	0.1	0.00e+00	2.50e-04	
1,2,3,6,7,8-HXCDD		0.066	0.0050	0.1	6.60e-03	6.60e-03	
1,2,3,7,8,9-HXCDD		0.017	0.0050	0.1	1.70e-03	1.70e-03	
1,2,3,4,6,7,8-HPCDD		0.100	0.0050	0.01	1.00e-03	1.00e-03	
OCDD		0.935	0.0050	0.0001	9.35e-05	9.35e-05	
2,3,7,8-TCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
1,2,3,7,8-PECDF		0.005	0.0050	0.05	2.50e-04	2.50e-04	
2,3,4,7,8-PECDF		0.041	0.0050	0.5	2.05e-02	2.05e-02	
1,2,3,4,7,8-HXCDF		0.128	0.0050	0.1	1.28e-02	1.28e-02	
1,2,3,6,7,8-HXCDF		0.100	0.0050	0.1	1.00e-02	1.00e-02	
1,2,3,7,8,9-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
2,3,4,6,7,8-HXCDF		0.013	0.0050	0.1	1.30e-03	1.30e-03	
1,2,3,4,6,7,8-HPCDF		0.177	0.0050	0.01	1.77e-03	1.77e-03	
1,2,3,4,7,8,9-HPCDF		0.009	0.0050	0.01	9.00e-05	9.00e-05	
OCDF	ND		0.0050	0.0001	0.00e+00	2.50e-07	
			TOTAL TEQ		0.0841	0.0849	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.006	0.0050	1	6.00e-03	6.00e-03	
1,2,3,7,8-PECDD		0.022	0.0050	1	2.20e-02	2.20e-02	
1,2,3,4,7,8-HXCDD	ND		0.0050	0.1	0.00e+00	2.50e-04	
1,2,3,6,7,8-HXCDD		0.066	0.0050	0.1	6.60e-03	6.60e-03	
1,2,3,7,8,9-HXCDD		0.017	0.0050	0.1	1.70e-03	1.70e-03	
1,2,3,4,6,7,8-HPCDD		0.100	0.0050	0.01	1.00e-03	1.00e-03	
OCDD		0.935	0.0050	0.0003	2.81e-04	2.81e-04	
2,3,7,8-TCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
1,2,3,7,8-PECDF		0.005	0.0050	0.03	1.50e-04	1.50e-04	
2,3,4,7,8-PECDF		0.041	0.0050	0.3	1.23e-02	1.23e-02	
1,2,3,4,7,8-HXCDF		0.128	0.0050	0.1	1.28e-02	1.28e-02	
1,2,3,6,7,8-HXCDF		0.100	0.0050	0.1	1.00e-02	1.00e-02	
1,2,3,7,8,9-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
2,3,4,6,7,8-HXCDF		0.013	0.0050	0.1	1.30e-03	1.30e-03	
1,2,3,4,6,7,8-HPCDF		0.177	0.0050	0.01	1.77e-03	1.77e-03	
1,2,3,4,7,8,9-HPCDF		0.009	0.0050	0.01	9.00e-05	9.00e-05	
OCDF	ND		0.0050	0.0003	0.00e+00	7.50e-07	
			TOTAL TEQ		0.0760	0.0767	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-15_TEQ_SJ638385.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB024 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-15
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.0690 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 **Time:** 03:14:50	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_043 S: 2
		% Lipid:	0.16

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		3.76	3.13	0.77	1.001
1,2,3,7,8-PECDD [3]		13.8	3.13	0.66	1.000
1,2,3,4,7,8-HXCDD	NDR	8.14	3.13	0.98	1.000
1,2,3,6,7,8-HXCDD		41.4	3.13	1.29	1.000
1,2,3,7,8,9-HXCDD		10.7	3.13	1.17	1.010
1,2,3,4,6,7,8-HPCDD		62.7	3.13	1.01	1.000
OCDD		586	3.13	0.91	1.000
2,3,7,8-TCDF	ND		3.13		
1,2,3,7,8-PECDF		3.13	3.13	1.32	1.001
2,3,4,7,8-PECDF		25.7	3.13	1.60	1.000
1,2,3,4,7,8-HXCDF		80.2	3.13	1.27	1.000
1,2,3,6,7,8-HXCDF		62.7	3.13	1.25	1.000
1,2,3,7,8,9-HXCDF	ND		3.13		
2,3,4,6,7,8-HXCDF		8.14	3.13	1.22	1.000
1,2,3,4,6,7,8-HPCDF		111	3.13	1.05	1.000
1,2,3,4,7,8,9-HPCDF		5.64	3.13	1.10	1.000
OCDF	NDR	3.13	3.13	1.08	1.002
TOTAL TETRA-DIOXINS		3.76	3.13		
TOTAL PENTA-DIOXINS		13.8	3.13		
TOTAL HEXA-DIOXINS		52.0	3.13		
TOTAL HEPTA-DIOXINS		62.7	3.13		
TOTAL TETRA-FURANS	ND		3.13		
TOTAL PENTA-FURANS		28.8	3.13		
TOTAL HEXA-FURANS		152	3.13		
TOTAL HEPTA-FURANS		117	3.13		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 26-Apr-2007 18:45:56; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-15_Form1A_DX72_043S8_SJ638385_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB024 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.0690 g (lipid)	**Lab Sample I.D.:**	L9584-15
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_043 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3.76	3.13	1	3.76e+00	3.76e+00	
1,2,3,7,8-PECDD		13.8	3.13	1	1.38e+01	1.38e+01	
1,2,3,4,7,8-HXCDD	ND		3.13	0.1	0.00e+00	1.57e-01	
1,2,3,6,7,8-HXCDD		41.4	3.13	0.1	4.14e+00	4.14e+00	
1,2,3,7,8,9-HXCDD		10.7	3.13	0.1	1.07e+00	1.07e+00	
1,2,3,4,6,7,8-HPCDD		62.7	3.13	0.01	6.27e-01	6.27e-01	
OCDD		586	3.13	0.0001	5.86e-02	5.86e-02	
2,3,7,8-TCDF	ND		3.13	0.1	0.00e+00	1.57e-01	
1,2,3,7,8-PECDF		3.13	3.13	0.05	1.57e-01	1.57e-01	
2,3,4,7,8-PECDF		25.7	3.13	0.5	1.29e+01	1.29e+01	
1,2,3,4,7,8-HXCDF		80.2	3.13	0.1	8.02e+00	8.02e+00	
1,2,3,6,7,8-HXCDF		62.7	3.13	0.1	6.27e+00	6.27e+00	
1,2,3,7,8,9-HXCDF	ND		3.13	0.1	0.00e+00	1.57e-01	
2,3,4,6,7,8-HXCDF		8.14	3.13	0.1	8.14e-01	8.14e-01	
1,2,3,4,6,7,8-HPCDF		111	3.13	0.01	1.11e+00	1.11e+00	
1,2,3,4,7,8,9-HPCDF		5.64	3.13	0.01	5.64e-02	5.64e-02	
OCDF	ND		3.13	0.0001	0.00e+00	1.57e-04	
			TOTAL TEQ		52.7	53.2	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		3.76	3.13	1	3.76e+00	3.76e+00	
1,2,3,7,8-PECDD		13.8	3.13	1	1.38e+01	1.38e+01	
1,2,3,4,7,8-HXCDD	ND		3.13	0.1	0.00e+00	1.57e-01	
1,2,3,6,7,8-HXCDD		41.4	3.13	0.1	4.14e+00	4.14e+00	
1,2,3,7,8,9-HXCDD		10.7	3.13	0.1	1.07e+00	1.07e+00	
1,2,3,4,6,7,8-HPCDD		62.7	3.13	0.01	6.27e-01	6.27e-01	
OCDD		586	3.13	0.0003	1.76e-01	1.76e-01	
2,3,7,8-TCDF	ND		3.13	0.1	0.00e+00	1.57e-01	
1,2,3,7,8-PECDF		3.13	3.13	0.03	9.39e-02	9.39e-02	
2,3,4,7,8-PECDF		25.7	3.13	0.3	7.71e+00	7.71e+00	
1,2,3,4,7,8-HXCDF		80.2	3.13	0.1	8.02e+00	8.02e+00	
1,2,3,6,7,8-HXCDF		62.7	3.13	0.1	6.27e+00	6.27e+00	
1,2,3,7,8,9-HXCDF	ND		3.13	0.1	0.00e+00	1.57e-01	
2,3,4,6,7,8-HXCDF		8.14	3.13	0.1	8.14e-01	8.14e-01	
1,2,3,4,6,7,8-HPCDF		111	3.13	0.01	1.11e+00	1.11e+00	
1,2,3,4,7,8,9-HPCDF		5.64	3.13	0.01	5.64e-02	5.64e-02	
OCDF	ND		3.13	0.0003	0.00e+00	4.70e-04	
			TOTAL TEQ		47.6	48.1	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB026 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-38
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.0 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 **Time:** 13:58:44	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_047 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_047 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.016	0.0030	0.76	1.001
1,2,3,7,8-PECDD [3]		0.034	0.0030	0.59	1.001
1,2,3,4,7,8-HXCDD		0.026	0.0030	1.18	1.000
1,2,3,6,7,8-HXCDD		0.098	0.0030	1.22	1.000
1,2,3,7,8,9-HXCDD		0.033	0.0030	1.18	1.011
1,2,3,4,6,7,8-HPCDD		0.230	0.0030	1.06	1.000
OCDD		1.73	0.0030	0.91	1.000
2,3,7,8-TCDF		0.003	0.0030	0.77	1.001
1,2,3,7,8-PECDF		0.006	0.0030	1.65	1.000
2,3,4,7,8-PECDF		0.059	0.0030	1.61	1.000
1,2,3,4,7,8-HXCDF		0.165	0.0030	1.23	1.000
1,2,3,6,7,8-HXCDF		0.117	0.0030	1.22	1.000
1,2,3,7,8,9-HXCDF	NDR	0.003	0.0030	0.82	1.000
2,3,4,6,7,8-HXCDF		0.013	0.0030	1.25	1.000
1,2,3,4,6,7,8-HPCDF		0.183	0.0030	1.04	1.000
1,2,3,4,7,8,9-HPCDF		0.019	0.0030	0.91	1.000
OCDF		0.021	0.0030	0.83	1.002
TOTAL TETRA-DIOXINS		0.016	0.0030		
TOTAL PENTA-DIOXINS		0.034	0.0030		
TOTAL HEXA-DIOXINS		0.161	0.0030		
TOTAL HEPTA-DIOXINS		0.254	0.0030		
TOTAL TETRA-FURANS		0.003	0.0030		
TOTAL PENTA-FURANS		0.070	0.0030		
TOTAL HEXA-FURANS		0.298	0.0030		
TOTAL HEPTA-FURANS		0.207	0.0030		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
06VNB026 Composite
Sample Collection:
N/A

Form 2

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-38
Matrix:	BLOOD	**Sample Size:**	60.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	31-Jan-2007 **Time:** 13:58:44	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_047 S: 8**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_047 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	654	65.4	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	805	80.5	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		1000	656	65.6	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	611	61.1	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	628	62.8	1.06	1.095
13C-OCDD		2000	1120	56.2	0.90	1.180
13C-2,3,7,8-TCDF		1000	611	61.1	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	708	70.8	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	697	69.7	1.59	1.351
13C-1,2,3,4,7,8-HXCDF		1000	622	62.2	0.54	0.954
13C-1,2,3,6,7,8-HXCDF		1000	585	58.5	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	628	62.8	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	606	60.6	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	584	58.4	0.45	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	600	60.0	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-38_Form2_SJ631341.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB026 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-38
Sample Size:	60.0 g (wet)	**GC Column ID:**	DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filename:**	**DX72_047 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.016	0.0030	1	1.60e-02	1.60e-02	
1,2,3,7,8-PECDD		0.034	0.0030	1	3.40e-02	3.40e-02	
1,2,3,4,7,8-HXCDD		0.026	0.0030	0.1	2.60e-03	2.60e-03	
1,2,3,6,7,8-HXCDD		0.098	0.0030	0.1	9.80e-03	9.80e-03	
1,2,3,7,8,9-HXCDD		0.033	0.0030	0.1	3.30e-03	3.30e-03	
1,2,3,4,6,7,8-HPCDD		0.230	0.0030	0.01	2.30e-03	2.30e-03	
OCDD		1.73	0.0030	0.0001	1.73e-04	1.73e-04	
2,3,7,8-TCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,7,8-PECDF		0.006	0.0030	0.05	3.00e-04	3.00e-04	
2,3,4,7,8-PECDF		0.059	0.0030	0.5	2.95e-02	2.95e-02	
1,2,3,4,7,8-HXCDF		0.165	0.0030	0.1	1.65e-02	1.65e-02	
1,2,3,6,7,8-HXCDF		0.117	0.0030	0.1	1.17e-02	1.17e-02	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF		0.013	0.0030	0.1	1.30e-03	1.30e-03	
1,2,3,4,6,7,8-HPCDF		0.183	0.0030	0.01	1.83e-03	1.83e-03	
1,2,3,4,7,8,9-HPCDF		0.019	0.0030	0.01	1.90e-04	1.90e-04	
OCDF		0.021	0.0030	0.0001	2.10e-06	2.10e-06	
			TOTAL TEQ		0.130	0.130	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.016	0.0030	1	1.60e-02	1.60e-02	
1,2,3,7,8-PECDD		0.034	0.0030	1	3.40e-02	3.40e-02	
1,2,3,4,7,8-HXCDD		0.026	0.0030	0.1	2.60e-03	2.60e-03	
1,2,3,6,7,8-HXCDD		0.098	0.0030	0.1	9.80e-03	9.80e-03	
1,2,3,7,8,9-HXCDD		0.033	0.0030	0.1	3.30e-03	3.30e-03	
1,2,3,4,6,7,8-HPCDD		0.230	0.0030	0.01	2.30e-03	2.30e-03	
OCDD		1.73	0.0030	0.0003	5.19e-04	5.19e-04	
2,3,7,8-TCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,7,8-PECDF		0.006	0.0030	0.03	1.80e-04	1.80e-04	
2,3,4,7,8-PECDF		0.059	0.0030	0.3	1.77e-02	1.77e-02	
1,2,3,4,7,8-HXCDF		0.165	0.0030	0.1	1.65e-02	1.65e-02	
1,2,3,6,7,8-HXCDF		0.117	0.0030	0.1	1.17e-02	1.17e-02	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF		0.013	0.0030	0.1	1.30e-03	1.30e-03	
1,2,3,4,6,7,8-HPCDF		0.183	0.0030	0.01	1.83e-03	1.83e-03	
1,2,3,4,7,8,9-HPCDF		0.019	0.0030	0.01	1.90e-04	1.90e-04	
OCDF		0.021	0.0030	0.0003	6.30e-06	6.30e-06	
			TOTAL TEQ		0.118	0.118	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-38_TEQ_SJ631341.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB026 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-38
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.220 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 **Time:** 13:58:44	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_047 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_047 S: 2
		% Lipid:	0.37

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		4.36	0.818	0.76	1.001
1,2,3,7,8-PECDD [3]		9.27	0.818	0.59	1.001
1,2,3,4,7,8-HXCDD		7.09	0.818	1.18	1.000
1,2,3,6,7,8-HXCDD		26.7	0.818	1.22	1.000
1,2,3,7,8,9-HXCDD		9.00	0.818	1.18	1.011
1,2,3,4,6,7,8-HPCDD		62.7	0.818	1.06	1.000
OCDD		472	0.818	0.91	1.000
2,3,7,8-TCDF		0.818	0.818	0.77	1.001
1,2,3,7,8-PECDF		1.64	0.818	1.65	1.000
2,3,4,7,8-PECDF		16.1	0.818	1.61	1.000
1,2,3,4,7,8-HXCDF		45.0	0.818	1.23	1.000
1,2,3,6,7,8-HXCDF		31.9	0.818	1.22	1.000
1,2,3,7,8,9-HXCDF	NDR	0.818	0.818	0.82	1.000
2,3,4,6,7,8-HXCDF		3.55	0.818	1.25	1.000
1,2,3,4,6,7,8-HPCDF		49.9	0.818	1.04	1.000
1,2,3,4,7,8,9-HPCDF		5.18	0.818	0.91	1.000
OCDF		5.73	0.818	0.83	1.002
TOTAL TETRA-DIOXINS		4.36	0.818		
TOTAL PENTA-DIOXINS		9.27	0.818		
TOTAL HEXA-DIOXINS		43.9	0.818		
TOTAL HEPTA-DIOXINS		69.3	0.818		
TOTAL TETRA-FURANS		0.818	0.818		
TOTAL PENTA-FURANS		19.1	0.818		
TOTAL HEXA-FURANS		81.3	0.818		
TOTAL HEPTA-FURANS		56.5	0.818		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 08:55:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-38_Form1A_SJ631341_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB026 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-38
Sample Size:	0.220 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	**DX72_047 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.36	0.818	1	4.36e+00	4.36e+00	
1,2,3,7,8-PECDD		9.27	0.818	1	9.27e+00	9.27e+00	
1,2,3,4,7,8-HXCDD		7.09	0.818	0.1	7.09e-01	7.09e-01	
1,2,3,6,7,8-HXCDD		26.7	0.818	0.1	2.67e+00	2.67e+00	
1,2,3,7,8,9-HXCDD		9.00	0.818	0.1	9.00e-01	9.00e-01	
1,2,3,4,6,7,8-HPCDD		62.7	0.818	0.01	6.27e-01	6.27e-01	
OCDD		472	0.818	0.0001	4.72e-02	4.72e-02	
2,3,7,8-TCDF		0.818	0.818	0.1	8.18e-02	8.18e-02	
1,2,3,7,8-PECDF		1.64	0.818	0.05	8.20e-02	8.20e-02	
2,3,4,7,8-PECDF		16.1	0.818	0.5	8.05e+00	8.05e+00	
1,2,3,4,7,8-HXCDF		45.0	0.818	0.1	4.50e+00	4.50e+00	
1,2,3,6,7,8-HXCDF		31.9	0.818	0.1	3.19e+00	3.19e+00	
1,2,3,7,8,9-HXCDF	ND		0.818	0.1	0.00e+00	4.09e-02	
2,3,4,6,7,8-HXCDF		3.55	0.818	0.1	3.55e-01	3.55e-01	
1,2,3,4,6,7,8-HPCDF		49.9	0.818	0.01	4.99e-01	4.99e-01	
1,2,3,4,7,8,9-HPCDF		5.18	0.818	0.01	5.18e-02	5.18e-02	
OCDF		5.73	0.818	0.0001	5.73e-04	5.73e-04	
			TOTAL TEQ		35.4	35.4	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.36	0.818	1	4.36e+00	4.36e+00	
1,2,3,7,8-PECDD		9.27	0.818	1	9.27e+00	9.27e+00	
1,2,3,4,7,8-HXCDD		7.09	0.818	0.1	7.09e-01	7.09e-01	
1,2,3,6,7,8-HXCDD		26.7	0.818	0.1	2.67e+00	2.67e+00	
1,2,3,7,8,9-HXCDD		9.00	0.818	0.1	9.00e-01	9.00e-01	
1,2,3,4,6,7,8-HPCDD		62.7	0.818	0.01	6.27e-01	6.27e-01	
OCDD		472	0.818	0.0003	1.42e-01	1.42e-01	
2,3,7,8-TCDF		0.818	0.818	0.1	8.18e-02	8.18e-02	
1,2,3,7,8-PECDF		1.64	0.818	0.03	4.92e-02	4.92e-02	
2,3,4,7,8-PECDF		16.1	0.818	0.3	4.83e+00	4.83e+00	
1,2,3,4,7,8-HXCDF		45.0	0.818	0.1	4.50e+00	4.50e+00	
1,2,3,6,7,8-HXCDF		31.9	0.818	0.1	3.19e+00	3.19e+00	
1,2,3,7,8,9-HXCDF	ND		0.818	0.1	0.00e+00	4.09e-02	
2,3,4,6,7,8-HXCDF		3.55	0.818	0.1	3.55e-01	3.55e-01	
1,2,3,4,6,7,8-HPCDF		49.9	0.818	0.01	4.99e-01	4.99e-01	
1,2,3,4,7,8,9-HPCDF		5.18	0.818	0.01	5.18e-02	5.18e-02	
OCDF		5.73	0.818	0.0003	1.72e-03	1.72e-03	
			TOTAL TEQ		32.2	32.3	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 19:03:16; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-38_TEQ_SJ631341_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB027 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-20 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.96 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	02-Feb-2007 **Time:** 00:05:46	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_050 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_050 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0200		
1,2,3,7,8-PECDD [3]	ND		0.0200		
1,2,3,4,7,8-HXCDD	ND		0.0200		
1,2,3,6,7,8-HXCDD		0.079	0.0200	1.18	1.000
1,2,3,7,8,9-HXCDD	ND		0.0200		
1,2,3,4,6,7,8-HPCDD		0.102	0.0200	1.05	1.000
OCDD		2.07	0.0200	0.92	1.000
2,3,7,8-TCDF	ND		0.0200		
1,2,3,7,8-PECDF	ND		0.0200		
2,3,4,7,8-PECDF		0.050	0.0200	1.72	1.000
1,2,3,4,7,8-HXCDF		0.138	0.0200	1.21	1.000
1,2,3,6,7,8-HXCDF		0.121	0.0200	1.08	1.001
1,2,3,7,8,9-HXCDF	ND		0.0200		
2,3,4,6,7,8-HXCDF	ND		0.0200		
1,2,3,4,6,7,8-HPCDF		0.195	0.0200	1.06	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.0200		
OCDF	NDR	0.029	0.0200	1.13	1.002
TOTAL TETRA-DIOXINS	ND		0.0200		
TOTAL PENTA-DIOXINS	ND		0.0200		
TOTAL HEXA-DIOXINS		0.079	0.0200		
TOTAL HEPTA-DIOXINS		0.148	0.0200		
TOTAL TETRA-FURANS	ND		0.0200		
TOTAL PENTA-FURANS		0.050	0.0200		
TOTAL HEXA-FURANS		0.259	0.0200		
TOTAL HEPTA-FURANS		0.217	0.0200		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9584-20_Form1A_SJ640857.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB027 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-20 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.96 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	02-Feb-2007 **Time:** 00:05:46	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_050 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_050 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	700	70.0	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	951	95.1	0.63	1.384
13C-1,2,3,4,7,8-HXCDD		1000	752	75.2	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	750	75.0	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	733	73.3	1.05	1.095
13C-OCDD		2000	1350	67.3	0.90	1.180
13C-2,3,7,8-TCDF		1000	671	67.1	0.80	0.967
13C-1,2,3,7,8-PECDF		1000	785	78.5	1.58	1.285
13C-2,3,4,7,8-PECDF		1000	791	79.1	1.58	1.352
13C-1,2,3,4,7,8-HXCDF		1000	736	73.6	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	718	71.8	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	737	73.7	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		1000	724	72.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	694	69.4	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	704	70.4	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-20_Form2_SJ640857.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB027 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	9.96 g (wet)	**Lab Sample I.D.:**	L9584-20 R
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_050 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0200	1	0.00e+00	1.00e-02	
1,2,3,7,8-PECDD	ND		0.0200	1	0.00e+00	1.00e-02	
1,2,3,4,7,8-HXCDD	ND		0.0200	0.1	0.00e+00	1.00e-03	
1,2,3,6,7,8-HXCDD		0.079	0.0200	0.1	7.90e-03	7.90e-03	
1,2,3,7,8,9-HXCDD	ND		0.0200	0.1	0.00e+00	1.00e-03	
1,2,3,4,6,7,8-HPCDD		0.102	0.0200	0.01	1.02e-03	1.02e-03	
OCDD		2.07	0.0200	0.0001	2.07e-04	2.07e-04	
2,3,7,8-TCDF	ND		0.0200	0.1	0.00e+00	1.00e-03	
1,2,3,7,8-PECDF	ND		0.0200	0.05	0.00e+00	5.00e-04	
2,3,4,7,8-PECDF		0.050	0.0200	0.5	2.50e-02	2.50e-02	
1,2,3,4,7,8-HXCDF		0.138	0.0200	0.1	1.38e-02	1.38e-02	
1,2,3,6,7,8-HXCDF		0.121	0.0200	0.1	1.21e-02	1.21e-02	
1,2,3,7,8,9-HXCDF	ND		0.0200	0.1	0.00e+00	1.00e-03	
2,3,4,6,7,8-HXCDF	ND		0.0200	0.1	0.00e+00	1.00e-03	
1,2,3,4,6,7,8-HPCDF		0.195	0.0200	0.01	1.95e-03	1.95e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0200	0.01	0.00e+00	1.00e-04	
OCDF	ND		0.0200	0.0001	0.00e+00	1.00e-06	
			TOTAL TEQ		0.0620	0.0876	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0200	1	0.00e+00	1.00e-02	
1,2,3,7,8-PECDD	ND		0.0200	1	0.00e+00	1.00e-02	
1,2,3,4,7,8-HXCDD	ND		0.0200	0.1	0.00e+00	1.00e-03	
1,2,3,6,7,8-HXCDD		0.079	0.0200	0.1	7.90e-03	7.90e-03	
1,2,3,7,8,9-HXCDD	ND		0.0200	0.1	0.00e+00	1.00e-03	
1,2,3,4,6,7,8-HPCDD		0.102	0.0200	0.01	1.02e-03	1.02e-03	
OCDD		2.07	0.0200	0.0003	6.21e-04	6.21e-04	
2,3,7,8-TCDF	ND		0.0200	0.1	0.00e+00	1.00e-03	
1,2,3,7,8-PECDF	ND		0.0200	0.03	0.00e+00	3.00e-04	
2,3,4,7,8-PECDF		0.050	0.0200	0.3	1.50e-02	1.50e-02	
1,2,3,4,7,8-HXCDF		0.138	0.0200	0.1	1.38e-02	1.38e-02	
1,2,3,6,7,8-HXCDF		0.121	0.0200	0.1	1.21e-02	1.21e-02	
1,2,3,7,8,9-HXCDF	ND		0.0200	0.1	0.00e+00	1.00e-03	
2,3,4,6,7,8-HXCDF	ND		0.0200	0.1	0.00e+00	1.00e-03	
1,2,3,4,6,7,8-HPCDF		0.195	0.0200	0.01	1.95e-03	1.95e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0200	0.01	0.00e+00	1.00e-04	
OCDF	ND		0.0200	0.0003	0.00e+00	3.00e-06	
			TOTAL TEQ		0.0524	0.0778	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-20_TEQ_SJ640857.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB027 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-20 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.0270 g (lipid)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	02-Feb-2007 **Time:** 00:05:46	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_050 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_050 S: 2
		% Lipid:	0.27

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		7.38		
1,2,3,7,8-PECDD [3]	ND		7.38		
1,2,3,4,7,8-HXCDD	ND		7.38		
1,2,3,6,7,8-HXCDD		29.1	7.38	1.18	1.000
1,2,3,7,8,9-HXCDD	ND		7.38		
1,2,3,4,6,7,8-HPCDD		37.6	7.38	1.05	1.000
OCDD		764	7.38	0.92	1.000
2,3,7,8-TCDF	ND		7.38		
1,2,3,7,8-PECDF	ND		7.38		
2,3,4,7,8-PECDF		18.4	7.38	1.72	1.000
1,2,3,4,7,8-HXCDF		50.9	7.38	1.21	1.000
1,2,3,6,7,8-HXCDF		44.6	7.38	1.08	1.001
1,2,3,7,8,9-HXCDF	ND		7.38		
2,3,4,6,7,8-HXCDF	ND		7.38		
1,2,3,4,6,7,8-HPCDF		71.9	7.38	1.06	1.000
1,2,3,4,7,8,9-HPCDF	ND		7.38		
OCDF	NDR	10.7	7.38	1.13	1.002
TOTAL TETRA-DIOXINS	ND		7.38		
TOTAL PENTA-DIOXINS	ND		7.38		
TOTAL HEXA-DIOXINS		29.1	7.38		
TOTAL HEPTA-DIOXINS		54.6	7.38		
TOTAL TETRA-FURANS	ND		7.38		
TOTAL PENTA-FURANS		18.4	7.38		
TOTAL HEXA-FURANS		95.5	7.38		
TOTAL HEPTA-FURANS		80.0	7.38		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 26-Apr-2007 19:01:59; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-20_Form1A_DX72_050S5_SJ640857_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB027 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.0270 g (lipid)	**Lab Sample I.D.:**	L9584-20 R
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_050 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		7.38	1	0.00e+00	3.69e+00	
1,2,3,7,8-PECDD	ND		7.38	1	0.00e+00	3.69e+00	
1,2,3,4,7,8-HXCDD	ND		7.38	0.1	0.00e+00	3.69e-01	
1,2,3,6,7,8-HXCDD		29.1	7.38	0.1	2.91e+00	2.91e+00	
1,2,3,7,8,9-HXCDD	ND		7.38	0.1	0.00e+00	3.69e-01	
1,2,3,4,6,7,8-HPCDD		37.6	7.38	0.01	3.76e-01	3.76e-01	
OCDD		764	7.38	0.0001	7.64e-02	7.64e-02	
2,3,7,8-TCDF	ND		7.38	0.1	0.00e+00	3.69e-01	
1,2,3,7,8-PECDF	ND		7.38	0.05	0.00e+00	1.85e-01	
2,3,4,7,8-PECDF		18.4	7.38	0.5	9.20e+00	9.20e+00	
1,2,3,4,7,8-HXCDF		50.9	7.38	0.1	5.09e+00	5.09e+00	
1,2,3,6,7,8-HXCDF		44.6	7.38	0.1	4.46e+00	4.46e+00	
1,2,3,7,8,9-HXCDF	ND		7.38	0.1	0.00e+00	3.69e-01	
2,3,4,6,7,8-HXCDF	ND		7.38	0.1	0.00e+00	3.69e-01	
1,2,3,4,6,7,8-HPCDF		71.9	7.38	0.01	7.19e-01	7.19e-01	
1,2,3,4,7,8,9-HPCDF	ND		7.38	0.01	0.00e+00	3.69e-02	
OCDF	ND		7.38	0.0001	0.00e+00	3.69e-04	
			TOTAL TEQ		22.8	32.3	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		7.38	1	0.00e+00	3.69e+00	
1,2,3,7,8-PECDD	ND		7.38	1	0.00e+00	3.69e+00	
1,2,3,4,7,8-HXCDD	ND		7.38	0.1	0.00e+00	3.69e-01	
1,2,3,6,7,8-HXCDD		29.1	7.38	0.1	2.91e+00	2.91e+00	
1,2,3,7,8,9-HXCDD	ND		7.38	0.1	0.00e+00	3.69e-01	
1,2,3,4,6,7,8-HPCDD		37.6	7.38	0.01	3.76e-01	3.76e-01	
OCDD		764	7.38	0.0003	2.29e-01	2.29e-01	
2,3,7,8-TCDF	ND		7.38	0.1	0.00e+00	3.69e-01	
1,2,3,7,8-PECDF	ND		7.38	0.03	0.00e+00	1.11e-01	
2,3,4,7,8-PECDF		18.4	7.38	0.3	5.52e+00	5.52e+00	
1,2,3,4,7,8-HXCDF		50.9	7.38	0.1	5.09e+00	5.09e+00	
1,2,3,6,7,8-HXCDF		44.6	7.38	0.1	4.46e+00	4.46e+00	
1,2,3,7,8,9-HXCDF	ND		7.38	0.1	0.00e+00	3.69e-01	
2,3,4,6,7,8-HXCDF	ND		7.38	0.1	0.00e+00	3.69e-01	
1,2,3,4,6,7,8-HPCDF		71.9	7.38	0.01	7.19e-01	7.19e-01	
1,2,3,4,7,8,9-HPCDF	ND		7.38	0.01	0.00e+00	3.69e-02	
OCDF	ND		7.38	0.0003	0.00e+00	1.11e-03	
			TOTAL TEQ		19.3	28.7	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L9584-20_TEQ_SJ640857_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB028 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-41
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.2 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 15:02:44	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.013	0.0030	0.76	1.001
1,2,3,7,8-PECDD [3]		0.038	0.0030	0.62	1.001
1,2,3,4,7,8-HXCDD		0.028	0.0030	1.25	1.000
1,2,3,6,7,8-HXCDD		0.114	0.0030	1.30	1.000
1,2,3,7,8,9-HXCDD		0.047	0.0030	1.21	1.010
1,2,3,4,6,7,8-HPCDD		0.257	0.0030	1.05	1.000
OCDD		1.83	0.0030	0.90	1.000
2,3,7,8-TCDF		0.003	0.0030	0.86	1.001
1,2,3,7,8-PECDF		0.013	0.0030	1.42	1.001
2,3,4,7,8-PECDF		0.069	0.0030	1.66	1.000
1,2,3,4,7,8-HXCDF		0.350	0.0030	1.22	1.000
1,2,3,6,7,8-HXCDF		0.256	0.0030	1.23	1.000
1,2,3,7,8,9-HXCDF		0.007	0.0030	1.06	1.000
2,3,4,6,7,8-HXCDF		0.020	0.0030	1.35	1.000
1,2,3,4,6,7,8-HPCDF		0.424	0.0030	1.04	1.000
1,2,3,4,7,8,9-HPCDF		0.030	0.0030	1.07	1.000
OCDF		0.005	0.0030	0.99	1.002
TOTAL TETRA-DIOXINS		0.013	0.0030		
TOTAL PENTA-DIOXINS		0.038	0.0030		
TOTAL HEXA-DIOXINS		0.194	0.0030		
TOTAL HEPTA-DIOXINS		0.270	0.0030		
TOTAL TETRA-FURANS		0.003	0.0030		
TOTAL PENTA-FURANS		0.087	0.0030		
TOTAL HEXA-FURANS		0.636	0.0030		
TOTAL HEPTA-FURANS		0.457	0.0030		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB028 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-41
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.2 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 15:02:44	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_044 S: 3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	687	68.7	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		1000	811	81.1	0.64	1.383
13C-1,2,3,4,7,8-HXCDD		1000	646	64.6	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	645	64.5	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	647	64.7	1.05	1.094
13C-OCDD		2000	1170	58.7	0.91	1.178
13C-2,3,7,8-TCDF		1000	676	67.6	0.80	0.967
13C-1,2,3,7,8-PECDF		1000	761	76.1	1.58	1.283
13C-2,3,4,7,8-PECDF		1000	767	76.7	1.56	1.352
13C-1,2,3,4,7,8-HXCDF		1000	632	63.2	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	599	59.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	665	66.5	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		1000	647	64.7	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	578	57.8	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	628	62.8	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30; Report Filename: 1613_DIOXINS_1613DB5_L9584-41_Form2_SJ637816.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB028 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.2 g (wet)	**Lab Sample I.D.:**	L9584-41
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_044 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.013	0.0030	1	1.30e-02	1.30e-02	
1,2,3,7,8-PECDD		0.038	0.0030	1	3.80e-02	3.80e-02	
1,2,3,4,7,8-HXCDD		0.028	0.0030	0.1	2.80e-03	2.80e-03	
1,2,3,6,7,8-HXCDD		0.114	0.0030	0.1	1.14e-02	1.14e-02	
1,2,3,7,8,9-HXCDD		0.047	0.0030	0.1	4.70e-03	4.70e-03	
1,2,3,4,6,7,8-HPCDD		0.257	0.0030	0.01	2.57e-03	2.57e-03	
OCDD		1.83	0.0030	0.0001	1.83e-04	1.83e-04	
2,3,7,8-TCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,7,8-PECDF		0.013	0.0030	0.05	6.50e-04	6.50e-04	
2,3,4,7,8-PECDF		0.069	0.0030	0.5	3.45e-02	3.45e-02	
1,2,3,4,7,8-HXCDF		0.350	0.0030	0.1	3.50e-02	3.50e-02	
1,2,3,6,7,8-HXCDF		0.256	0.0030	0.1	2.56e-02	2.56e-02	
1,2,3,7,8,9-HXCDF		0.007	0.0030	0.1	7.00e-04	7.00e-04	
2,3,4,6,7,8-HXCDF		0.020	0.0030	0.1	2.00e-03	2.00e-03	
1,2,3,4,6,7,8-HPCDF		0.424	0.0030	0.01	4.24e-03	4.24e-03	
1,2,3,4,7,8,9-HPCDF		0.030	0.0030	0.01	3.00e-04	3.00e-04	
OCDF		0.005	0.0030	0.0001	5.00e-07	5.00e-07	
			TOTAL TEQ		0.176	0.176	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.013	0.0030	1	1.30e-02	1.30e-02	
1,2,3,7,8-PECDD		0.038	0.0030	1	3.80e-02	3.80e-02	
1,2,3,4,7,8-HXCDD		0.028	0.0030	0.1	2.80e-03	2.80e-03	
1,2,3,6,7,8-HXCDD		0.114	0.0030	0.1	1.14e-02	1.14e-02	
1,2,3,7,8,9-HXCDD		0.047	0.0030	0.1	4.70e-03	4.70e-03	
1,2,3,4,6,7,8-HPCDD		0.257	0.0030	0.01	2.57e-03	2.57e-03	
OCDD		1.83	0.0030	0.0003	5.49e-04	5.49e-04	
2,3,7,8-TCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,7,8-PECDF		0.013	0.0030	0.03	3.90e-04	3.90e-04	
2,3,4,7,8-PECDF		0.069	0.0030	0.3	2.07e-02	2.07e-02	
1,2,3,4,7,8-HXCDF		0.350	0.0030	0.1	3.50e-02	3.50e-02	
1,2,3,6,7,8-HXCDF		0.256	0.0030	0.1	2.56e-02	2.56e-02	
1,2,3,7,8,9-HXCDF		0.007	0.0030	0.1	7.00e-04	7.00e-04	
2,3,4,6,7,8-HXCDF		0.020	0.0030	0.1	2.00e-03	2.00e-03	
1,2,3,4,6,7,8-HPCDF		0.424	0.0030	0.01	4.24e-03	4.24e-03	
1,2,3,4,7,8,9-HPCDF		0.030	0.0030	0.01	3.00e-04	3.00e-04	
OCDF		0.005	0.0030	0.0003	1.50e-06	1.50e-06	
			TOTAL TEQ		0.162	0.162	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-41_TEQ_SJ637816.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB028 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-41
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.160 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 15:02:44	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3
		% Lipid:	0.27

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		4.89	1.13	0.76	1.001
1,2,3,7,8-PECDD [3]		14.3	1.13	0.62	1.001
1,2,3,4,7,8-HXCDD		10.5	1.13	1.25	1.000
1,2,3,6,7,8-HXCDD		42.9	1.13	1.30	1.000
1,2,3,7,8,9-HXCDD		17.7	1.13	1.21	1.010
1,2,3,4,6,7,8-HPCDD		96.7	1.13	1.05	1.000
OCDD		689	1.13	0.90	1.000
2,3,7,8-TCDF		1.13	1.13	0.86	1.001
1,2,3,7,8-PECDF		4.89	1.13	1.42	1.001
2,3,4,7,8-PECDF		26.0	1.13	1.66	1.000
1,2,3,4,7,8-HXCDF		132	1.13	1.22	1.000
1,2,3,6,7,8-HXCDF		96.3	1.13	1.23	1.000
1,2,3,7,8,9-HXCDF		2.63	1.13	1.06	1.000
2,3,4,6,7,8-HXCDF		7.53	1.13	1.35	1.000
1,2,3,4,6,7,8-HPCDF		160	1.13	1.04	1.000
1,2,3,4,7,8,9-HPCDF		11.3	1.13	1.07	1.000
OCDF		1.88	1.13	0.99	1.002
TOTAL TETRA-DIOXINS		4.89	1.13		
TOTAL PENTA-DIOXINS		14.3	1.13		
TOTAL HEXA-DIOXINS		73.0	1.13		
TOTAL HEPTA-DIOXINS		102	1.13		
TOTAL TETRA-FURANS		1.13	1.13		
TOTAL PENTA-FURANS		32.7	1.13		
TOTAL HEXA-FURANS		239	1.13		
TOTAL HEPTA-FURANS		172	1.13		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB028 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.160 g (lipid)	**Lab Sample I.D.:**	L9584-41
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_044 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.89	1.13	1	4.89e+00	4.89e+00	
1,2,3,7,8-PECDD		14.3	1.13	1	1.43e+01	1.43e+01	
1,2,3,4,7,8-HXCDD		10.5	1.13	0.1	1.05e+00	1.05e+00	
1,2,3,6,7,8-HXCDD		42.9	1.13	0.1	4.29e+00	4.29e+00	
1,2,3,7,8,9-HXCDD		17.7	1.13	0.1	1.77e+00	1.77e+00	
1,2,3,4,6,7,8-HPCDD		96.7	1.13	0.01	9.67e-01	9.67e-01	
OCDD		689	1.13	0.0001	6.89e-02	6.89e-02	
2,3,7,8-TCDF		1.13	1.13	0.1	1.13e-01	1.13e-01	
1,2,3,7,8-PECDF		4.89	1.13	0.05	2.45e-01	2.45e-01	
2,3,4,7,8-PECDF		26.0	1.13	0.5	1.30e+01	1.30e+01	
1,2,3,4,7,8-HXCDF		132	1.13	0.1	1.32e+01	1.32e+01	
1,2,3,6,7,8-HXCDF		96.3	1.13	0.1	9.63e+00	9.63e+00	
1,2,3,7,8,9-HXCDF		2.63	1.13	0.1	2.63e-01	2.63e-01	
2,3,4,6,7,8-HXCDF		7.53	1.13	0.1	7.53e-01	7.53e-01	
1,2,3,4,6,7,8-HPCDF		160	1.13	0.01	1.60e+00	1.60e+00	
1,2,3,4,7,8,9-HPCDF		11.3	1.13	0.01	1.13e-01	1.13e-01	
OCDF		1.88	1.13	0.0001	1.88e-04	1.88e-04	
			TOTAL TEQ		66.3	66.3	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.89	1.13	1	4.89e+00	4.89e+00	
1,2,3,7,8-PECDD		14.3	1.13	1	1.43e+01	1.43e+01	
1,2,3,4,7,8-HXCDD		10.5	1.13	0.1	1.05e+00	1.05e+00	
1,2,3,6,7,8-HXCDD		42.9	1.13	0.1	4.29e+00	4.29e+00	
1,2,3,7,8,9-HXCDD		17.7	1.13	0.1	1.77e+00	1.77e+00	
1,2,3,4,6,7,8-HPCDD		96.7	1.13	0.01	9.67e-01	9.67e-01	
OCDD		689	1.13	0.0003	2.07e-01	2.07e-01	
2,3,7,8-TCDF		1.13	1.13	0.1	1.13e-01	1.13e-01	
1,2,3,7,8-PECDF		4.89	1.13	0.03	1.47e-01	1.47e-01	
2,3,4,7,8-PECDF		26.0	1.13	0.3	7.80e+00	7.80e+00	
1,2,3,4,7,8-HXCDF		132	1.13	0.1	1.32e+01	1.32e+01	
1,2,3,6,7,8-HXCDF		96.3	1.13	0.1	9.63e+00	9.63e+00	
1,2,3,7,8,9-HXCDF		2.63	1.13	0.1	2.63e-01	2.63e-01	
2,3,4,6,7,8-HXCDF		7.53	1.13	0.1	7.53e-01	7.53e-01	
1,2,3,4,6,7,8-HPCDF		160	1.13	0.01	1.60e+00	1.60e+00	
1,2,3,4,7,8,9-HPCDF		11.3	1.13	0.01	1.13e-01	1.13e-01	
OCDF		1.88	1.13	0.0003	5.64e-04	5.64e-04	
			TOTAL TEQ		61.1	61.1	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 18:45:54; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-41_TEQ_SJ637816_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB031 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-46
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.2 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 17:46:22	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.025	0.0030	0.79	1.001
1,2,3,7,8-PECDD [3]		0.039	0.0030	0.67	1.001
1,2,3,4,7,8-HXCDD		0.019	0.0030	1.25	1.000
1,2,3,6,7,8-HXCDD		0.154	0.0030	1.34	1.000
1,2,3,7,8,9-HXCDD		0.043	0.0030	1.19	1.010
1,2,3,4,6,7,8-HPCDD		0.115	0.0030	1.07	1.000
OCDD		1.73	0.0030	0.90	1.000
2,3,7,8-TCDF	ND		0.0030		
1,2,3,7,8-PECDF		0.008	0.0030	1.46	1.000
2,3,4,7,8-PECDF		0.059	0.0030	1.53	1.000
1,2,3,4,7,8-HXCDF		0.255	0.0030	1.22	1.000
1,2,3,6,7,8-HXCDF		0.215	0.0030	1.27	1.000
1,2,3,7,8,9-HXCDF		0.004	0.0030	1.12	1.000
2,3,4,6,7,8-HXCDF		0.010	0.0030	1.30	1.000
1,2,3,4,6,7,8-HPCDF		0.358	0.0030	1.03	1.000
1,2,3,4,7,8,9-HPCDF		0.021	0.0030	1.00	1.000
OCDF		0.013	0.0030	0.90	1.002
TOTAL TETRA-DIOXINS		0.025	0.0030		
TOTAL PENTA-DIOXINS		0.039	0.0030		
TOTAL HEXA-DIOXINS		0.216	0.0030		
TOTAL HEPTA-DIOXINS		0.124	0.0030		
TOTAL TETRA-FURANS	ND		0.0030		
TOTAL PENTA-FURANS		0.067	0.0030		
TOTAL HEXA-FURANS		0.484	0.0030		
TOTAL HEPTA-FURANS		0.380	0.0030		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-46_Form1A_SJ637819.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB031 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-46
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.2 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 17:46:22	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_044 S: 3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	788	78.8	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	983	98.3	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	867	86.7	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	796	79.6	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	816	81.6	1.05	1.094
13C-OCDD		2000	1530	76.5	0.90	1.179
13C-2,3,7,8-TCDF		1000	756	75.6	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	913	91.3	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	908	90.8	1.58	1.352
13C-1,2,3,4,7,8-HXCDF		1000	812	81.2	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	750	75.0	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	812	81.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	791	79.1	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	736	73.6	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	789	78.9	0.47	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-46_Form2_SJ637819.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB031 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.2 g (wet)	**Lab Sample I.D.:**	L9584-46
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_044 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.025	0.0030	1	2.50e-02	2.50e-02	
1,2,3,7,8-PECDD		0.039	0.0030	1	3.90e-02	3.90e-02	
1,2,3,4,7,8-HXCDD		0.019	0.0030	0.1	1.90e-03	1.90e-03	
1,2,3,6,7,8-HXCDD		0.154	0.0030	0.1	1.54e-02	1.54e-02	
1,2,3,7,8,9-HXCDD		0.043	0.0030	0.1	4.30e-03	4.30e-03	
1,2,3,4,6,7,8-HPCDD		0.115	0.0030	0.01	1.15e-03	1.15e-03	
OCDD		1.73	0.0030	0.0001	1.73e-04	1.73e-04	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF		0.008	0.0030	0.05	4.00e-04	4.00e-04	
2,3,4,7,8-PECDF		0.059	0.0030	0.5	2.95e-02	2.95e-02	
1,2,3,4,7,8-HXCDF		0.255	0.0030	0.1	2.55e-02	2.55e-02	
1,2,3,6,7,8-HXCDF		0.215	0.0030	0.1	2.15e-02	2.15e-02	
1,2,3,7,8,9-HXCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
2,3,4,6,7,8-HXCDF		0.010	0.0030	0.1	1.00e-03	1.00e-03	
1,2,3,4,6,7,8-HPCDF		0.358	0.0030	0.01	3.58e-03	3.58e-03	
1,2,3,4,7,8,9-HPCDF		0.021	0.0030	0.01	2.10e-04	2.10e-04	
OCDF		0.013	0.0030	0.0001	1.30e-06	1.30e-06	
			TOTAL TEQ		0.169	0.169	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.025	0.0030	1	2.50e-02	2.50e-02	
1,2,3,7,8-PECDD		0.039	0.0030	1	3.90e-02	3.90e-02	
1,2,3,4,7,8-HXCDD		0.019	0.0030	0.1	1.90e-03	1.90e-03	
1,2,3,6,7,8-HXCDD		0.154	0.0030	0.1	1.54e-02	1.54e-02	
1,2,3,7,8,9-HXCDD		0.043	0.0030	0.1	4.30e-03	4.30e-03	
1,2,3,4,6,7,8-HPCDD		0.115	0.0030	0.01	1.15e-03	1.15e-03	
OCDD		1.73	0.0030	0.0003	5.19e-04	5.19e-04	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF		0.008	0.0030	0.03	2.40e-04	2.40e-04	
2,3,4,7,8-PECDF		0.059	0.0030	0.3	1.77e-02	1.77e-02	
1,2,3,4,7,8-HXCDF		0.255	0.0030	0.1	2.55e-02	2.55e-02	
1,2,3,6,7,8-HXCDF		0.215	0.0030	0.1	2.15e-02	2.15e-02	
1,2,3,7,8,9-HXCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
2,3,4,6,7,8-HXCDF		0.010	0.0030	0.1	1.00e-03	1.00e-03	
1,2,3,4,6,7,8-HPCDF		0.358	0.0030	0.01	3.58e-03	3.58e-03	
1,2,3,4,7,8,9-HPCDF		0.021	0.0030	0.01	2.10e-04	2.10e-04	
OCDF		0.013	0.0030	0.0003	3.90e-06	3.90e-06	
			TOTAL TEQ		0.157	0.158	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-46_TEQ_SJ637819.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB031 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-46
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.120 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 17:46:22	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3
		% Lipid:	0.20

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		12.5	1.51	0.79	1.001
1,2,3,7,8-PECDD [3]		19.6	1.51	0.67	1.001
1,2,3,4,7,8-HXCDD		9.54	1.51	1.25	1.000
1,2,3,6,7,8-HXCDD		77.3	1.51	1.34	1.000
1,2,3,7,8,9-HXCDD		21.6	1.51	1.19	1.010
1,2,3,4,6,7,8-HPCDD		57.7	1.51	1.07	1.000
OCDD		868	1.51	0.90	1.000
2,3,7,8-TCDF	ND		1.51		
1,2,3,7,8-PECDF		4.02	1.51	1.46	1.000
2,3,4,7,8-PECDF		29.6	1.51	1.53	1.000
1,2,3,4,7,8-HXCDF		128	1.51	1.22	1.000
1,2,3,6,7,8-HXCDF		108	1.51	1.27	1.000
1,2,3,7,8,9-HXCDF		2.01	1.51	1.12	1.000
2,3,4,6,7,8-HXCDF		5.02	1.51	1.30	1.000
1,2,3,4,6,7,8-HPCDF		180	1.51	1.03	1.000
1,2,3,4,7,8,9-HPCDF		10.5	1.51	1.00	1.000
OCDF		6.52	1.51	0.90	1.002
TOTAL TETRA-DIOXINS		12.5	1.51		
TOTAL PENTA-DIOXINS		19.6	1.51		
TOTAL HEXA-DIOXINS		108	1.51		
TOTAL HEPTA-DIOXINS		62.2	1.51		
TOTAL TETRA-FURANS	ND		1.51		
TOTAL PENTA-FURANS		33.6	1.51		
TOTAL HEXA-FURANS		243	1.51		
TOTAL HEPTA-FURANS		191	1.51		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 09:13:50; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-46_Form1A_SJ637819_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB031 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.120 g (lipid)	**Lab Sample I.D.:**	L9584-46
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_044 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		12.5	1.51	1	1.25e+01	1.25e+01	
1,2,3,7,8-PECDD		19.6	1.51	1	1.96e+01	1.96e+01	
1,2,3,4,7,8-HXCDD		9.54	1.51	0.1	9.54e-01	9.54e-01	
1,2,3,6,7,8-HXCDD		77.3	1.51	0.1	7.73e+00	7.73e+00	
1,2,3,7,8,9-HXCDD		21.6	1.51	0.1	2.16e+00	2.16e+00	
1,2,3,4,6,7,8-HPCDD		57.7	1.51	0.01	5.77e-01	5.77e-01	
OCDD		868	1.51	0.0001	8.68e-02	8.68e-02	
2,3,7,8-TCDF	ND		1.51	0.1	0.00e+00	7.55e-02	
1,2,3,7,8-PECDF		4.02	1.51	0.05	2.01e-01	2.01e-01	
2,3,4,7,8-PECDF		29.6	1.51	0.5	1.48e+01	1.48e+01	
1,2,3,4,7,8-HXCDF		128	1.51	0.1	1.28e+01	1.28e+01	
1,2,3,6,7,8-HXCDF		108	1.51	0.1	1.08e+01	1.08e+01	
1,2,3,7,8,9-HXCDF		2.01	1.51	0.1	2.01e-01	2.01e-01	
2,3,4,6,7,8-HXCDF		5.02	1.51	0.1	5.02e-01	5.02e-01	
1,2,3,4,6,7,8-HPCDF		180	1.51	0.01	1.80e+00	1.80e+00	
1,2,3,4,7,8,9-HPCDF		10.5	1.51	0.01	1.05e-01	1.05e-01	
OCDF		6.52	1.51	0.0001	6.52e-04	6.52e-04	
			TOTAL TEQ		84.8	84.9	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		12.5	1.51	1	1.25e+01	1.25e+01	
1,2,3,7,8-PECDD		19.6	1.51	1	1.96e+01	1.96e+01	
1,2,3,4,7,8-HXCDD		9.54	1.51	0.1	9.54e-01	9.54e-01	
1,2,3,6,7,8-HXCDD		77.3	1.51	0.1	7.73e+00	7.73e+00	
1,2,3,7,8,9-HXCDD		21.6	1.51	0.1	2.16e+00	2.16e+00	
1,2,3,4,6,7,8-HPCDD		57.7	1.51	0.01	5.77e-01	5.77e-01	
OCDD		868	1.51	0.0003	2.60e-01	2.60e-01	
2,3,7,8-TCDF	ND		1.51	0.1	0.00e+00	7.55e-02	
1,2,3,7,8-PECDF		4.02	1.51	0.03	1.21e-01	1.21e-01	
2,3,4,7,8-PECDF		29.6	1.51	0.3	8.88e+00	8.88e+00	
1,2,3,4,7,8-HXCDF		128	1.51	0.1	1.28e+01	1.28e+01	
1,2,3,6,7,8-HXCDF		108	1.51	0.1	1.08e+01	1.08e+01	
1,2,3,7,8,9-HXCDF		2.01	1.51	0.1	2.01e-01	2.01e-01	
2,3,4,6,7,8-HXCDF		5.02	1.51	0.1	5.02e-01	5.02e-01	
1,2,3,4,6,7,8-HPCDF		180	1.51	0.01	1.80e+00	1.80e+00	
1,2,3,4,7,8,9-HPCDF		10.5	1.51	0.01	1.05e-01	1.05e-01	
OCDF		6.52	1.51	0.0003	1.96e-03	1.96e-03	
			TOTAL TEQ		79.0	79.1	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 18:45:54; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-46_TEQ_SJ637819_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB034 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-36 L
Matrix:	BLOOD	**Sample Size:**	20.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	12-Feb-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 05:22:40	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_061 S: 12**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_061 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_061 S: 2
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0100		
1,2,3,7,8-PECDD [3]	ND		0.0100		
1,2,3,4,7,8-HXCDD	ND		0.0100		
1,2,3,6,7,8-HXCDD	ND		0.0100		
1,2,3,7,8,9-HXCDD	ND		0.0100		
1,2,3,4,6,7,8-HPCDD	ND		0.0100		
OCDD		0.039	0.0100	0.85	1.000
2,3,7,8-TCDF	ND		0.0100		
1,2,3,7,8-PECDF	ND		0.0100		
2,3,4,7,8-PECDF	ND		0.0100		
1,2,3,4,7,8-HXCDF	ND		0.0100		
1,2,3,6,7,8-HXCDF	ND		0.0100		
1,2,3,7,8,9-HXCDF	ND		0.0100		
2,3,4,6,7,8-HXCDF	ND		0.0100		
1,2,3,4,6,7,8-HPCDF	ND		0.0100		
1,2,3,4,7,8,9-HPCDF	ND		0.0100		
OCDF	ND		0.0100		
TOTAL TETRA-DIOXINS	ND		0.0100		
TOTAL PENTA-DIOXINS	ND		0.0100		
TOTAL HEXA-DIOXINS	ND		0.0100		
TOTAL HEPTA-DIOXINS	ND		0.0100		
TOTAL TETRA-FURANS	ND		0.0100		
TOTAL PENTA-FURANS	ND		0.0100		
TOTAL HEXA-FURANS	ND		0.0100		
TOTAL HEPTA-FURANS	ND		0.0100		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 12:41:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-36_Form1A_SJ637298.html; Workgroup: WG21002; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB034 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-36 L
Matrix:	BLOOD	**Sample Size:**	20.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	12-Feb-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 05:22:40	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_061 S: 12**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_061 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_061 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		100	68.4	68.4	0.78	1.012
13C-1,2,3,7,8-PECDD [4]		100	80.0	80.0	0.63	1.380
13C-1,2,3,4,7,8-HXCDD		100	81.3	81.3	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		100	83.1	83.1	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		100	88.9	88.9	1.04	1.095
13C-OCDD		200	144	72.0	0.90	1.179
13C-2,3,7,8-TCDF		100	70.2	70.2	0.78	0.965
13C-1,2,3,7,8-PECDF		100	73.9	73.9	1.57	1.282
13C-2,3,4,7,8-PECDF		100	76.1	76.1	1.55	1.349
13C-1,2,3,4,7,8-HXCDF		100	87.3	87.3	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		100	88.9	88.9	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		100	77.3	77.3	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		100	79.8	79.8	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		100	88.9	88.9	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		100	84.8	84.8	0.45	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 12:41:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-36_Form2_SJ637298.html; Workgroup: WG21002; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB034 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	20.0 g (wet)	**Lab Sample I.D.:**	L9584-36 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_061 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0100	1	0.00e+00	5.00e-03	
1,2,3,7,8-PECDD	ND		0.0100	1	0.00e+00	5.00e-03	
1,2,3,4,7,8-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,6,7,8-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8,9-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDD	ND		0.0100	0.01	0.00e+00	5.00e-05	
OCDD		0.039	0.0100	0.0001	3.90e-06	3.90e-06	
2,3,7,8-TCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8-PECDF	ND		0.0100	0.05	0.00e+00	2.50e-04	
2,3,4,7,8-PECDF	ND		0.0100	0.5	0.00e+00	2.50e-03	
1,2,3,4,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,6,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8,9-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDF	ND		0.0100	0.01	0.00e+00	5.00e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0100	0.01	0.00e+00	5.00e-05	
OCDF	ND		0.0100	0.0001	0.00e+00	5.00e-07	
			TOTAL TEQ		0.000004	0.0169	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0100	1	0.00e+00	5.00e-03	
1,2,3,7,8-PECDD	ND		0.0100	1	0.00e+00	5.00e-03	
1,2,3,4,7,8-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,6,7,8-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8,9-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDD	ND		0.0100	0.01	0.00e+00	5.00e-05	
OCDD		0.039	0.0100	0.0003	1.17e-05	1.17e-05	
2,3,7,8-TCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8-PECDF	ND		0.0100	0.03	0.00e+00	1.50e-04	
2,3,4,7,8-PECDF	ND		0.0100	0.3	0.00e+00	1.50e-03	
1,2,3,4,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,6,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8,9-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDF	ND		0.0100	0.01	0.00e+00	5.00e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0100	0.01	0.00e+00	5.00e-05	
OCDF	ND		0.0100	0.0003	0.00e+00	1.50e-06	
			TOTAL TEQ		0.0000117	0.0158	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 12:42:38; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-36_TEQ_SJ637298.html; Workgroup: WG21002; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB034 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-36 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.0340 g (lipid)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	12-Feb-2007
Analysis Date:	13-Feb-2007 **Time:** 05:22:40	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_061 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_061 S: **7**
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_061 S: 2
		% Lipid:	0.17

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		5.89		
1,2,3,7,8-PECDD [3]	ND		5.89		
1,2,3,4,7,8-HXCDD	ND		5.89		
1,2,3,6,7,8-HXCDD	ND		5.89		
1,2,3,7,8,9-HXCDD	ND		5.89		
1,2,3,4,6,7,8-HPCDD	ND		5.89		
OCDD		23.0	5.89	0.85	1.000
2,3,7,8-TCDF	ND		5.89		
1,2,3,7,8-PECDF	ND		5.89		
2,3,4,7,8-PECDF	ND		5.89		
1,2,3,4,7,8-HXCDF	ND		5.89		
1,2,3,6,7,8-HXCDF	ND		5.89		
1,2,3,7,8,9-HXCDF	ND		5.89		
2,3,4,6,7,8-HXCDF	ND		5.89		
1,2,3,4,6,7,8-HPCDF	ND		5.89		
1,2,3,4,7,8,9-HPCDF	ND		5.89		
OCDF	ND		5.89		
TOTAL TETRA-DIOXINS	ND		5.89		
TOTAL PENTA-DIOXINS	ND		5.89		
TOTAL HEXA-DIOXINS	ND		5.89		
TOTAL HEPTA-DIOXINS	ND		5.89		
TOTAL TETRA-FURANS	ND		5.89		
TOTAL PENTA-FURANS	ND		5.89		
TOTAL HEXA-FURANS	ND		5.89		
TOTAL HEPTA-FURANS	ND		5.89		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB034 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.0340 g (lipid)	**Lab Sample I.D.:**	L9584-36 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_061 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		5.89	1	0.00e+00	2.95e+00	
1,2,3,7,8-PECDD	ND		5.89	1	0.00e+00	2.95e+00	
1,2,3,4,7,8-HXCDD	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,6,7,8-HXCDD	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,7,8,9-HXCDD	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,4,6,7,8-HPCDD	ND		5.89	0.01	0.00e+00	2.95e-02	
OCDD		23.0	5.89	0.0001	2.30e-03	2.30e-03	
2,3,7,8-TCDF	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,7,8-PECDF	ND		5.89	0.05	0.00e+00	1.47e-01	
2,3,4,7,8-PECDF	ND		5.89	0.5	0.00e+00	1.47e+00	
1,2,3,4,7,8-HXCDF	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,6,7,8-HXCDF	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,7,8,9-HXCDF	ND		5.89	0.1	0.00e+00	2.95e-01	
2,3,4,6,7,8-HXCDF	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,4,6,7,8-HPCDF	ND		5.89	0.01	0.00e+00	2.95e-02	
1,2,3,4,7,8,9-HPCDF	ND		5.89	0.01	0.00e+00	2.95e-02	
OCDF	ND		5.89	0.0001	0.00e+00	2.95e-04	
			TOTAL TEQ		0.00230	9.96	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		5.89	1	0.00e+00	2.95e+00	
1,2,3,7,8-PECDD	ND		5.89	1	0.00e+00	2.95e+00	
1,2,3,4,7,8-HXCDD	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,6,7,8-HXCDD	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,7,8,9-HXCDD	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,4,6,7,8-HPCDD	ND		5.89	0.01	0.00e+00	2.95e-02	
OCDD		23.0	5.89	0.0003	6.90e-03	6.90e-03	
2,3,7,8-TCDF	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,7,8-PECDF	ND		5.89	0.03	0.00e+00	8.84e-02	
2,3,4,7,8-PECDF	ND		5.89	0.3	0.00e+00	8.84e-01	
1,2,3,4,7,8-HXCDF	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,6,7,8-HXCDF	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,7,8,9-HXCDF	ND		5.89	0.1	0.00e+00	2.95e-01	
2,3,4,6,7,8-HXCDF	ND		5.89	0.1	0.00e+00	2.95e-01	
1,2,3,4,6,7,8-HPCDF	ND		5.89	0.01	0.00e+00	2.95e-02	
1,2,3,4,7,8,9-HPCDF	ND		5.89	0.01	0.00e+00	2.95e-02	
OCDF	ND		5.89	0.0003	0.00e+00	8.84e-04	
			TOTAL TEQ		0.00690	9.31	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 17:27:46; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-36_TEQ_SJ637298_lipid.html; Workgroup: WG21002; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB035 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-35 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	66.8 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 **Time:** 13:04:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_047 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_047 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.014	0.0030	0.73	1.001
1,2,3,7,8-PECDD [3]		0.026	0.0030	0.69	1.001
1,2,3,4,7,8-HXCDD		0.014	0.0030	1.22	1.000
1,2,3,6,7,8-HXCDD		0.075	0.0030	1.32	1.000
1,2,3,7,8,9-HXCDD		0.026	0.0030	1.36	1.010
1,2,3,4,6,7,8-HPCDD		0.127	0.0030	1.05	1.000
OCDD		1.59	0.0030	0.91	1.001
2,3,7,8-TCDF		0.004	0.0030	0.69	1.001
1,2,3,7,8-PECDF		0.006	0.0030	1.54	1.000
2,3,4,7,8-PECDF		0.045	0.0030	1.56	1.000
1,2,3,4,7,8-HXCDF		0.128	0.0030	1.28	1.000
1,2,3,6,7,8-HXCDF		0.097	0.0030	1.18	1.001
1,2,3,7,8,9-HXCDF		0.003	0.0030	1.40	1.000
2,3,4,6,7,8-HXCDF		0.007	0.0030	1.12	1.001
1,2,3,4,6,7,8-HPCDF		0.232	0.0030	1.05	1.000
1,2,3,4,7,8,9-HPCDF		0.025	0.0030	0.91	1.000
OCDF	NDR	0.014	0.0030	1.08	1.002
TOTAL TETRA-DIOXINS		0.014	0.0030		
TOTAL PENTA-DIOXINS		0.026	0.0030		
TOTAL HEXA-DIOXINS		0.120	0.0030		
TOTAL HEPTA-DIOXINS		0.151	0.0030		
TOTAL TETRA-FURANS		0.004	0.0030		
TOTAL PENTA-FURANS		0.051	0.0030		
TOTAL HEXA-FURANS		0.236	0.0030		
TOTAL HEPTA-FURANS		0.264	0.0030		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-35_Form1A_SJ636311.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB035 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-35 R
Matrix:	BLOOD	**Sample Size:**	66.8 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	31-Jan-2007 **Time:** 13:04:06	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_047 S:** 7
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_047 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	763	76.3	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	855	85.5	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	696	69.6	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	658	65.8	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	675	67.5	1.06	1.095
13C-OCDD		2000	1220	60.9	0.90	1.179
13C-2,3,7,8-TCDF		1000	635	63.5	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	729	72.9	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	737	73.7	1.59	1.351
13C-1,2,3,4,7,8-HXCDF		1000	670	67.0	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	644	64.4	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	676	67.6	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		1000	661	66.1	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	629	62.9	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	652	65.2	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29; Report Filename: 1613_DIOXINS_1613DB5_L9584-35_Form2_SJ636311.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB035 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	66.8 g (wet)	**Lab Sample I.D.:**	L9584-35 R
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_047 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.014	0.0030	1	1.40e-02	1.40e-02	
1,2,3,7,8-PECDD		0.026	0.0030	1	2.60e-02	2.60e-02	
1,2,3,4,7,8-HXCDD		0.014	0.0030	0.1	1.40e-03	1.40e-03	
1,2,3,6,7,8-HXCDD		0.075	0.0030	0.1	7.50e-03	7.50e-03	
1,2,3,7,8,9-HXCDD		0.026	0.0030	0.1	2.60e-03	2.60e-03	
1,2,3,4,6,7,8-HPCDD		0.127	0.0030	0.01	1.27e-03	1.27e-03	
OCDD		1.59	0.0030	0.0001	1.59e-04	1.59e-04	
2,3,7,8-TCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
1,2,3,7,8-PECDF		0.006	0.0030	0.05	3.00e-04	3.00e-04	
2,3,4,7,8-PECDF		0.045	0.0030	0.5	2.25e-02	2.25e-02	
1,2,3,4,7,8-HXCDF		0.128	0.0030	0.1	1.28e-02	1.28e-02	
1,2,3,6,7,8-HXCDF		0.097	0.0030	0.1	9.70e-03	9.70e-03	
1,2,3,7,8,9-HXCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
2,3,4,6,7,8-HXCDF		0.007	0.0030	0.1	7.00e-04	7.00e-04	
1,2,3,4,6,7,8-HPCDF		0.232	0.0030	0.01	2.32e-03	2.32e-03	
1,2,3,4,7,8,9-HPCDF		0.025	0.0030	0.01	2.50e-04	2.50e-04	
OCDF	ND		0.0030	0.0001	0.00e+00	1.50e-07	
			TOTAL TEQ		0.102	0.102	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.014	0.0030	1	1.40e-02	1.40e-02	
1,2,3,7,8-PECDD		0.026	0.0030	1	2.60e-02	2.60e-02	
1,2,3,4,7,8-HXCDD		0.014	0.0030	0.1	1.40e-03	1.40e-03	
1,2,3,6,7,8-HXCDD		0.075	0.0030	0.1	7.50e-03	7.50e-03	
1,2,3,7,8,9-HXCDD		0.026	0.0030	0.1	2.60e-03	2.60e-03	
1,2,3,4,6,7,8-HPCDD		0.127	0.0030	0.01	1.27e-03	1.27e-03	
OCDD		1.59	0.0030	0.0003	4.77e-04	4.77e-04	
2,3,7,8-TCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
1,2,3,7,8-PECDF		0.006	0.0030	0.03	1.80e-04	1.80e-04	
2,3,4,7,8-PECDF		0.045	0.0030	0.3	1.35e-02	1.35e-02	
1,2,3,4,7,8-HXCDF		0.128	0.0030	0.1	1.28e-02	1.28e-02	
1,2,3,6,7,8-HXCDF		0.097	0.0030	0.1	9.70e-03	9.70e-03	
1,2,3,7,8,9-HXCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
2,3,4,6,7,8-HXCDF		0.007	0.0030	0.1	7.00e-04	7.00e-04	
1,2,3,4,6,7,8-HPCDF		0.232	0.0030	0.01	2.32e-03	2.32e-03	
1,2,3,4,7,8,9-HPCDF		0.025	0.0030	0.01	2.50e-04	2.50e-04	
OCDF	ND		0.0030	0.0003	0.00e+00	4.50e-07	
			TOTAL TEQ		0.0934	0.0934	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-35_TEQ_SJ636311.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB035 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-35 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.140 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 **Time:** 13:04:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_047 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_047 S: 2
		% Lipid:	0.21

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		6.68	1.43	0.73	1.001
1,2,3,7,8-PECDD [3]		12.4	1.43	0.69	1.001
1,2,3,4,7,8-HXCDD		6.68	1.43	1.22	1.000
1,2,3,6,7,8-HXCDD		35.8	1.43	1.32	1.000
1,2,3,7,8,9-HXCDD		12.4	1.43	1.36	1.010
1,2,3,4,6,7,8-HPCDD		60.6	1.43	1.05	1.000
OCDD		759	1.43	0.91	1.001
2,3,7,8-TCDF		1.91	1.43	0.69	1.001
1,2,3,7,8-PECDF		2.86	1.43	1.54	1.000
2,3,4,7,8-PECDF		21.5	1.43	1.56	1.000
1,2,3,4,7,8-HXCDF		61.1	1.43	1.28	1.000
1,2,3,6,7,8-HXCDF		46.3	1.43	1.18	1.001
1,2,3,7,8,9-HXCDF		1.43	1.43	1.40	1.000
2,3,4,6,7,8-HXCDF		3.34	1.43	1.12	1.001
1,2,3,4,6,7,8-HPCDF		111	1.43	1.05	1.000
1,2,3,4,7,8,9-HPCDF		11.9	1.43	0.91	1.000
OCDF	NDR	6.68	1.43	1.08	1.002
TOTAL TETRA-DIOXINS		6.68	1.43		
TOTAL PENTA-DIOXINS		12.4	1.43		
TOTAL HEXA-DIOXINS		57.3	1.43		
TOTAL HEPTA-DIOXINS		72.0	1.43		
TOTAL TETRA-FURANS		1.91	1.43		
TOTAL PENTA-FURANS		24.3	1.43		
TOTAL HEXA-FURANS		113	1.43		
TOTAL HEPTA-FURANS		126	1.43		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9584-35_Form1A_DX72_047S7_SJ636311_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB035 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.140 g (lipid)	**Lab Sample I.D.:**	L9584-35 R
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	DX72_047 S: 7

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.68	1.43	1	6.68e+00	6.68e+00	
1,2,3,7,8-PECDD		12.4	1.43	1	1.24e+01	1.24e+01	
1,2,3,4,7,8-HXCDD		6.68	1.43	0.1	6.68e-01	6.68e-01	
1,2,3,6,7,8-HXCDD		35.8	1.43	0.1	3.58e+00	3.58e+00	
1,2,3,7,8,9-HXCDD		12.4	1.43	0.1	1.24e+00	1.24e+00	
1,2,3,4,6,7,8-HPCDD		60.6	1.43	0.01	6.06e-01	6.06e-01	
OCDD		759	1.43	0.0001	7.59e-02	7.59e-02	
2,3,7,8-TCDF		1.91	1.43	0.1	1.91e-01	1.91e-01	
1,2,3,7,8-PECDF		2.86	1.43	0.05	1.43e-01	1.43e-01	
2,3,4,7,8-PECDF		21.5	1.43	0.5	1.08e+01	1.08e+01	
1,2,3,4,7,8-HXCDF		61.1	1.43	0.1	6.11e+00	6.11e+00	
1,2,3,6,7,8-HXCDF		46.3	1.43	0.1	4.63e+00	4.63e+00	
1,2,3,7,8,9-HXCDF		1.43	1.43	0.1	1.43e-01	1.43e-01	
2,3,4,6,7,8-HXCDF		3.34	1.43	0.1	3.34e-01	3.34e-01	
1,2,3,4,6,7,8-HPCDF		111	1.43	0.01	1.11e+00	1.11e+00	
1,2,3,4,7,8,9-HPCDF		11.9	1.43	0.01	1.19e-01	1.19e-01	
OCDF	ND		1.43	0.0001	0.00e+00	7.15e-05	
			TOTAL TEQ		48.8	48.8	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.68	1.43	1	6.68e+00	6.68e+00	
1,2,3,7,8-PECDD		12.4	1.43	1	1.24e+01	1.24e+01	
1,2,3,4,7,8-HXCDD		6.68	1.43	0.1	6.68e-01	6.68e-01	
1,2,3,6,7,8-HXCDD		35.8	1.43	0.1	3.58e+00	3.58e+00	
1,2,3,7,8,9-HXCDD		12.4	1.43	0.1	1.24e+00	1.24e+00	
1,2,3,4,6,7,8-HPCDD		60.6	1.43	0.01	6.06e-01	6.06e-01	
OCDD		759	1.43	0.0003	2.28e-01	2.28e-01	
2,3,7,8-TCDF		1.91	1.43	0.1	1.91e-01	1.91e-01	
1,2,3,7,8-PECDF		2.86	1.43	0.03	8.58e-02	8.58e-02	
2,3,4,7,8-PECDF		21.5	1.43	0.3	6.45e+00	6.45e+00	
1,2,3,4,7,8-HXCDF		61.1	1.43	0.1	6.11e+00	6.11e+00	
1,2,3,6,7,8-HXCDF		46.3	1.43	0.1	4.63e+00	4.63e+00	
1,2,3,7,8,9-HXCDF		1.43	1.43	0.1	1.43e-01	1.43e-01	
2,3,4,6,7,8-HXCDF		3.34	1.43	0.1	3.34e-01	3.34e-01	
1,2,3,4,6,7,8-HPCDF		111	1.43	0.01	1.11e+00	1.11e+00	
1,2,3,4,7,8,9-HPCDF		11.9	1.43	0.01	1.19e-01	1.19e-01	
OCDF	ND		1.43	0.0003	0.00e+00	2.15e-04	
			TOTAL TEQ		44.6	44.6	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 26-Apr-2007 18:37:37; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-35_TEQ_SJ636311_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB036 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-47
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.0 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 02:15:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_048 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_048 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.052	0.0030	0.79	1.001
1,2,3,7,8-PECDD [3]		0.063	0.0030	0.59	1.001
1,2,3,4,7,8-HXCDD		0.037	0.0030	1.19	1.000
1,2,3,6,7,8-HXCDD		0.170	0.0030	1.26	1.000
1,2,3,7,8,9-HXCDD		0.054	0.0030	1.21	1.010
1,2,3,4,6,7,8-HPCDD		0.272	0.0030	1.07	1.000
OCDD		1.40	0.0030	0.90	1.001
2,3,7,8-TCDF		0.005	0.0030	0.88	1.001
1,2,3,7,8-PECDF		0.012	0.0030	1.51	1.000
2,3,4,7,8-PECDF		0.103	0.0030	1.51	1.000
1,2,3,4,7,8-HXCDF		0.334	0.0030	1.25	1.000
1,2,3,6,7,8-HXCDF		0.255	0.0030	1.27	1.000
1,2,3,7,8,9-HXCDF		0.006	0.0030	1.24	1.000
2,3,4,6,7,8-HXCDF		0.015	0.0030	1.30	1.000
1,2,3,4,6,7,8-HPCDF		0.305	0.0030	1.05	1.000
1,2,3,4,7,8,9-HPCDF		0.026	0.0030	0.96	1.000
OCDF		0.024	0.0030	0.87	1.002
TOTAL TETRA-DIOXINS		0.052	0.0030		
TOTAL PENTA-DIOXINS		0.063	0.0030		
TOTAL HEXA-DIOXINS		0.266	0.0030		
TOTAL HEPTA-DIOXINS		0.296	0.0030		
TOTAL TETRA-FURANS		0.005	0.0030		
TOTAL PENTA-FURANS		0.120	0.0030		
TOTAL HEXA-FURANS		0.615	0.0030		
TOTAL HEPTA-FURANS		0.338	0.0030		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-47_Form1A_SJ635866.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB036 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-47
Matrix:	BLOOD	**Sample Size:**	60.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 **Time:** 02:15:18	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_048 S: 8**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_048 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	845	84.5	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	994	99.4	0.64	1.382
13C-1,2,3,4,7,8-HXCDD		1000	798	79.8	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	764	76.4	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	752	75.2	1.06	1.095
13C-OCDD		2000	1400	70.0	0.90	1.179
13C-2,3,7,8-TCDF		1000	721	72.1	0.80	0.967
13C-1,2,3,7,8-PECDF		1000	832	83.2	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	844	84.4	1.59	1.351
13C-1,2,3,4,7,8-HXCDF		1000	757	75.7	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	719	71.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	750	75.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	738	73.8	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	694	69.4	0.45	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	725	72.5	0.45	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-47_Form2_SJ635866.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB036 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.0 g (wet)	**Lab Sample I.D.:**	L9584-47
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_048 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.052	0.0030	1	5.20e-02	5.20e-02	
1,2,3,7,8-PECDD		0.063	0.0030	1	6.30e-02	6.30e-02	
1,2,3,4,7,8-HXCDD		0.037	0.0030	0.1	3.70e-03	3.70e-03	
1,2,3,6,7,8-HXCDD		0.170	0.0030	0.1	1.70e-02	1.70e-02	
1,2,3,7,8,9-HXCDD		0.054	0.0030	0.1	5.40e-03	5.40e-03	
1,2,3,4,6,7,8-HPCDD		0.272	0.0030	0.01	2.72e-03	2.72e-03	
OCDD		1.40	0.0030	0.0001	1.40e-04	1.40e-04	
2,3,7,8-TCDF		0.005	0.0030	0.1	5.00e-04	5.00e-04	
1,2,3,7,8-PECDF		0.012	0.0030	0.05	6.00e-04	6.00e-04	
2,3,4,7,8-PECDF		0.103	0.0030	0.5	5.15e-02	5.15e-02	
1,2,3,4,7,8-HXCDF		0.334	0.0030	0.1	3.34e-02	3.34e-02	
1,2,3,6,7,8-HXCDF		0.255	0.0030	0.1	2.55e-02	2.55e-02	
1,2,3,7,8,9-HXCDF		0.006	0.0030	0.1	6.00e-04	6.00e-04	
2,3,4,6,7,8-HXCDF		0.015	0.0030	0.1	1.50e-03	1.50e-03	
1,2,3,4,6,7,8-HPCDF		0.305	0.0030	0.01	3.05e-03	3.05e-03	
1,2,3,4,7,8,9-HPCDF		0.026	0.0030	0.01	2.60e-04	2.60e-04	
OCDF		0.024	0.0030	0.0001	2.40e-06	2.40e-06	
			TOTAL TEQ		0.261	0.261	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.052	0.0030	1	5.20e-02	5.20e-02	
1,2,3,7,8-PECDD		0.063	0.0030	1	6.30e-02	6.30e-02	
1,2,3,4,7,8-HXCDD		0.037	0.0030	0.1	3.70e-03	3.70e-03	
1,2,3,6,7,8-HXCDD		0.170	0.0030	0.1	1.70e-02	1.70e-02	
1,2,3,7,8,9-HXCDD		0.054	0.0030	0.1	5.40e-03	5.40e-03	
1,2,3,4,6,7,8-HPCDD		0.272	0.0030	0.01	2.72e-03	2.72e-03	
OCDD		1.40	0.0030	0.0003	4.20e-04	4.20e-04	
2,3,7,8-TCDF		0.005	0.0030	0.1	5.00e-04	5.00e-04	
1,2,3,7,8-PECDF		0.012	0.0030	0.03	3.60e-04	3.60e-04	
2,3,4,7,8-PECDF		0.103	0.0030	0.3	3.09e-02	3.09e-02	
1,2,3,4,7,8-HXCDF		0.334	0.0030	0.1	3.34e-02	3.34e-02	
1,2,3,6,7,8-HXCDF		0.255	0.0030	0.1	2.55e-02	2.55e-02	
1,2,3,7,8,9-HXCDF		0.006	0.0030	0.1	6.00e-04	6.00e-04	
2,3,4,6,7,8-HXCDF		0.015	0.0030	0.1	1.50e-03	1.50e-03	
1,2,3,4,6,7,8-HPCDF		0.305	0.0030	0.01	3.05e-03	3.05e-03	
1,2,3,4,7,8,9-HPCDF		0.026	0.0030	0.01	2.60e-04	2.60e-04	
OCDF		0.024	0.0030	0.0003	7.20e-06	7.20e-06	
			TOTAL TEQ		0.240	0.240	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29; Report Filename: 1613_DIOXINS_1613-TEQ_L9584-47_TEQ_SJ635866.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB036 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-47
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.150 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 02:15:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_048 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_048 S: 2
		% Lipid:	0.25

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		20.8	1.20	0.79	1.001
1,2,3,7,8-PECDD [3]		25.2	1.20	0.59	1.001
1,2,3,4,7,8-HXCDD		14.8	1.20	1.19	1.000
1,2,3,6,7,8-HXCDD		68.0	1.20	1.26	1.000
1,2,3,7,8,9-HXCDD		21.6	1.20	1.21	1.010
1,2,3,4,6,7,8-HPCDD		109	1.20	1.07	1.000
OCDD		560	1.20	0.90	1.001
2,3,7,8-TCDF		2.00	1.20	0.88	1.001
1,2,3,7,8-PECDF		4.80	1.20	1.51	1.000
2,3,4,7,8-PECDF		41.2	1.20	1.51	1.000
1,2,3,4,7,8-HXCDF		134	1.20	1.25	1.000
1,2,3,6,7,8-HXCDF		102	1.20	1.27	1.000
1,2,3,7,8,9-HXCDF		2.40	1.20	1.24	1.000
2,3,4,6,7,8-HXCDF		6.00	1.20	1.30	1.000
1,2,3,4,6,7,8-HPCDF		122	1.20	1.05	1.000
1,2,3,4,7,8,9-HPCDF		10.4	1.20	0.96	1.000
OCDF		9.60	1.20	0.87	1.002
TOTAL TETRA-DIOXINS		20.8	1.20		
TOTAL PENTA-DIOXINS		25.2	1.20		
TOTAL HEXA-DIOXINS		106	1.20		
TOTAL HEPTA-DIOXINS		118	1.20		
TOTAL TETRA-FURANS		2.00	1.20		
TOTAL PENTA-FURANS		48.0	1.20		
TOTAL HEXA-FURANS		246	1.20		
TOTAL HEPTA-FURANS		135	1.20		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 08:55:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-47_Form1A_SJ635866_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB036 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.150 g (lipid)	**Lab Sample I.D.:**	L9584-47
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_048 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		20.8	1.20	1	2.08e+01	2.08e+01	
1,2,3,7,8-PECDD		25.2	1.20	1	2.52e+01	2.52e+01	
1,2,3,4,7,8-HXCDD		14.8	1.20	0.1	1.48e+00	1.48e+00	
1,2,3,6,7,8-HXCDD		68.0	1.20	0.1	6.80e+00	6.80e+00	
1,2,3,7,8,9-HXCDD		21.6	1.20	0.1	2.16e+00	2.16e+00	
1,2,3,4,6,7,8-HPCDD		109	1.20	0.01	1.09e+00	1.09e+00	
OCDD		560	1.20	0.0001	5.60e-02	5.60e-02	
2,3,7,8-TCDF		2.00	1.20	0.1	2.00e-01	2.00e-01	
1,2,3,7,8-PECDF		4.80	1.20	0.05	2.40e-01	2.40e-01	
2,3,4,7,8-PECDF		41.2	1.20	0.5	2.06e+01	2.06e+01	
1,2,3,4,7,8-HXCDF		134	1.20	0.1	1.34e+01	1.34e+01	
1,2,3,6,7,8-HXCDF		102	1.20	0.1	1.02e+01	1.02e+01	
1,2,3,7,8,9-HXCDF		2.40	1.20	0.1	2.40e-01	2.40e-01	
2,3,4,6,7,8-HXCDF		6.00	1.20	0.1	6.00e-01	6.00e-01	
1,2,3,4,6,7,8-HPCDF		122	1.20	0.01	1.22e+00	1.22e+00	
1,2,3,4,7,8,9-HPCDF		10.4	1.20	0.01	1.04e-01	1.04e-01	
OCDF		9.60	1.20	0.0001	9.60e-04	9.60e-04	
			TOTAL TEQ		104	104	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		20.8	1.20	1	2.08e+01	2.08e+01	
1,2,3,7,8-PECDD		25.2	1.20	1	2.52e+01	2.52e+01	
1,2,3,4,7,8-HXCDD		14.8	1.20	0.1	1.48e+00	1.48e+00	
1,2,3,6,7,8-HXCDD		68.0	1.20	0.1	6.80e+00	6.80e+00	
1,2,3,7,8,9-HXCDD		21.6	1.20	0.1	2.16e+00	2.16e+00	
1,2,3,4,6,7,8-HPCDD		109	1.20	0.01	1.09e+00	1.09e+00	
OCDD		560	1.20	0.0003	1.68e-01	1.68e-01	
2,3,7,8-TCDF		2.00	1.20	0.1	2.00e-01	2.00e-01	
1,2,3,7,8-PECDF		4.80	1.20	0.03	1.44e-01	1.44e-01	
2,3,4,7,8-PECDF		41.2	1.20	0.3	1.24e+01	1.24e+01	
1,2,3,4,7,8-HXCDF		134	1.20	0.1	1.34e+01	1.34e+01	
1,2,3,6,7,8-HXCDF		102	1.20	0.1	1.02e+01	1.02e+01	
1,2,3,7,8,9-HXCDF		2.40	1.20	0.1	2.40e-01	2.40e-01	
2,3,4,6,7,8-HXCDF		6.00	1.20	0.1	6.00e-01	6.00e-01	
1,2,3,4,6,7,8-HPCDF		122	1.20	0.01	1.22e+00	1.22e+00	
1,2,3,4,7,8,9-HPCDF		10.4	1.20	0.01	1.04e-01	1.04e-01	
OCDF		9.60	1.20	0.0003	2.88e-03	2.88e-03	
			TOTAL TEQ		96.2	96.2	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 19:03:16; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-47_TEQ_SJ635866_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB037 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-48
Matrix:	BLOOD	**Sample Size:**	34.3 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 **Time:** 03:09:56	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_048 S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_048 S: 2
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.112	0.0060	0.80	1.001
1,2,3,7,8-PECDD [3]		0.033	0.0060	0.69	1.001
1,2,3,4,7,8-HXCDD		0.020	0.0060	1.35	1.000
1,2,3,6,7,8-HXCDD		0.117	0.0060	1.30	1.000
1,2,3,7,8,9-HXCDD		0.031	0.0060	1.21	1.011
1,2,3,4,6,7,8-HPCDD		0.143	0.0060	1.06	1.000
OCDD		1.94	0.0060	0.90	1.000
2,3,7,8-TCDF	ND		0.0060		
1,2,3,7,8-PECDF	ND		0.0060		
2,3,4,7,8-PECDF		0.057	0.0060	1.54	1.001
1,2,3,4,7,8-HXCDF		0.123	0.0060	1.27	1.000
1,2,3,6,7,8-HXCDF		0.096	0.0060	1.30	1.000
1,2,3,7,8,9-HXCDF	ND		0.0060		
2,3,4,6,7,8-HXCDF	NDR	0.008	0.0060	1.47	1.000
1,2,3,4,6,7,8-HPCDF		0.154	0.0060	1.03	1.000
1,2,3,4,7,8,9-HPCDF		0.014	0.0060	0.97	1.000
OCDF	NDR	0.012	0.0060	1.11	1.002
TOTAL TETRA-DIOXINS		0.112	0.0060		
TOTAL PENTA-DIOXINS		0.033	0.0060		
TOTAL HEXA-DIOXINS		0.168	0.0060		
TOTAL HEPTA-DIOXINS		0.157	0.0060		
TOTAL TETRA-FURANS	ND		0.0060		
TOTAL PENTA-FURANS		0.057	0.0060		
TOTAL HEXA-FURANS		0.219	0.0060		
TOTAL HEPTA-FURANS		0.167	0.0060		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-48_Form1A_SJ635867.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
06VNB037 Composite
Sample Collection:
N/A

Form 2

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-48
Matrix:	BLOOD	**Sample Size:**	34.3 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 **Time:** 03:09:56	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_048 S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_048 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	757	75.7	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	908	90.8	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		1000	785	78.5	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	735	73.5	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	743	74.3	1.06	1.095
13C-OCDD		2000	1350	67.5	0.90	1.179
13C-2,3,7,8-TCDF		1000	707	70.7	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	799	79.9	1.59	1.284
13C-2,3,4,7,8-PECDF		1000	818	81.8	1.58	1.351
13C-1,2,3,4,7,8-HXCDF		1000	738	73.8	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	701	70.1	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	737	73.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	719	71.9	0.54	0.981
13C-1,2,3,4,6,7,8-HPCDF		1000	682	68.2	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	714	71.4	0.45	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-48_Form2_SJ635867.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB037 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	34.3 g (wet)	**Lab Sample I.D.:**	L9584-48
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_048 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.112	0.0060	1	1.12e-01	1.12e-01	
1,2,3,7,8-PECDD		0.033	0.0060	1	3.30e-02	3.30e-02	
1,2,3,4,7,8-HXCDD		0.020	0.0060	0.1	2.00e-03	2.00e-03	
1,2,3,6,7,8-HXCDD		0.117	0.0060	0.1	1.17e-02	1.17e-02	
1,2,3,7,8,9-HXCDD		0.031	0.0060	0.1	3.10e-03	3.10e-03	
1,2,3,4,6,7,8-HPCDD		0.143	0.0060	0.01	1.43e-03	1.43e-03	
OCDD		1.94	0.0060	0.0001	1.94e-04	1.94e-04	
2,3,7,8-TCDF	ND		0.0060	0.1	0.00e+00	3.00e-04	
1,2,3,7,8-PECDF	ND		0.0060	0.05	0.00e+00	1.50e-04	
2,3,4,7,8-PECDF		0.057	0.0060	0.5	2.85e-02	2.85e-02	
1,2,3,4,7,8-HXCDF		0.123	0.0060	0.1	1.23e-02	1.23e-02	
1,2,3,6,7,8-HXCDF		0.096	0.0060	0.1	9.60e-03	9.60e-03	
1,2,3,7,8,9-HXCDF	ND		0.0060	0.1	0.00e+00	3.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0060	0.1	0.00e+00	3.00e-04	
1,2,3,4,6,7,8-HPCDF		0.154	0.0060	0.01	1.54e-03	1.54e-03	
1,2,3,4,7,8,9-HPCDF		0.014	0.0060	0.01	1.40e-04	1.40e-04	
OCDF	ND		0.0060	0.0001	0.00e+00	3.00e-07	
			TOTAL TEQ		0.216	0.217	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.112	0.0060	1	1.12e-01	1.12e-01	
1,2,3,7,8-PECDD		0.033	0.0060	1	3.30e-02	3.30e-02	
1,2,3,4,7,8-HXCDD		0.020	0.0060	0.1	2.00e-03	2.00e-03	
1,2,3,6,7,8-HXCDD		0.117	0.0060	0.1	1.17e-02	1.17e-02	
1,2,3,7,8,9-HXCDD		0.031	0.0060	0.1	3.10e-03	3.10e-03	
1,2,3,4,6,7,8-HPCDD		0.143	0.0060	0.01	1.43e-03	1.43e-03	
OCDD		1.94	0.0060	0.0003	5.82e-04	5.82e-04	
2,3,7,8-TCDF	ND		0.0060	0.1	0.00e+00	3.00e-04	
1,2,3,7,8-PECDF	ND		0.0060	0.03	0.00e+00	9.00e-05	
2,3,4,7,8-PECDF		0.057	0.0060	0.3	1.71e-02	1.71e-02	
1,2,3,4,7,8-HXCDF		0.123	0.0060	0.1	1.23e-02	1.23e-02	
1,2,3,6,7,8-HXCDF		0.096	0.0060	0.1	9.60e-03	9.60e-03	
1,2,3,7,8,9-HXCDF	ND		0.0060	0.1	0.00e+00	3.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0060	0.1	0.00e+00	3.00e-04	
1,2,3,4,6,7,8-HPCDF		0.154	0.0060	0.01	1.54e-03	1.54e-03	
1,2,3,4,7,8,9-HPCDF		0.014	0.0060	0.01	1.40e-04	1.40e-04	
OCDF	ND		0.0060	0.0003	0.00e+00	9.00e-07	
			TOTAL TEQ		0.204	0.205	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-48_TEQ_SJ635867.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB037 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-48
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.0960 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 03:09:56	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_048 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_048 S: 2
		% Lipid *:	0.28

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		40.0	2.14	0.80	1.001
1,2,3,7,8-PECDD [3]		11.8	2.14	0.69	1.001
1,2,3,4,7,8-HXCDD		7.14	2.14	1.35	1.000
1,2,3,6,7,8-HXCDD		41.8	2.14	1.30	1.000
1,2,3,7,8,9-HXCDD		11.1	2.14	1.21	1.011
1,2,3,4,6,7,8-HPCDD		51.0	2.14	1.06	1.000
OCDD		692	2.14	0.90	1.000
2,3,7,8-TCDF	ND		2.14		
1,2,3,7,8-PECDF	ND		2.14		
2,3,4,7,8-PECDF		20.3	2.14	1.54	1.001
1,2,3,4,7,8-HXCDF		43.9	2.14	1.27	1.000
1,2,3,6,7,8-HXCDF		34.3	2.14	1.30	1.000
1,2,3,7,8,9-HXCDF	ND		2.14		
2,3,4,6,7,8-HXCDF	NDR	2.86	2.14	1.47	1.000
1,2,3,4,6,7,8-HPCDF		55.0	2.14	1.03	1.000
1,2,3,4,7,8,9-HPCDF		5.00	2.14	0.97	1.000
OCDF	NDR	4.28	2.14	1.11	1.002
TOTAL TETRA-DIOXINS		40.0	2.14		
TOTAL PENTA-DIOXINS		11.8	2.14		
TOTAL HEXA-DIOXINS		60.0	2.14		
TOTAL HEPTA-DIOXINS		56.0	2.14		
TOTAL TETRA-FURANS	ND		2.14		
TOTAL PENTA-FURANS		20.3	2.14		
TOTAL HEXA-FURANS		78.2	2.14		
TOTAL HEPTA-FURANS		59.6	2.14		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.
NOTE: * Estimated value based on lipid data from 763 Vietnamese Males

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 21-Mar-2007 08:33:46; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-48_Form1A_SJ635867_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB037 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.0960 g (lipid)	**Lab Sample I.D.:**	L9584-48
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_048 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		40.0	2.14	1	4.00e+01	4.00e+01	
1,2,3,7,8-PECDD		11.8	2.14	1	1.18e+01	1.18e+01	
1,2,3,4,7,8-HXCDD		7.14	2.14	0.1	7.14e-01	7.14e-01	
1,2,3,6,7,8-HXCDD		41.8	2.14	0.1	4.18e+00	4.18e+00	
1,2,3,7,8,9-HXCDD		11.1	2.14	0.1	1.11e+00	1.11e+00	
1,2,3,4,6,7,8-HPCDD		51.0	2.14	0.01	5.10e-01	5.10e-01	
OCDD		692	2.14	0.0001	6.92e-02	6.92e-02	
2,3,7,8-TCDF	ND		2.14	0.1	0.00e+00	1.07e-01	
1,2,3,7,8-PECDF	ND		2.14	0.05	0.00e+00	5.35e-02	
2,3,4,7,8-PECDF		20.3	2.14	0.5	1.02e+01	1.02e+01	
1,2,3,4,7,8-HXCDF		43.9	2.14	0.1	4.39e+00	4.39e+00	
1,2,3,6,7,8-HXCDF		34.3	2.14	0.1	3.43e+00	3.43e+00	
1,2,3,7,8,9-HXCDF	ND		2.14	0.1	0.00e+00	1.07e-01	
2,3,4,6,7,8-HXCDF	ND		2.14	0.1	0.00e+00	1.07e-01	
1,2,3,4,6,7,8-HPCDF		55.0	2.14	0.01	5.50e-01	5.50e-01	
1,2,3,4,7,8,9-HPCDF		5.00	2.14	0.01	5.00e-02	5.00e-02	
OCDF	ND		2.14	0.0001	0.00e+00	1.07e-04	
			TOTAL TEQ		77.0	77.3	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		40.0	2.14	1	4.00e+01	4.00e+01	
1,2,3,7,8-PECDD		11.8	2.14	1	1.18e+01	1.18e+01	
1,2,3,4,7,8-HXCDD		7.14	2.14	0.1	7.14e-01	7.14e-01	
1,2,3,6,7,8-HXCDD		41.8	2.14	0.1	4.18e+00	4.18e+00	
1,2,3,7,8,9-HXCDD		11.1	2.14	0.1	1.11e+00	1.11e+00	
1,2,3,4,6,7,8-HPCDD		51.0	2.14	0.01	5.10e-01	5.10e-01	
OCDD		692	2.14	0.0003	2.08e-01	2.08e-01	
2,3,7,8-TCDF	ND		2.14	0.1	0.00e+00	1.07e-01	
1,2,3,7,8-PECDF	ND		2.14	0.03	0.00e+00	3.21e-02	
2,3,4,7,8-PECDF		20.3	2.14	0.3	6.09e+00	6.09e+00	
1,2,3,4,7,8-HXCDF		43.9	2.14	0.1	4.39e+00	4.39e+00	
1,2,3,6,7,8-HXCDF		34.3	2.14	0.1	3.43e+00	3.43e+00	
1,2,3,7,8,9-HXCDF	ND		2.14	0.1	0.00e+00	1.07e-01	
2,3,4,6,7,8-HXCDF	ND		2.14	0.1	0.00e+00	1.07e-01	
1,2,3,4,6,7,8-HPCDF		55.0	2.14	0.01	5.50e-01	5.50e-01	
1,2,3,4,7,8,9-HPCDF		5.00	2.14	0.01	5.00e-02	5.00e-02	
OCDF	ND		2.14	0.0003	0.00e+00	3.21e-04	
			TOTAL TEQ		73.0	73.4	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

NOTE: * Estimated value based on lipid data from 763 Vietnamese Males

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 21-Mar-2007 08:39:57; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-48_TEQ_SJ635867_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB038 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-51
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	58.4 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 04:59:12	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_048 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_048 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.023	0.0030	0.76	1.001
1,2,3,7,8-PECDD [3]		0.035	0.0030	0.58	1.001
1,2,3,4,7,8-HXCDD		0.020	0.0030	1.35	1.000
1,2,3,6,7,8-HXCDD		0.098	0.0030	1.31	1.000
1,2,3,7,8,9-HXCDD		0.034	0.0030	1.14	1.011
1,2,3,4,6,7,8-HPCDD		0.197	0.0030	1.05	1.000
OCDD		1.41	0.0030	0.90	1.000
2,3,7,8-TCDF		0.004	0.0030	0.84	1.001
1,2,3,7,8-PECDF		0.008	0.0030	1.75	1.000
2,3,4,7,8-PECDF		0.052	0.0030	1.51	1.000
1,2,3,4,7,8-HXCDF		0.186	0.0030	1.30	1.000
1,2,3,6,7,8-HXCDF		0.139	0.0030	1.20	1.000
1,2,3,7,8,9-HXCDF	NDR	0.004	0.0030	1.56	1.000
2,3,4,6,7,8-HXCDF	NDR	0.010	0.0030	0.98	1.000
1,2,3,4,6,7,8-HPCDF		0.258	0.0030	1.04	1.000
1,2,3,4,7,8,9-HPCDF		0.025	0.0030	0.97	1.000
OCDF		0.014	0.0030	0.95	1.002
TOTAL TETRA-DIOXINS		0.023	0.0030		
TOTAL PENTA-DIOXINS		0.035	0.0030		
TOTAL HEXA-DIOXINS		0.156	0.0030		
TOTAL HEPTA-DIOXINS		0.212	0.0030		
TOTAL TETRA-FURANS		0.004	0.0030		
TOTAL PENTA-FURANS		0.060	0.0030		
TOTAL HEXA-FURANS		0.325	0.0030		
TOTAL HEPTA-FURANS		0.286	0.0030		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB038 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-51
Matrix:	BLOOD	**Sample Size:**	58.4 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 **Time:** 04:59:12	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_048 S: 11**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_048 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	553	55.3	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	718	71.8	0.63	1.381
13C-1,2,3,4,7,8-HXCDD		1000	599	59.9	1.32	0.987
13C-1,2,3,6,7,8-HXCDD		1000	561	56.1	1.19	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	589	58.9	1.06	1.095
13C-OCDD		2000	1070	53.6	0.90	1.179
13C-2,3,7,8-TCDF		1000	517	51.7	0.80	0.966
13C-1,2,3,7,8-PECDF		1000	601	60.1	1.57	1.284
13C-2,3,4,7,8-PECDF		1000	620	62.0	1.57	1.350
13C-1,2,3,4,7,8-HXCDF		1000	564	56.4	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	532	53.2	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	562	56.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	550	55.0	0.54	0.981
13C-1,2,3,4,6,7,8-HPCDF		1000	540	54.0	0.45	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	561	56.1	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-51_Form2_SJ635869.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB038 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-51
Sample Size:	58.4 g (wet)	**GC Column ID:**	DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filename:**	**DX72_048 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.023	0.0030	1	2.30e-02	2.30e-02	
1,2,3,7,8-PECDD		0.035	0.0030	1	3.50e-02	3.50e-02	
1,2,3,4,7,8-HXCDD		0.020	0.0030	0.1	2.00e-03	2.00e-03	
1,2,3,6,7,8-HXCDD		0.098	0.0030	0.1	9.80e-03	9.80e-03	
1,2,3,7,8,9-HXCDD		0.034	0.0030	0.1	3.40e-03	3.40e-03	
1,2,3,4,6,7,8-HPCDD		0.197	0.0030	0.01	1.97e-03	1.97e-03	
OCDD		1.41	0.0030	0.0001	1.41e-04	1.41e-04	
2,3,7,8-TCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
1,2,3,7,8-PECDF		0.008	0.0030	0.05	4.00e-04	4.00e-04	
2,3,4,7,8-PECDF		0.052	0.0030	0.5	2.60e-02	2.60e-02	
1,2,3,4,7,8-HXCDF		0.186	0.0030	0.1	1.86e-02	1.86e-02	
1,2,3,6,7,8-HXCDF		0.139	0.0030	0.1	1.39e-02	1.39e-02	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDF		0.258	0.0030	0.01	2.58e-03	2.58e-03	
1,2,3,4,7,8,9-HPCDF		0.025	0.0030	0.01	2.50e-04	2.50e-04	
OCDF		0.014	0.0030	0.0001	1.40e-06	1.40e-06	
			TOTAL TEQ		0.137	0.138	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.023	0.0030	1	2.30e-02	2.30e-02	
1,2,3,7,8-PECDD		0.035	0.0030	1	3.50e-02	3.50e-02	
1,2,3,4,7,8-HXCDD		0.020	0.0030	0.1	2.00e-03	2.00e-03	
1,2,3,6,7,8-HXCDD		0.098	0.0030	0.1	9.80e-03	9.80e-03	
1,2,3,7,8,9-HXCDD		0.034	0.0030	0.1	3.40e-03	3.40e-03	
1,2,3,4,6,7,8-HPCDD		0.197	0.0030	0.01	1.97e-03	1.97e-03	
OCDD		1.41	0.0030	0.0003	4.23e-04	4.23e-04	
2,3,7,8-TCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
1,2,3,7,8-PECDF		0.008	0.0030	0.03	2.40e-04	2.40e-04	
2,3,4,7,8-PECDF		0.052	0.0030	0.3	1.56e-02	1.56e-02	
1,2,3,4,7,8-HXCDF		0.186	0.0030	0.1	1.86e-02	1.86e-02	
1,2,3,6,7,8-HXCDF		0.139	0.0030	0.1	1.39e-02	1.39e-02	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDF		0.258	0.0030	0.01	2.58e-03	2.58e-03	
1,2,3,4,7,8,9-HPCDF		0.025	0.0030	0.01	2.50e-04	2.50e-04	
OCDF		0.014	0.0030	0.0003	4.20e-06	4.20e-06	
			TOTAL TEQ		0.127	0.127	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-51_TEQ_SJ635869.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB038 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-51
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.160 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 04:59:12	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_048 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_048 S: 2
		% Lipid:	0.27

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		8.40	1.10	0.76	1.001
1,2,3,7,8-PECDD [3]		12.8	1.10	0.58	1.001
1,2,3,4,7,8-HXCDD		7.30	1.10	1.35	1.000
1,2,3,6,7,8-HXCDD		35.8	1.10	1.31	1.000
1,2,3,7,8,9-HXCDD		12.4	1.10	1.14	1.011
1,2,3,4,6,7,8-HPCDD		71.9	1.10	1.05	1.000
OCDD		515	1.10	0.90	1.000
2,3,7,8-TCDF		1.46	1.10	0.84	1.001
1,2,3,7,8-PECDF		2.92	1.10	1.75	1.000
2,3,4,7,8-PECDF		19.0	1.10	1.51	1.000
1,2,3,4,7,8-HXCDF		67.9	1.10	1.30	1.000
1,2,3,6,7,8-HXCDF		50.7	1.10	1.20	1.000
1,2,3,7,8,9-HXCDF	NDR	1.46	1.10	1.56	1.000
2,3,4,6,7,8-HXCDF	NDR	3.65	1.10	0.98	1.000
1,2,3,4,6,7,8-HPCDF		94.2	1.10	1.04	1.000
1,2,3,4,7,8,9-HPCDF		9.13	1.10	0.97	1.000
OCDF		5.11	1.10	0.95	1.002
TOTAL TETRA-DIOXINS		8.40	1.10		
TOTAL PENTA-DIOXINS		12.8	1.10		
TOTAL HEXA-DIOXINS		56.9	1.10		
TOTAL HEPTA-DIOXINS		77.4	1.10		
TOTAL TETRA-FURANS		1.46	1.10		
TOTAL PENTA-FURANS		21.9	1.10		
TOTAL HEXA-FURANS		119	1.10		
TOTAL HEPTA-FURANS		104	1.10		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 27-Apr-2007 15:32:50; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-51_Form1A_DX72_048S11_SJ635869_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB038 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.160 g (lipid)	**Lab Sample I.D.:**	L9584-51
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_048 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		8.40	1.10	1	8.40e+00	8.40e+00	
1,2,3,7,8-PECDD		12.8	1.10	1	1.28e+01	1.28e+01	
1,2,3,4,7,8-HXCDD		7.30	1.10	0.1	7.30e-01	7.30e-01	
1,2,3,6,7,8-HXCDD		35.8	1.10	0.1	3.58e+00	3.58e+00	
1,2,3,7,8,9-HXCDD		12.4	1.10	0.1	1.24e+00	1.24e+00	
1,2,3,4,6,7,8-HPCDD		71.9	1.10	0.01	7.19e-01	7.19e-01	
OCDD		515	1.10	0.0001	5.15e-02	5.15e-02	
2,3,7,8-TCDF		1.46	1.10	0.1	1.46e-01	1.46e-01	
1,2,3,7,8-PECDF		2.92	1.10	0.05	1.46e-01	1.46e-01	
2,3,4,7,8-PECDF		19.0	1.10	0.5	9.50e+00	9.50e+00	
1,2,3,4,7,8-HXCDF		67.9	1.10	0.1	6.79e+00	6.79e+00	
1,2,3,6,7,8-HXCDF		50.7	1.10	0.1	5.07e+00	5.07e+00	
1,2,3,7,8,9-HXCDF	ND		1.10	0.1	0.00e+00	5.50e-02	
2,3,4,6,7,8-HXCDF	ND		1.10	0.1	0.00e+00	5.50e-02	
1,2,3,4,6,7,8-HPCDF		94.2	1.10	0.01	9.42e-01	9.42e-01	
1,2,3,4,7,8,9-HPCDF		9.13	1.10	0.01	9.13e-02	9.13e-02	
OCDF		5.11	1.10	0.0001	5.11e-04	5.11e-04	
			TOTAL TEQ		50.2	50.3	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		8.40	1.10	1	8.40e+00	8.40e+00	
1,2,3,7,8-PECDD		12.8	1.10	1	1.28e+01	1.28e+01	
1,2,3,4,7,8-HXCDD		7.30	1.10	0.1	7.30e-01	7.30e-01	
1,2,3,6,7,8-HXCDD		35.8	1.10	0.1	3.58e+00	3.58e+00	
1,2,3,7,8,9-HXCDD		12.4	1.10	0.1	1.24e+00	1.24e+00	
1,2,3,4,6,7,8-HPCDD		71.9	1.10	0.01	7.19e-01	7.19e-01	
OCDD		515	1.10	0.0003	1.55e-01	1.55e-01	
2,3,7,8-TCDF		1.46	1.10	0.1	1.46e-01	1.46e-01	
1,2,3,7,8-PECDF		2.92	1.10	0.03	8.76e-02	8.76e-02	
2,3,4,7,8-PECDF		19.0	1.10	0.3	5.70e+00	5.70e+00	
1,2,3,4,7,8-HXCDF		67.9	1.10	0.1	6.79e+00	6.79e+00	
1,2,3,6,7,8-HXCDF		50.7	1.10	0.1	5.07e+00	5.07e+00	
1,2,3,7,8,9-HXCDF	ND		1.10	0.1	0.00e+00	5.50e-02	
2,3,4,6,7,8-HXCDF	ND		1.10	0.1	0.00e+00	5.50e-02	
1,2,3,4,6,7,8-HPCDF		94.2	1.10	0.01	9.42e-01	9.42e-01	
1,2,3,4,7,8,9-HPCDF		9.13	1.10	0.01	9.13e-02	9.13e-02	
OCDF		5.11	1.10	0.0003	1.53e-03	1.53e-03	
			TOTAL TEQ		46.5	46.6	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 15:36:45; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-51_TEQ_SJ635869_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB039 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-52
Matrix:	BLOOD	**Sample Size:**	49.5 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 **Time:** 05:53:51	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_048 S: 12**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_048 S: 2
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.034	0.0040	0.80	1.001
1,2,3,7,8-PECDD [3]		0.033	0.0040	0.52	1.000
1,2,3,4,7,8-HXCDD		0.025	0.0040	1.19	1.000
1,2,3,6,7,8-HXCDD		0.108	0.0040	1.20	1.000
1,2,3,7,8,9-HXCDD		0.036	0.0040	1.26	1.011
1,2,3,4,6,7,8-HPCDD		0.202	0.0040	1.02	1.000
OCDD		1.33	0.0040	0.90	1.000
2,3,7,8-TCDF	NDR	0.004	0.0040	0.94	1.001
1,2,3,7,8-PECDF		0.012	0.0040	1.59	1.000
2,3,4,7,8-PECDF		0.062	0.0040	1.58	1.001
1,2,3,4,7,8-HXCDF		0.186	0.0040	1.23	1.000
1,2,3,6,7,8-HXCDF		0.128	0.0040	1.25	1.001
1,2,3,7,8,9-HXCDF		0.005	0.0040	1.31	1.000
2,3,4,6,7,8-HXCDF	NDR	0.011	0.0040	1.51	1.000
1,2,3,4,6,7,8-HPCDF		0.298	0.0040	1.03	1.000
1,2,3,4,7,8,9-HPCDF		0.025	0.0040	1.02	1.000
OCDF		0.022	0.0040	0.85	1.002
TOTAL TETRA-DIOXINS		0.034	0.0040		
TOTAL PENTA-DIOXINS		0.033	0.0040		
TOTAL HEXA-DIOXINS		0.169	0.0040		
TOTAL HEPTA-DIOXINS		0.224	0.0040		
TOTAL TETRA-FURANS	ND		0.0040		
TOTAL PENTA-FURANS		0.075	0.0040		
TOTAL HEXA-FURANS		0.319	0.0040		
TOTAL HEPTA-FURANS		0.329	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-52_Form1A_SJ635870.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB039 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283	**Contract No.:**	2607
Lab Sample I.D.:	L9584-52	**Matrix:**	BLOOD
Sample Size:	49.5 g (wet)	**Sample Receipt Date:**	22-Dec-2006
Initial Calibration Date:	25-Jan-2007	**Extraction Date:**	17-Jan-2007
Instrument ID:	HR GC/MS	**Analysis Date:**	01-Feb-2007 **Time:** 05:53:51
GC Column ID:	DB5	**Extract Volume (uL):**	10
Sample Data Filename:	**DX72_048 S: 12**	**Injection Volume (uL):**	2.0
Blank Data Filename:	DX72_045B S: 7	**Dilution Factor:**	N/A
Cal. Ver. Data Filename:	DX72_048 S: 2	**Concentration Units:**	pg absolute

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	780	78.0	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	934	93.4	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		1000	757	75.7	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	722	72.2	1.24	0.989
13C-1,2,3,4,6,7,8-HPCDD		1000	718	71.8	1.05	1.095
13C-OCDD		2000	1310	65.4	0.90	1.179
13C-2,3,7,8-TCDF		1000	728	72.8	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	831	83.1	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	830	83.0	1.58	1.351
13C-1,2,3,4,7,8-HXCDF		1000	716	71.6	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	686	68.6	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	720	72.0	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		1000	702	70.2	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	647	64.7	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	685	68.5	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29; Report Filename: 1613_DIOXINS_1613DB5_L9584-52_Form2_SJ635870.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB039 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-52
Sample Size:	49.5 g (wet)	**GC Column ID:**	DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filename:**	**DX72_048 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.034	0.0040	1	3.40e-02	3.40e-02	
1,2,3,7,8-PECDD		0.033	0.0040	1	3.30e-02	3.30e-02	
1,2,3,4,7,8-HXCDD		0.025	0.0040	0.1	2.50e-03	2.50e-03	
1,2,3,6,7,8-HXCDD		0.108	0.0040	0.1	1.08e-02	1.08e-02	
1,2,3,7,8,9-HXCDD		0.036	0.0040	0.1	3.60e-03	3.60e-03	
1,2,3,4,6,7,8-HPCDD		0.202	0.0040	0.01	2.02e-03	2.02e-03	
OCDD		1.33	0.0040	0.0001	1.33e-04	1.33e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF		0.012	0.0040	0.05	6.00e-04	6.00e-04	
2,3,4,7,8-PECDF		0.062	0.0040	0.5	3.10e-02	3.10e-02	
1,2,3,4,7,8-HXCDF		0.186	0.0040	0.1	1.86e-02	1.86e-02	
1,2,3,6,7,8-HXCDF		0.128	0.0040	0.1	1.28e-02	1.28e-02	
1,2,3,7,8,9-HXCDF		0.005	0.0040	0.1	5.00e-04	5.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDF		0.298	0.0040	0.01	2.98e-03	2.98e-03	
1,2,3,4,7,8,9-HPCDF		0.025	0.0040	0.01	2.50e-04	2.50e-04	
OCDF		0.022	0.0040	0.0001	2.20e-06	2.20e-06	
			TOTAL TEQ		0.153	0.153	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.034	0.0040	1	3.40e-02	3.40e-02	
1,2,3,7,8-PECDD		0.033	0.0040	1	3.30e-02	3.30e-02	
1,2,3,4,7,8-HXCDD		0.025	0.0040	0.1	2.50e-03	2.50e-03	
1,2,3,6,7,8-HXCDD		0.108	0.0040	0.1	1.08e-02	1.08e-02	
1,2,3,7,8,9-HXCDD		0.036	0.0040	0.1	3.60e-03	3.60e-03	
1,2,3,4,6,7,8-HPCDD		0.202	0.0040	0.01	2.02e-03	2.02e-03	
OCDD		1.33	0.0040	0.0003	3.99e-04	3.99e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF		0.012	0.0040	0.03	3.60e-04	3.60e-04	
2,3,4,7,8-PECDF		0.062	0.0040	0.3	1.86e-02	1.86e-02	
1,2,3,4,7,8-HXCDF		0.186	0.0040	0.1	1.86e-02	1.86e-02	
1,2,3,6,7,8-HXCDF		0.128	0.0040	0.1	1.28e-02	1.28e-02	
1,2,3,7,8,9-HXCDF		0.005	0.0040	0.1	5.00e-04	5.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDF		0.298	0.0040	0.01	2.98e-03	2.98e-03	
1,2,3,4,7,8,9-HPCDF		0.025	0.0040	0.01	2.50e-04	2.50e-04	
OCDF		0.022	0.0040	0.0003	6.60e-06	6.60e-06	
			TOTAL TEQ		0.140	0.141	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-52_TEQ_SJ635870.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB039 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-52
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.110 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 05:53:51	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_048 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_048 S: 2
		% Lipid:	0.23

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		15.3	1.80	0.80	1.001
1,2,3,7,8-PECDD [3]		14.9	1.80	0.52	1.000
1,2,3,4,7,8-HXCDD		11.3	1.80	1.19	1.000
1,2,3,6,7,8-HXCDD		48.6	1.80	1.20	1.000
1,2,3,7,8,9-HXCDD		16.2	1.80	1.26	1.011
1,2,3,4,6,7,8-HPCDD		91.0	1.80	1.02	1.000
OCDD		599	1.80	0.90	1.000
2,3,7,8-TCDF	NDR	1.80	1.80	0.94	1.001
1,2,3,7,8-PECDF		5.40	1.80	1.59	1.000
2,3,4,7,8-PECDF		27.9	1.80	1.58	1.001
1,2,3,4,7,8-HXCDF		83.8	1.80	1.23	1.000
1,2,3,6,7,8-HXCDF		57.6	1.80	1.25	1.001
1,2,3,7,8,9-HXCDF		2.25	1.80	1.31	1.000
2,3,4,6,7,8-HXCDF	NDR	4.95	1.80	1.51	1.000
1,2,3,4,6,7,8-HPCDF		134	1.80	1.03	1.000
1,2,3,4,7,8,9-HPCDF		11.3	1.80	1.02	1.000
OCDF		9.91	1.80	0.85	1.002
TOTAL TETRA-DIOXINS		15.3	1.80		
TOTAL PENTA-DIOXINS		14.9	1.80		
TOTAL HEXA-DIOXINS		76.1	1.80		
TOTAL HEPTA-DIOXINS		101	1.80		
TOTAL TETRA-FURANS	ND		1.80		
TOTAL PENTA-FURANS		33.8	1.80		
TOTAL HEXA-FURANS		144	1.80		
TOTAL HEPTA-FURANS		148	1.80		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9584-52_Form1A_DX72_048S12_SJ635870_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB039 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.110 g (lipid)	**Lab Sample I.D.:**	L9584-52
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	DX72_048 S: 12

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		15.3	1.80	1	1.53e+01	1.53e+01	
1,2,3,7,8-PECDD		14.9	1.80	1	1.49e+01	1.49e+01	
1,2,3,4,7,8-HXCDD		11.3	1.80	0.1	1.13e+00	1.13e+00	
1,2,3,6,7,8-HXCDD		48.6	1.80	0.1	4.86e+00	4.86e+00	
1,2,3,7,8,9-HXCDD		16.2	1.80	0.1	1.62e+00	1.62e+00	
1,2,3,4,6,7,8-HPCDD		91.0	1.80	0.01	9.10e-01	9.10e-01	
OCDD		599	1.80	0.0001	5.99e-02	5.99e-02	
2,3,7,8-TCDF	ND		1.80	0.1	0.00e+00	9.00e-02	
1,2,3,7,8-PECDF		5.40	1.80	0.05	2.70e-01	2.70e-01	
2,3,4,7,8-PECDF		27.9	1.80	0.5	1.40e+01	1.40e+01	
1,2,3,4,7,8-HXCDF		83.8	1.80	0.1	8.38e+00	8.38e+00	
1,2,3,6,7,8-HXCDF		57.6	1.80	0.1	5.76e+00	5.76e+00	
1,2,3,7,8,9-HXCDF		2.25	1.80	0.1	2.25e-01	2.25e-01	
2,3,4,6,7,8-HXCDF	ND		1.80	0.1	0.00e+00	9.00e-02	
1,2,3,4,6,7,8-HPCDF		134	1.80	0.01	1.34e+00	1.34e+00	
1,2,3,4,7,8,9-HPCDF		11.3	1.80	0.01	1.13e-01	1.13e-01	
OCDF		9.91	1.80	0.0001	9.91e-04	9.91e-04	
			TOTAL TEQ		68.8	69.0	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		15.3	1.80	1	1.53e+01	1.53e+01	
1,2,3,7,8-PECDD		14.9	1.80	1	1.49e+01	1.49e+01	
1,2,3,4,7,8-HXCDD		11.3	1.80	0.1	1.13e+00	1.13e+00	
1,2,3,6,7,8-HXCDD		48.6	1.80	0.1	4.86e+00	4.86e+00	
1,2,3,7,8,9-HXCDD		16.2	1.80	0.1	1.62e+00	1.62e+00	
1,2,3,4,6,7,8-HPCDD		91.0	1.80	0.01	9.10e-01	9.10e-01	
OCDD		599	1.80	0.0003	1.80e-01	1.80e-01	
2,3,7,8-TCDF	ND		1.80	0.1	0.00e+00	9.00e-02	
1,2,3,7,8-PECDF		5.40	1.80	0.03	1.62e-01	1.62e-01	
2,3,4,7,8-PECDF		27.9	1.80	0.3	8.37e+00	8.37e+00	
1,2,3,4,7,8-HXCDF		83.8	1.80	0.1	8.38e+00	8.38e+00	
1,2,3,6,7,8-HXCDF		57.6	1.80	0.1	5.76e+00	5.76e+00	
1,2,3,7,8,9-HXCDF		2.25	1.80	0.1	2.25e-01	2.25e-01	
2,3,4,6,7,8-HXCDF	ND		1.80	0.1	0.00e+00	9.00e-02	
1,2,3,4,6,7,8-HPCDF		134	1.80	0.01	1.34e+00	1.34e+00	
1,2,3,4,7,8,9-HPCDF		11.3	1.80	0.01	1.13e-01	1.13e-01	
OCDF		9.91	1.80	0.0003	2.97e-03	2.97e-03	
			TOTAL TEQ		63.3	63.4	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 15:36:45; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-52_TEQ_SJ635870_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB040 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-50
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.0 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 04:04:34	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_048 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_048 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.107	0.0030	0.80	1.001
1,2,3,7,8-PECDD [3]		0.061	0.0030	0.61	1.001
1,2,3,4,7,8-HXCDD		0.037	0.0030	1.27	1.000
1,2,3,6,7,8-HXCDD		0.184	0.0030	1.28	1.000
1,2,3,7,8,9-HXCDD		0.053	0.0030	1.26	1.011
1,2,3,4,6,7,8-HPCDD		0.248	0.0030	1.06	1.000
OCDD		1.94	0.0030	0.89	1.000
2,3,7,8-TCDF		0.004	0.0030	0.88	1.001
1,2,3,7,8-PECDF		0.013	0.0030	1.52	1.001
2,3,4,7,8-PECDF		0.108	0.0030	1.56	1.000
1,2,3,4,7,8-HXCDF		0.283	0.0030	1.24	1.000
1,2,3,6,7,8-HXCDF		0.234	0.0030	1.26	1.001
1,2,3,7,8,9-HXCDF	NDR	0.005	0.0030	1.63	1.000
2,3,4,6,7,8-HXCDF		0.011	0.0030	1.20	1.001
1,2,3,4,6,7,8-HPCDF		0.223	0.0030	1.02	1.000
1,2,3,4,7,8,9-HPCDF		0.019	0.0030	1.01	1.000
OCDF		0.017	0.0030	0.90	1.002
TOTAL TETRA-DIOXINS		0.107	0.0030		
TOTAL PENTA-DIOXINS		0.061	0.0030		
TOTAL HEXA-DIOXINS		0.273	0.0030		
TOTAL HEPTA-DIOXINS		0.269	0.0030		
TOTAL TETRA-FURANS		0.004	0.0030		
TOTAL PENTA-FURANS		0.126	0.0030		
TOTAL HEXA-FURANS		0.527	0.0030		
TOTAL HEPTA-FURANS		0.247	0.0030		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-50_Form1A_SJ635868.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB040 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-50
Matrix:	BLOOD	**Sample Size:**	60.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 **Time:** 04:04:34	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_048 S: 10**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_048 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	783	78.3	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	899	89.9	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		1000	733	73.3	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	707	70.7	1.24	0.989
13C-1,2,3,4,6,7,8-HPCDD		1000	711	71.1	1.05	1.095
13C-OCDD		2000	1370	68.5	0.91	1.179
13C-2,3,7,8-TCDF		1000	667	66.7	0.80	0.967
13C-1,2,3,7,8-PECDF		1000	772	77.2	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	781	78.1	1.59	1.351
13C-1,2,3,4,7,8-HXCDF		1000	684	68.4	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	657	65.7	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	688	68.8	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		1000	671	67.1	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	651	65.1	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	676	67.6	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-50_Form2_SJ635868.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB040 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.0 g (wet)	**Lab Sample I.D.:**	L9584-50
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_048 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.107	0.0030	1	1.07e-01	1.07e-01	
1,2,3,7,8-PECDD		0.061	0.0030	1	6.10e-02	6.10e-02	
1,2,3,4,7,8-HXCDD		0.037	0.0030	0.1	3.70e-03	3.70e-03	
1,2,3,6,7,8-HXCDD		0.184	0.0030	0.1	1.84e-02	1.84e-02	
1,2,3,7,8,9-HXCDD		0.053	0.0030	0.1	5.30e-03	5.30e-03	
1,2,3,4,6,7,8-HPCDD		0.248	0.0030	0.01	2.48e-03	2.48e-03	
OCDD		1.94	0.0030	0.0001	1.94e-04	1.94e-04	
2,3,7,8-TCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
1,2,3,7,8-PECDF		0.013	0.0030	0.05	6.50e-04	6.50e-04	
2,3,4,7,8-PECDF		0.108	0.0030	0.5	5.40e-02	5.40e-02	
1,2,3,4,7,8-HXCDF		0.283	0.0030	0.1	2.83e-02	2.83e-02	
1,2,3,6,7,8-HXCDF		0.234	0.0030	0.1	2.34e-02	2.34e-02	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF		0.011	0.0030	0.1	1.10e-03	1.10e-03	
1,2,3,4,6,7,8-HPCDF		0.223	0.0030	0.01	2.23e-03	2.23e-03	
1,2,3,4,7,8,9-HPCDF		0.019	0.0030	0.01	1.90e-04	1.90e-04	
OCDF		0.017	0.0030	0.0001	1.70e-06	1.70e-06	
			TOTAL TEQ		0.308	0.308	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.107	0.0030	1	1.07e-01	1.07e-01	
1,2,3,7,8-PECDD		0.061	0.0030	1	6.10e-02	6.10e-02	
1,2,3,4,7,8-HXCDD		0.037	0.0030	0.1	3.70e-03	3.70e-03	
1,2,3,6,7,8-HXCDD		0.184	0.0030	0.1	1.84e-02	1.84e-02	
1,2,3,7,8,9-HXCDD		0.053	0.0030	0.1	5.30e-03	5.30e-03	
1,2,3,4,6,7,8-HPCDD		0.248	0.0030	0.01	2.48e-03	2.48e-03	
OCDD		1.94	0.0030	0.0003	5.82e-04	5.82e-04	
2,3,7,8-TCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
1,2,3,7,8-PECDF		0.013	0.0030	0.03	3.90e-04	3.90e-04	
2,3,4,7,8-PECDF		0.108	0.0030	0.3	3.24e-02	3.24e-02	
1,2,3,4,7,8-HXCDF		0.283	0.0030	0.1	2.83e-02	2.83e-02	
1,2,3,6,7,8-HXCDF		0.234	0.0030	0.1	2.34e-02	2.34e-02	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF		0.011	0.0030	0.1	1.10e-03	1.10e-03	
1,2,3,4,6,7,8-HPCDF		0.223	0.0030	0.01	2.23e-03	2.23e-03	
1,2,3,4,7,8,9-HPCDF		0.019	0.0030	0.01	1.90e-04	1.90e-04	
OCDF		0.017	0.0030	0.0003	5.10e-06	5.10e-06	
			TOTAL TEQ		0.287	0.287	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-50_TEQ_SJ635868.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB040 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-50
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.150 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 04:04:34	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_048 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_048 S: 2
		% Lipid:	0.25

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		42.8	1.20	0.80	1.001
1,2,3,7,8-PECDD [3]		24.4	1.20	0.61	1.001
1,2,3,4,7,8-HXCDD		14.8	1.20	1.27	1.000
1,2,3,6,7,8-HXCDD		73.6	1.20	1.28	1.000
1,2,3,7,8,9-HXCDD		21.2	1.20	1.26	1.011
1,2,3,4,6,7,8-HPCDD		99.2	1.20	1.06	1.000
OCDD		776	1.20	0.89	1.000
2,3,7,8-TCDF		1.60	1.20	0.88	1.001
1,2,3,7,8-PECDF		5.20	1.20	1.52	1.001
2,3,4,7,8-PECDF		43.2	1.20	1.56	1.000
1,2,3,4,7,8-HXCDF		113	1.20	1.24	1.000
1,2,3,6,7,8-HXCDF		93.6	1.20	1.26	1.001
1,2,3,7,8,9-HXCDF	NDR	2.00	1.20	1.63	1.000
2,3,4,6,7,8-HXCDF		4.40	1.20	1.20	1.001
1,2,3,4,6,7,8-HPCDF		89.2	1.20	1.02	1.000
1,2,3,4,7,8,9-HPCDF		7.60	1.20	1.01	1.000
OCDF		6.80	1.20	0.90	1.002
TOTAL TETRA-DIOXINS		42.8	1.20		
TOTAL PENTA-DIOXINS		24.4	1.20		
TOTAL HEXA-DIOXINS		109	1.20		
TOTAL HEPTA-DIOXINS		108	1.20		
TOTAL TETRA-FURANS		1.60	1.20		
TOTAL PENTA-FURANS		50.4	1.20		
TOTAL HEXA-FURANS		211	1.20		
TOTAL HEPTA-FURANS		98.8	1.20		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9584-50_Form1A_SJ635868_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB040 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.150 g (lipid)	**Lab Sample I.D.:**	L9584-50
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_048 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		42.8	1.20	1	4.28e+01	4.28e+01	
1,2,3,7,8-PECDD		24.4	1.20	1	2.44e+01	2.44e+01	
1,2,3,4,7,8-HXCDD		14.8	1.20	0.1	1.48e+00	1.48e+00	
1,2,3,6,7,8-HXCDD		73.6	1.20	0.1	7.36e+00	7.36e+00	
1,2,3,7,8,9-HXCDD		21.2	1.20	0.1	2.12e+00	2.12e+00	
1,2,3,4,6,7,8-HPCDD		99.2	1.20	0.01	9.92e-01	9.92e-01	
OCDD		776	1.20	0.0001	7.76e-02	7.76e-02	
2,3,7,8-TCDF		1.60	1.20	0.1	1.60e-01	1.60e-01	
1,2,3,7,8-PECDF		5.20	1.20	0.05	2.60e-01	2.60e-01	
2,3,4,7,8-PECDF		43.2	1.20	0.5	2.16e+01	2.16e+01	
1,2,3,4,7,8-HXCDF		113	1.20	0.1	1.13e+01	1.13e+01	
1,2,3,6,7,8-HXCDF		93.6	1.20	0.1	9.36e+00	9.36e+00	
1,2,3,7,8,9-HXCDF	ND		1.20	0.1	0.00e+00	6.00e-02	
2,3,4,6,7,8-HXCDF		4.40	1.20	0.1	4.40e-01	4.40e-01	
1,2,3,4,6,7,8-HPCDF		89.2	1.20	0.01	8.92e-01	8.92e-01	
1,2,3,4,7,8,9-HPCDF		7.60	1.20	0.01	7.60e-02	7.60e-02	
OCDF		6.80	1.20	0.0001	6.80e-04	6.80e-04	
			TOTAL TEQ		123	123	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		42.8	1.20	1	4.28e+01	4.28e+01	
1,2,3,7,8-PECDD		24.4	1.20	1	2.44e+01	2.44e+01	
1,2,3,4,7,8-HXCDD		14.8	1.20	0.1	1.48e+00	1.48e+00	
1,2,3,6,7,8-HXCDD		73.6	1.20	0.1	7.36e+00	7.36e+00	
1,2,3,7,8,9-HXCDD		21.2	1.20	0.1	2.12e+00	2.12e+00	
1,2,3,4,6,7,8-HPCDD		99.2	1.20	0.01	9.92e-01	9.92e-01	
OCDD		776	1.20	0.0003	2.33e-01	2.33e-01	
2,3,7,8-TCDF		1.60	1.20	0.1	1.60e-01	1.60e-01	
1,2,3,7,8-PECDF		5.20	1.20	0.03	1.56e-01	1.56e-01	
2,3,4,7,8-PECDF		43.2	1.20	0.3	1.30e+01	1.30e+01	
1,2,3,4,7,8-HXCDF		113	1.20	0.1	1.13e+01	1.13e+01	
1,2,3,6,7,8-HXCDF		93.6	1.20	0.1	9.36e+00	9.36e+00	
1,2,3,7,8,9-HXCDF	ND		1.20	0.1	0.00e+00	6.00e-02	
2,3,4,6,7,8-HXCDF		4.40	1.20	0.1	4.40e-01	4.40e-01	
1,2,3,4,6,7,8-HPCDF		89.2	1.20	0.01	8.92e-01	8.92e-01	
1,2,3,4,7,8,9-HPCDF		7.60	1.20	0.01	7.60e-02	7.60e-02	
OCDF		6.80	1.20	0.0003	2.04e-03	2.04e-03	
			TOTAL TEQ		115	115	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 19:03:16; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-50_TEQ_SJ635868_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB041 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-19
Matrix:	BLOOD	**Sample Size:**	20.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	10-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Jan-2007 **Time:** 17:45:03	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_030 S: 12**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_030 S: 8
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_030 S: 2
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.033	0.0100	0.72	1.001
1,2,3,7,8-PECDD [3]		0.060	0.0100	0.69	1.000
1,2,3,4,7,8-HXCDD		0.031	0.0100	1.12	1.000
1,2,3,6,7,8-HXCDD		0.185	0.0100	1.26	1.000
1,2,3,7,8,9-HXCDD	NDR	0.043	0.0100	1.50	1.010
1,2,3,4,6,7,8-HPCDD		0.143	0.0100	1.06	1.000
OCDD		1.45	0.0100	0.86	1.001
2,3,7,8-TCDF	ND		0.0100		
1,2,3,7,8-PECDF	ND		0.0100		
2,3,4,7,8-PECDF		0.089	0.0100	1.54	1.000
1,2,3,4,7,8-HXCDF		0.254	0.0100	1.27	1.000
1,2,3,6,7,8-HXCDF		0.189	0.0100	1.28	1.000
1,2,3,7,8,9-HXCDF	ND		0.0100		
2,3,4,6,7,8-HXCDF	ND		0.0100		
1,2,3,4,6,7,8-HPCDF		0.258	0.0100	1.08	1.000
1,2,3,4,7,8,9-HPCDF		0.016	0.0100	1.11	1.000
OCDF		0.023	0.0100	0.99	1.002
TOTAL TETRA-DIOXINS		0.033	0.0100		
TOTAL PENTA-DIOXINS		0.060	0.0100		
TOTAL HEXA-DIOXINS		0.216	0.0100		
TOTAL HEPTA-DIOXINS		0.168	0.0100		
TOTAL TETRA-FURANS	ND		0.0100		
TOTAL PENTA-FURANS		0.089	0.0100		
TOTAL HEXA-FURANS		0.442	0.0100		
TOTAL HEPTA-FURANS		0.274	0.0100		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB041 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-19
Matrix:	BLOOD	**Sample Size:**	20.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	10-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Jan-2007 **Time:** 17:45:03	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_030 S: 12**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_030 S: 8
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_030 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	794	79.4	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	1070	107	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	739	73.9	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	742	74.2	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	777	77.7	1.06	1.095
13C-OCDD		2000	1340	67.2	0.89	1.179
13C-2,3,7,8-TCDF		1000	752	75.2	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	926	92.6	1.58	1.283
13C-2,3,4,7,8-PECDF		1000	938	93.8	1.57	1.351
13C-1,2,3,4,7,8-HXCDF		1000	744	74.4	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	740	74.0	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	804	80.4	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	749	74.9	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	786	78.6	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	824	82.4	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 06-Feb-2007 11:31:10; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-19_Form2_SJ631332.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB041 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	20.1 g (wet)	**Lab Sample I.D.:**	L9584-19
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_030 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.033	0.0100	1	3.30e-02	3.30e-02	
1,2,3,7,8-PECDD		0.060	0.0100	1	6.00e-02	6.00e-02	
1,2,3,4,7,8-HXCDD		0.031	0.0100	0.1	3.10e-03	3.10e-03	
1,2,3,6,7,8-HXCDD		0.185	0.0100	0.1	1.85e-02	1.85e-02	
1,2,3,7,8,9-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDD		0.143	0.0100	0.01	1.43e-03	1.43e-03	
OCDD		1.45	0.0100	0.0001	1.45e-04	1.45e-04	
2,3,7,8-TCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8-PECDF	ND		0.0100	0.05	0.00e+00	2.50e-04	
2,3,4,7,8-PECDF		0.089	0.0100	0.5	4.45e-02	4.45e-02	
1,2,3,4,7,8-HXCDF		0.254	0.0100	0.1	2.54e-02	2.54e-02	
1,2,3,6,7,8-HXCDF		0.189	0.0100	0.1	1.89e-02	1.89e-02	
1,2,3,7,8,9-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDF		0.258	0.0100	0.01	2.58e-03	2.58e-03	
1,2,3,4,7,8,9-HPCDF		0.016	0.0100	0.01	1.60e-04	1.60e-04	
OCDF		0.023	0.0100	0.0001	2.30e-06	2.30e-06	
			TOTAL TEQ		0.208	0.210	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.033	0.0100	1	3.30e-02	3.30e-02	
1,2,3,7,8-PECDD		0.060	0.0100	1	6.00e-02	6.00e-02	
1,2,3,4,7,8-HXCDD		0.031	0.0100	0.1	3.10e-03	3.10e-03	
1,2,3,6,7,8-HXCDD		0.185	0.0100	0.1	1.85e-02	1.85e-02	
1,2,3,7,8,9-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDD		0.143	0.0100	0.01	1.43e-03	1.43e-03	
OCDD		1.45	0.0100	0.0003	4.35e-04	4.35e-04	
2,3,7,8-TCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8-PECDF	ND		0.0100	0.03	0.00e+00	1.50e-04	
2,3,4,7,8-PECDF		0.089	0.0100	0.3	2.67e-02	2.67e-02	
1,2,3,4,7,8-HXCDF		0.254	0.0100	0.1	2.54e-02	2.54e-02	
1,2,3,6,7,8-HXCDF		0.189	0.0100	0.1	1.89e-02	1.89e-02	
1,2,3,7,8,9-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDF		0.258	0.0100	0.01	2.58e-03	2.58e-03	
1,2,3,4,7,8,9-HPCDF		0.016	0.0100	0.01	1.60e-04	1.60e-04	
OCDF		0.023	0.0100	0.0003	6.90e-06	6.90e-06	
			TOTAL TEQ		0.190	0.192	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 06-Feb-2007 11:32:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-19_TEQ_SJ631332.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB041 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-19
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.0400 g (lipid)
Extraction Date:	10-Jan-2007	**Initial Calibration Date:**	13-Jan-2007
Analysis Date:	20-Jan-2007 **Time:** 17:45:03	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_030 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_030 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_030 S: 2
		% Lipid:	0.20

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		16.6	5.04	0.72	1.001
1,2,3,7,8-PECDD [3]		30.2	5.04	0.69	1.000
1,2,3,4,7,8-HXCDD		15.6	5.04	1.12	1.000
1,2,3,6,7,8-HXCDD		93.1	5.04	1.26	1.000
1,2,3,7,8,9-HXCDD	NDR	21.7	5.04	1.50	1.010
1,2,3,4,6,7,8-HPCDD		72.0	5.04	1.06	1.000
OCDD		730	5.04	0.86	1.001
2,3,7,8-TCDF	ND		5.04		
1,2,3,7,8-PECDF	ND		5.04		
2,3,4,7,8-PECDF		44.8	5.04	1.54	1.000
1,2,3,4,7,8-HXCDF		128	5.04	1.27	1.000
1,2,3,6,7,8-HXCDF		95.2	5.04	1.28	1.000
1,2,3,7,8,9-HXCDF	ND		5.04		
2,3,4,6,7,8-HXCDF	ND		5.04		
1,2,3,4,6,7,8-HPCDF		130	5.04	1.08	1.000
1,2,3,4,7,8,9-HPCDF		8.06	5.04	1.11	1.000
OCDF		11.6	5.04	0.99	1.002
TOTAL TETRA-DIOXINS		16.6	5.04		
TOTAL PENTA-DIOXINS		30.2	5.04		
TOTAL HEXA-DIOXINS		109	5.04		
TOTAL HEPTA-DIOXINS		84.6	5.04		
TOTAL TETRA-FURANS	ND		5.04		
TOTAL PENTA-FURANS		44.8	5.04		
TOTAL HEXA-FURANS		223	5.04		
TOTAL HEPTA-FURANS		138	5.04		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB041 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.0400 g (lipid)	**Lab Sample I.D.:**	L9584-19
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_030 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		16.6	5.04	1	1.66e+01	1.66e+01	
1,2,3,7,8-PECDD		30.2	5.04	1	3.02e+01	3.02e+01	
1,2,3,4,7,8-HXCDD		15.6	5.04	0.1	1.56e+00	1.56e+00	
1,2,3,6,7,8-HXCDD		93.1	5.04	0.1	9.31e+00	9.31e+00	
1,2,3,7,8,9-HXCDD	ND		5.04	0.1	0.00e+00	2.52e-01	
1,2,3,4,6,7,8-HPCDD		72.0	5.04	0.01	7.20e-01	7.20e-01	
OCDD		730	5.04	0.0001	7.30e-02	7.30e-02	
2,3,7,8-TCDF	ND		5.04	0.1	0.00e+00	2.52e-01	
1,2,3,7,8-PECDF	ND		5.04	0.05	0.00e+00	1.26e-01	
2,3,4,7,8-PECDF		44.8	5.04	0.5	2.24e+01	2.24e+01	
1,2,3,4,7,8-HXCDF		128	5.04	0.1	1.28e+01	1.28e+01	
1,2,3,6,7,8-HXCDF		95.2	5.04	0.1	9.52e+00	9.52e+00	
1,2,3,7,8,9-HXCDF	ND		5.04	0.1	0.00e+00	2.52e-01	
2,3,4,6,7,8-HXCDF	ND		5.04	0.1	0.00e+00	2.52e-01	
1,2,3,4,6,7,8-HPCDF		130	5.04	0.01	1.30e+00	1.30e+00	
1,2,3,4,7,8,9-HPCDF		8.06	5.04	0.01	8.06e-02	8.06e-02	
OCDF		11.6	5.04	0.0001	1.16e-03	1.16e-03	
			TOTAL TEQ		105	106	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		16.6	5.04	1	1.66e+01	1.66e+01	
1,2,3,7,8-PECDD		30.2	5.04	1	3.02e+01	3.02e+01	
1,2,3,4,7,8-HXCDD		15.6	5.04	0.1	1.56e+00	1.56e+00	
1,2,3,6,7,8-HXCDD		93.1	5.04	0.1	9.31e+00	9.31e+00	
1,2,3,7,8,9-HXCDD	ND		5.04	0.1	0.00e+00	2.52e-01	
1,2,3,4,6,7,8-HPCDD		72.0	5.04	0.01	7.20e-01	7.20e-01	
OCDD		730	5.04	0.0003	2.19e-01	2.19e-01	
2,3,7,8-TCDF	ND		5.04	0.1	0.00e+00	2.52e-01	
1,2,3,7,8-PECDF	ND		5.04	0.03	0.00e+00	7.56e-02	
2,3,4,7,8-PECDF		44.8	5.04	0.3	1.34e+01	1.34e+01	
1,2,3,4,7,8-HXCDF		128	5.04	0.1	1.28e+01	1.28e+01	
1,2,3,6,7,8-HXCDF		95.2	5.04	0.1	9.52e+00	9.52e+00	
1,2,3,7,8,9-HXCDF	ND		5.04	0.1	0.00e+00	2.52e-01	
2,3,4,6,7,8-HXCDF	ND		5.04	0.1	0.00e+00	2.52e-01	
1,2,3,4,6,7,8-HPCDF		130	5.04	0.01	1.30e+00	1.30e+00	
1,2,3,4,7,8,9-HPCDF		8.06	5.04	0.01	8.06e-02	8.06e-02	
OCDF		11.6	5.04	0.0003	3.48e-03	3.48e-03	
			TOTAL TEQ		95.8	96.8	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 17:16:31; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-19_TEQ_SJ631332_lipid.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB042 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283	**Contract No.:**	2607
Lab Sample I.D.:	L9584-6 Ri	**Matrix:**	BLOOD
Sample Size:	43.3 g (wet)	**Sample Receipt Date:**	22-Dec-2006
Initial Calibration Date:	25-Jan-2007	**Extraction Date:**	17-Jan-2007
Instrument ID:	HR GC/MS	**Analysis Date:**	30-Jan-2007 **Time:** 15:47:17
GC Column ID:	DB5	**Extract Volume (uL):**	20
Sample Data Filename:	**DX72_045B S: 10**	**Injection Volume (uL):**	2.0
Blank Data Filename:	DX72_045B S: 7	**Dilution Factor:**	N/A
Cal. Ver. Data Filename:	DX72_045B S: 2	**Concentration Units:**	pg/g (wet weight basis)

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.021	0.0050	0.82	1.001
1,2,3,7,8-PECDD [3]		0.035	0.0050	0.68	1.000
1,2,3,4,7,8-HXCDD		0.030	0.0050	1.34	1.000
1,2,3,6,7,8-HXCDD		0.110	0.0050	1.33	1.000
1,2,3,7,8,9-HXCDD		0.033	0.0050	1.24	1.010
1,2,3,4,6,7,8-HPCDD		0.273	0.0050	1.07	1.000
OCDD		1.83	0.0050	0.89	1.000
2,3,7,8-TCDF		0.006	0.0050	0.81	1.002
1,2,3,7,8-PECDF		0.008	0.0050	1.63	1.000
2,3,4,7,8-PECDF		0.066	0.0050	1.53	1.000
1,2,3,4,7,8-HXCDF		0.191	0.0050	1.27	1.000
1,2,3,6,7,8-HXCDF		0.139	0.0050	1.22	1.001
1,2,3,7,8,9-HXCDF	ND		0.0050		
2,3,4,6,7,8-HXCDF		0.013	0.0050	1.28	1.001
1,2,3,4,6,7,8-HPCDF		0.274	0.0050	1.02	1.000
1,2,3,4,7,8,9-HPCDF		0.023	0.0050	1.01	1.000
OCDF		0.030	0.0050	0.94	1.002
TOTAL TETRA-DIOXINS		0.033	0.0050		
TOTAL PENTA-DIOXINS		0.035	0.0050		
TOTAL HEXA-DIOXINS		0.180	0.0050		
TOTAL HEPTA-DIOXINS		0.325	0.0050		
TOTAL TETRA-FURANS		0.006	0.0050		
TOTAL PENTA-FURANS		0.075	0.0050		
TOTAL HEXA-FURANS		0.360	0.0050		
TOTAL HEPTA-FURANS		0.323	0.0050		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB042 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-6 Ri
Matrix:	BLOOD	**Sample Size:**	43.3 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	30-Jan-2007 **Time:** 15:47:17	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_045B S: 10**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_045B S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	711	71.1	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	809	80.9	0.63	1.384
13C-1,2,3,4,7,8-HXCDD		1000	648	64.8	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		1000	625	62.5	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	633	63.3	1.06	1.095
13C-OCDD		2000	1070	53.7	0.90	1.179
13C-2,3,7,8-TCDF		1000	623	62.3	0.80	0.966
13C-1,2,3,7,8-PECDF		1000	766	76.6	1.59	1.283
13C-2,3,4,7,8-PECDF		1000	721	72.1	1.60	1.353
13C-1,2,3,4,7,8-HXCDF		1000	668	66.8	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	635	63.5	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	682	68.2	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		1000	655	65.5	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	607	60.7	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	627	62.7	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-6_Form2_SJ636316.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB042 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-6 Ri
Sample Size:	43.3 g (wet)	**GC Column ID:**	DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filename:**	**DX72_045B S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.021	0.0050	1	2.10e-02	2.10e-02	
1,2,3,7,8-PECDD		0.035	0.0050	1	3.50e-02	3.50e-02	
1,2,3,4,7,8-HXCDD		0.030	0.0050	0.1	3.00e-03	3.00e-03	
1,2,3,6,7,8-HXCDD		0.110	0.0050	0.1	1.10e-02	1.10e-02	
1,2,3,7,8,9-HXCDD		0.033	0.0050	0.1	3.30e-03	3.30e-03	
1,2,3,4,6,7,8-HPCDD		0.273	0.0050	0.01	2.73e-03	2.73e-03	
OCDD		1.83	0.0050	0.0001	1.83e-04	1.83e-04	
2,3,7,8-TCDF		0.006	0.0050	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF		0.008	0.0050	0.05	4.00e-04	4.00e-04	
2,3,4,7,8-PECDF		0.066	0.0050	0.5	3.30e-02	3.30e-02	
1,2,3,4,7,8-HXCDF		0.191	0.0050	0.1	1.91e-02	1.91e-02	
1,2,3,6,7,8-HXCDF		0.139	0.0050	0.1	1.39e-02	1.39e-02	
1,2,3,7,8,9-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
2,3,4,6,7,8-HXCDF		0.013	0.0050	0.1	1.30e-03	1.30e-03	
1,2,3,4,6,7,8-HPCDF		0.274	0.0050	0.01	2.74e-03	2.74e-03	
1,2,3,4,7,8,9-HPCDF		0.023	0.0050	0.01	2.30e-04	2.30e-04	
OCDF		0.030	0.0050	0.0001	3.00e-06	3.00e-06	
			TOTAL TEQ		0.147	0.148	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.021	0.0050	1	2.10e-02	2.10e-02	
1,2,3,7,8-PECDD		0.035	0.0050	1	3.50e-02	3.50e-02	
1,2,3,4,7,8-HXCDD		0.030	0.0050	0.1	3.00e-03	3.00e-03	
1,2,3,6,7,8-HXCDD		0.110	0.0050	0.1	1.10e-02	1.10e-02	
1,2,3,7,8,9-HXCDD		0.033	0.0050	0.1	3.30e-03	3.30e-03	
1,2,3,4,6,7,8-HPCDD		0.273	0.0050	0.01	2.73e-03	2.73e-03	
OCDD		1.83	0.0050	0.0003	5.49e-04	5.49e-04	
2,3,7,8-TCDF		0.006	0.0050	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF		0.008	0.0050	0.03	2.40e-04	2.40e-04	
2,3,4,7,8-PECDF		0.066	0.0050	0.3	1.98e-02	1.98e-02	
1,2,3,4,7,8-HXCDF		0.191	0.0050	0.1	1.91e-02	1.91e-02	
1,2,3,6,7,8-HXCDF		0.139	0.0050	0.1	1.39e-02	1.39e-02	
1,2,3,7,8,9-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
2,3,4,6,7,8-HXCDF		0.013	0.0050	0.1	1.30e-03	1.30e-03	
1,2,3,4,6,7,8-HPCDF		0.274	0.0050	0.01	2.74e-03	2.74e-03	
1,2,3,4,7,8,9-HPCDF		0.023	0.0050	0.01	2.30e-04	2.30e-04	
OCDF		0.030	0.0050	0.0003	9.00e-06	9.00e-06	
			TOTAL TEQ		0.134	0.135	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-6_TEQ_SJ636316.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB042 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-6 Ri
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.130 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	30-Jan-2007 **Time:** 15:47:17	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_045B S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_045B S: 2
		% Lipid *:	0.31

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		6.99	1.66	0.82	1.001
1,2,3,7,8-PECDD [3]		11.7	1.66	0.68	1.000
1,2,3,4,7,8-HXCDD		9.99	1.66	1.34	1.000
1,2,3,6,7,8-HXCDD		36.6	1.66	1.33	1.000
1,2,3,7,8,9-HXCDD		11.0	1.66	1.24	1.010
1,2,3,4,6,7,8-HPCDD		90.9	1.66	1.07	1.000
OCDD		609	1.66	0.89	1.000
2,3,7,8-TCDF		2.00	1.66	0.81	1.002
1,2,3,7,8-PECDF		2.66	1.66	1.63	1.000
2,3,4,7,8-PECDF		22.0	1.66	1.53	1.000
1,2,3,4,7,8-HXCDF		63.6	1.66	1.27	1.000
1,2,3,6,7,8-HXCDF		46.3	1.66	1.22	1.001
1,2,3,7,8,9-HXCDF	ND		1.66		
2,3,4,6,7,8-HXCDF		4.33	1.66	1.28	1.001
1,2,3,4,6,7,8-HPCDF		91.2	1.66	1.02	1.000
1,2,3,4,7,8,9-HPCDF		7.66	1.66	1.01	1.000
OCDF		9.99	1.66	0.94	1.002
TOTAL TETRA-DIOXINS		11.0	1.66		
TOTAL PENTA-DIOXINS		11.7	1.66		
TOTAL HEXA-DIOXINS		59.9	1.66		
TOTAL HEPTA-DIOXINS		108	1.66		
TOTAL TETRA-FURANS		2.00	1.66		
TOTAL PENTA-FURANS		25.0	1.66		
TOTAL HEXA-FURANS		120	1.66		
TOTAL HEPTA-FURANS		108	1.66		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.
NOTE: * Estimated value based on lipid data from 647 Vietnamese Females

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 21-Mar-2007 08:33:46; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-6_Form1A_SJ636316_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB042 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.130 g (lipid)	**Lab Sample I.D.:**	L9584-6 Ri
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_045B S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.99	1.66	1	6.99e+00	6.99e+00	
1,2,3,7,8-PECDD		11.7	1.66	1	1.17e+01	1.17e+01	
1,2,3,4,7,8-HXCDD		9.99	1.66	0.1	9.99e-01	9.99e-01	
1,2,3,6,7,8-HXCDD		36.6	1.66	0.1	3.66e+00	3.66e+00	
1,2,3,7,8,9-HXCDD		11.0	1.66	0.1	1.10e+00	1.10e+00	
1,2,3,4,6,7,8-HPCDD		90.9	1.66	0.01	9.09e-01	9.09e-01	
OCDD		609	1.66	0.0001	6.09e-02	6.09e-02	
2,3,7,8-TCDF		2.00	1.66	0.1	2.00e-01	2.00e-01	
1,2,3,7,8-PECDF		2.66	1.66	0.05	1.33e-01	1.33e-01	
2,3,4,7,8-PECDF		22.0	1.66	0.5	1.10e+01	1.10e+01	
1,2,3,4,7,8-HXCDF		63.6	1.66	0.1	6.36e+00	6.36e+00	
1,2,3,6,7,8-HXCDF		46.3	1.66	0.1	4.63e+00	4.63e+00	
1,2,3,7,8,9-HXCDF	ND		1.66	0.1	0.00e+00	8.30e-02	
2,3,4,6,7,8-HXCDF		4.33	1.66	0.1	4.33e-01	4.33e-01	
1,2,3,4,6,7,8-HPCDF		91.2	1.66	0.01	9.12e-01	9.12e-01	
1,2,3,4,7,8,9-HPCDF		7.66	1.66	0.01	7.66e-02	7.66e-02	
OCDF		9.99	1.66	0.0001	9.99e-04	9.99e-04	
			TOTAL TEQ		49.2	49.2	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.99	1.66	1	6.99e+00	6.99e+00	
1,2,3,7,8-PECDD		11.7	1.66	1	1.17e+01	1.17e+01	
1,2,3,4,7,8-HXCDD		9.99	1.66	0.1	9.99e-01	9.99e-01	
1,2,3,6,7,8-HXCDD		36.6	1.66	0.1	3.66e+00	3.66e+00	
1,2,3,7,8,9-HXCDD		11.0	1.66	0.1	1.10e+00	1.10e+00	
1,2,3,4,6,7,8-HPCDD		90.9	1.66	0.01	9.09e-01	9.09e-01	
OCDD		609	1.66	0.0003	1.83e-01	1.83e-01	
2,3,7,8-TCDF		2.00	1.66	0.1	2.00e-01	2.00e-01	
1,2,3,7,8-PECDF		2.66	1.66	0.03	7.98e-02	7.98e-02	
2,3,4,7,8-PECDF		22.0	1.66	0.3	6.60e+00	6.60e+00	
1,2,3,4,7,8-HXCDF		63.6	1.66	0.1	6.36e+00	6.36e+00	
1,2,3,6,7,8-HXCDF		46.3	1.66	0.1	4.63e+00	4.63e+00	
1,2,3,7,8,9-HXCDF	ND		1.66	0.1	0.00e+00	8.30e-02	
2,3,4,6,7,8-HXCDF		4.33	1.66	0.1	4.33e-01	4.33e-01	
1,2,3,4,6,7,8-HPCDF		91.2	1.66	0.01	9.12e-01	9.12e-01	
1,2,3,4,7,8,9-HPCDF		7.66	1.66	0.01	7.66e-02	7.66e-02	
OCDF		9.99	1.66	0.0003	3.00e-03	3.00e-03	
			TOTAL TEQ		44.8	44.9	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

NOTE: * Estimated value based on lipid data from 647 Vietnamese Females

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 21-Mar-2007 08:39:57; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613-TEQ_L9584-6_TEQ_SJ636316_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB043 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-27
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	55.0 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 **Time:** 05:58:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_043 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.044	0.0040	0.77	1.001
1,2,3,7,8-PECDD [3]		0.045	0.0040	0.66	1.000
1,2,3,4,7,8-HXCDD		0.038	0.0040	1.37	1.000
1,2,3,6,7,8-HXCDD		0.169	0.0040	1.30	1.000
1,2,3,7,8,9-HXCDD		0.065	0.0040	1.17	1.010
1,2,3,4,6,7,8-HPCDD		0.313	0.0040	1.06	1.000
OCDD		2.42	0.0040	0.90	1.000
2,3,7,8-TCDF		0.005	0.0040	0.81	1.001
1,2,3,7,8-PECDF		0.018	0.0040	1.51	1.000
2,3,4,7,8-PECDF		0.081	0.0040	1.52	1.001
1,2,3,4,7,8-HXCDF		0.326	0.0040	1.23	1.001
1,2,3,6,7,8-HXCDF		0.293	0.0040	1.23	1.000
1,2,3,7,8,9-HXCDF	NDR	0.010	0.0040	1.50	1.001
2,3,4,6,7,8-HXCDF		0.020	0.0040	1.20	1.000
1,2,3,4,6,7,8-HPCDF		0.359	0.0040	1.06	1.000
1,2,3,4,7,8,9-HPCDF		0.032	0.0040	1.01	1.000
OCDF		0.011	0.0040	0.94	1.002
TOTAL TETRA-DIOXINS		0.044	0.0040		
TOTAL PENTA-DIOXINS		0.045	0.0040		
TOTAL HEXA-DIOXINS		0.272	0.0040		
TOTAL HEPTA-DIOXINS		0.323	0.0040		
TOTAL TETRA-FURANS		0.005	0.0040		
TOTAL PENTA-FURANS		0.099	0.0040		
TOTAL HEXA-FURANS		0.639	0.0040		
TOTAL HEPTA-FURANS		0.391	0.0040		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB043 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-27
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	55.0 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 **Time:** 05:58:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_043 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	724	72.4	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	863	86.3	0.64	1.383
13C-1,2,3,4,7,8-HXCDD		1000	766	76.6	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		1000	721	72.1	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	709	70.9	1.05	1.094
13C-OCDD		2000	1230	61.3	0.90	1.179
13C-2,3,7,8-TCDF		1000	712	71.2	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	817	81.7	1.59	1.284
13C-2,3,4,7,8-PECDF		1000	803	80.3	1.60	1.352
13C-1,2,3,4,7,8-HXCDF		1000	732	73.2	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	680	68.0	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	730	73.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	713	71.3	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	664	66.4	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	696	69.6	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-27_Form2_SJ638388.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB043 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	55.0 g (wet)	**Lab Sample I.D.:**	L9584-27
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_043 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.044	0.0040	1	4.40e-02	4.40e-02	
1,2,3,7,8-PECDD		0.045	0.0040	1	4.50e-02	4.50e-02	
1,2,3,4,7,8-HXCDD		0.038	0.0040	0.1	3.80e-03	3.80e-03	
1,2,3,6,7,8-HXCDD		0.169	0.0040	0.1	1.69e-02	1.69e-02	
1,2,3,7,8,9-HXCDD		0.065	0.0040	0.1	6.50e-03	6.50e-03	
1,2,3,4,6,7,8-HPCDD		0.313	0.0040	0.01	3.13e-03	3.13e-03	
OCDD		2.42	0.0040	0.0001	2.42e-04	2.42e-04	
2,3,7,8-TCDF		0.005	0.0040	0.1	5.00e-04	5.00e-04	
1,2,3,7,8-PECDF		0.018	0.0040	0.05	9.00e-04	9.00e-04	
2,3,4,7,8-PECDF		0.081	0.0040	0.5	4.05e-02	4.05e-02	
1,2,3,4,7,8-HXCDF		0.326	0.0040	0.1	3.26e-02	3.26e-02	
1,2,3,6,7,8-HXCDF		0.293	0.0040	0.1	2.93e-02	2.93e-02	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.020	0.0040	0.1	2.00e-03	2.00e-03	
1,2,3,4,6,7,8-HPCDF		0.359	0.0040	0.01	3.59e-03	3.59e-03	
1,2,3,4,7,8,9-HPCDF		0.032	0.0040	0.01	3.20e-04	3.20e-04	
OCDF		0.011	0.0040	0.0001	1.10e-06	1.10e-06	
			TOTAL TEQ		0.229	0.229	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.044	0.0040	1	4.40e-02	4.40e-02	
1,2,3,7,8-PECDD		0.045	0.0040	1	4.50e-02	4.50e-02	
1,2,3,4,7,8-HXCDD		0.038	0.0040	0.1	3.80e-03	3.80e-03	
1,2,3,6,7,8-HXCDD		0.169	0.0040	0.1	1.69e-02	1.69e-02	
1,2,3,7,8,9-HXCDD		0.065	0.0040	0.1	6.50e-03	6.50e-03	
1,2,3,4,6,7,8-HPCDD		0.313	0.0040	0.01	3.13e-03	3.13e-03	
OCDD		2.42	0.0040	0.0003	7.26e-04	7.26e-04	
2,3,7,8-TCDF		0.005	0.0040	0.1	5.00e-04	5.00e-04	
1,2,3,7,8-PECDF		0.018	0.0040	0.03	5.40e-04	5.40e-04	
2,3,4,7,8-PECDF		0.081	0.0040	0.3	2.43e-02	2.43e-02	
1,2,3,4,7,8-HXCDF		0.326	0.0040	0.1	3.26e-02	3.26e-02	
1,2,3,6,7,8-HXCDF		0.293	0.0040	0.1	2.93e-02	2.93e-02	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.020	0.0040	0.1	2.00e-03	2.00e-03	
1,2,3,4,6,7,8-HPCDF		0.359	0.0040	0.01	3.59e-03	3.59e-03	
1,2,3,4,7,8,9-HPCDF		0.032	0.0040	0.01	3.20e-04	3.20e-04	
OCDF		0.011	0.0040	0.0003	3.30e-06	3.30e-06	
			TOTAL TEQ		0.213	0.213	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-27_TEQ_SJ638388.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB043 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-27
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.160 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 **Time:** 05:58:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_043 S: 2
		% Lipid:	0.29

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		15.1	1.37	0.77	1.001
1,2,3,7,8-PECDD [3]		15.5	1.37	0.66	1.000
1,2,3,4,7,8-HXCDD		13.1	1.37	1.37	1.000
1,2,3,6,7,8-HXCDD		58.0	1.37	1.30	1.000
1,2,3,7,8,9-HXCDD		22.3	1.37	1.17	1.010
1,2,3,4,6,7,8-HPCDD		107	1.37	1.06	1.000
OCDD		831	1.37	0.90	1.000
2,3,7,8-TCDF		1.72	1.37	0.81	1.001
1,2,3,7,8-PECDF		6.18	1.37	1.51	1.000
2,3,4,7,8-PECDF		27.8	1.37	1.52	1.001
1,2,3,4,7,8-HXCDF		112	1.37	1.23	1.001
1,2,3,6,7,8-HXCDF		101	1.37	1.23	1.000
1,2,3,7,8,9-HXCDF	NDR	3.43	1.37	1.50	1.001
2,3,4,6,7,8-HXCDF		6.87	1.37	1.20	1.000
1,2,3,4,6,7,8-HPCDF		123	1.37	1.06	1.000
1,2,3,4,7,8,9-HPCDF		11.0	1.37	1.01	1.000
OCDF		3.78	1.37	0.94	1.002
TOTAL TETRA-DIOXINS		15.1	1.37		
TOTAL PENTA-DIOXINS		15.5	1.37		
TOTAL HEXA-DIOXINS		93.4	1.37		
TOTAL HEPTA-DIOXINS		111	1.37		
TOTAL TETRA-FURANS		1.72	1.37		
TOTAL PENTA-FURANS		34.0	1.37		
TOTAL HEXA-FURANS		219	1.37		
TOTAL HEPTA-FURANS		134	1.37		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB043 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.160 g (lipid)	**Lab Sample I.D.:**	L9584-27
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_043 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		15.1	1.37	1	1.51e+01	1.51e+01	
1,2,3,7,8-PECDD		15.5	1.37	1	1.55e+01	1.55e+01	
1,2,3,4,7,8-HXCDD		13.1	1.37	0.1	1.31e+00	1.31e+00	
1,2,3,6,7,8-HXCDD		58.0	1.37	0.1	5.80e+00	5.80e+00	
1,2,3,7,8,9-HXCDD		22.3	1.37	0.1	2.23e+00	2.23e+00	
1,2,3,4,6,7,8-HPCDD		107	1.37	0.01	1.07e+00	1.07e+00	
OCDD		831	1.37	0.0001	8.31e-02	8.31e-02	
2,3,7,8-TCDF		1.72	1.37	0.1	1.72e-01	1.72e-01	
1,2,3,7,8-PECDF		6.18	1.37	0.05	3.09e-01	3.09e-01	
2,3,4,7,8-PECDF		27.8	1.37	0.5	1.39e+01	1.39e+01	
1,2,3,4,7,8-HXCDF		112	1.37	0.1	1.12e+01	1.12e+01	
1,2,3,6,7,8-HXCDF		101	1.37	0.1	1.01e+01	1.01e+01	
1,2,3,7,8,9-HXCDF	ND		1.37	0.1	0.00e+00	6.85e-02	
2,3,4,6,7,8-HXCDF		6.87	1.37	0.1	6.87e-01	6.87e-01	
1,2,3,4,6,7,8-HPCDF		123	1.37	0.01	1.23e+00	1.23e+00	
1,2,3,4,7,8,9-HPCDF		11.0	1.37	0.01	1.10e-01	1.10e-01	
OCDF		3.78	1.37	0.0001	3.78e-04	3.78e-04	
			TOTAL TEQ		78.8	78.9	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		15.1	1.37	1	1.51e+01	1.51e+01	
1,2,3,7,8-PECDD		15.5	1.37	1	1.55e+01	1.55e+01	
1,2,3,4,7,8-HXCDD		13.1	1.37	0.1	1.31e+00	1.31e+00	
1,2,3,6,7,8-HXCDD		58.0	1.37	0.1	5.80e+00	5.80e+00	
1,2,3,7,8,9-HXCDD		22.3	1.37	0.1	2.23e+00	2.23e+00	
1,2,3,4,6,7,8-HPCDD		107	1.37	0.01	1.07e+00	1.07e+00	
OCDD		831	1.37	0.0003	2.49e-01	2.49e-01	
2,3,7,8-TCDF		1.72	1.37	0.1	1.72e-01	1.72e-01	
1,2,3,7,8-PECDF		6.18	1.37	0.03	1.85e-01	1.85e-01	
2,3,4,7,8-PECDF		27.8	1.37	0.3	8.34e+00	8.34e+00	
1,2,3,4,7,8-HXCDF		112	1.37	0.1	1.12e+01	1.12e+01	
1,2,3,6,7,8-HXCDF		101	1.37	0.1	1.01e+01	1.01e+01	
1,2,3,7,8,9-HXCDF	ND		1.37	0.1	0.00e+00	6.85e-02	
2,3,4,6,7,8-HXCDF		6.87	1.37	0.1	6.87e-01	6.87e-01	
1,2,3,4,6,7,8-HPCDF		123	1.37	0.01	1.23e+00	1.23e+00	
1,2,3,4,7,8,9-HPCDF		11.0	1.37	0.01	1.10e-01	1.10e-01	
OCDF		3.78	1.37	0.0003	1.13e-03	1.13e-03	
			TOTAL TEQ		73.3	73.4	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB044 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-42
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.0 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 **Time:** 16:42:39	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_047 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_047 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.019	0.0030	0.74	1.002
1,2,3,7,8-PECDD [3]		0.034	0.0030	0.67	1.000
1,2,3,4,7,8-HXCDD		0.026	0.0030	1.16	1.000
1,2,3,6,7,8-HXCDD		0.120	0.0030	1.20	1.000
1,2,3,7,8,9-HXCDD		0.042	0.0030	1.26	1.011
1,2,3,4,6,7,8-HPCDD		0.319	0.0030	1.08	1.000
OCDD		1.77	0.0030	0.90	1.000
2,3,7,8-TCDF		0.006	0.0030	0.73	1.001
1,2,3,7,8-PECDF		0.018	0.0030	1.60	1.000
2,3,4,7,8-PECDF		0.067	0.0030	1.51	1.000
1,2,3,4,7,8-HXCDF		0.244	0.0030	1.25	1.000
1,2,3,6,7,8-HXCDF		0.210	0.0030	1.26	1.000
1,2,3,7,8,9-HXCDF		0.009	0.0030	1.41	1.000
2,3,4,6,7,8-HXCDF		0.018	0.0030	1.36	1.000
1,2,3,4,6,7,8-HPCDF		0.400	0.0030	1.04	1.000
1,2,3,4,7,8,9-HPCDF		0.053	0.0030	0.96	1.000
OCDF		0.016	0.0030	0.92	1.002
TOTAL TETRA-DIOXINS		0.019	0.0030		
TOTAL PENTA-DIOXINS		0.034	0.0030		
TOTAL HEXA-DIOXINS		0.188	0.0030		
TOTAL HEPTA-DIOXINS		0.337	0.0030		
TOTAL TETRA-FURANS		0.006	0.0030		
TOTAL PENTA-FURANS		0.089	0.0030		
TOTAL HEXA-FURANS		0.486	0.0030		
TOTAL HEPTA-FURANS		0.458	0.0030		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB044 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-42
Matrix:	BLOOD	**Sample Size:**	60.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	31-Jan-2007 **Time:** 16:42:39	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_047 S: 11**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_047 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	853	85.3	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	991	99.1	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		1000	802	80.2	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	738	73.8	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	771	77.1	1.06	1.095
13C-OCDD		2000	1390	69.7	0.90	1.179
13C-2,3,7,8-TCDF		1000	680	68.0	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	877	87.7	1.59	1.284
13C-2,3,4,7,8-PECDF		1000	872	87.2	1.59	1.351
13C-1,2,3,4,7,8-HXCDF		1000	772	77.2	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	714	71.4	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	778	77.8	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	748	74.8	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	708	70.8	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	750	75.0	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-42_Form2_SJ631344.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB044 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-42
Sample Size:	60.0 g (wet)	**GC Column ID:**	DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filename:**	**DX72_047 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.019	0.0030	1	1.90e-02	1.90e-02	
1,2,3,7,8-PECDD		0.034	0.0030	1	3.40e-02	3.40e-02	
1,2,3,4,7,8-HXCDD		0.026	0.0030	0.1	2.60e-03	2.60e-03	
1,2,3,6,7,8-HXCDD		0.120	0.0030	0.1	1.20e-02	1.20e-02	
1,2,3,7,8,9-HXCDD		0.042	0.0030	0.1	4.20e-03	4.20e-03	
1,2,3,4,6,7,8-HPCDD		0.319	0.0030	0.01	3.19e-03	3.19e-03	
OCDD		1.77	0.0030	0.0001	1.77e-04	1.77e-04	
2,3,7,8-TCDF		0.006	0.0030	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF		0.018	0.0030	0.05	9.00e-04	9.00e-04	
2,3,4,7,8-PECDF		0.067	0.0030	0.5	3.35e-02	3.35e-02	
1,2,3,4,7,8-HXCDF		0.244	0.0030	0.1	2.44e-02	2.44e-02	
1,2,3,6,7,8-HXCDF		0.210	0.0030	0.1	2.10e-02	2.10e-02	
1,2,3,7,8,9-HXCDF		0.009	0.0030	0.1	9.00e-04	9.00e-04	
2,3,4,6,7,8-HXCDF		0.018	0.0030	0.1	1.80e-03	1.80e-03	
1,2,3,4,6,7,8-HPCDF		0.400	0.0030	0.01	4.00e-03	4.00e-03	
1,2,3,4,7,8,9-HPCDF		0.053	0.0030	0.01	5.30e-04	5.30e-04	
OCDF		0.016	0.0030	0.0001	1.60e-06	1.60e-06	
			TOTAL TEQ		0.163	0.163	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.019	0.0030	1	1.90e-02	1.90e-02	
1,2,3,7,8-PECDD		0.034	0.0030	1	3.40e-02	3.40e-02	
1,2,3,4,7,8-HXCDD		0.026	0.0030	0.1	2.60e-03	2.60e-03	
1,2,3,6,7,8-HXCDD		0.120	0.0030	0.1	1.20e-02	1.20e-02	
1,2,3,7,8,9-HXCDD		0.042	0.0030	0.1	4.20e-03	4.20e-03	
1,2,3,4,6,7,8-HPCDD		0.319	0.0030	0.01	3.19e-03	3.19e-03	
OCDD		1.77	0.0030	0.0003	5.31e-04	5.31e-04	
2,3,7,8-TCDF		0.006	0.0030	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF		0.018	0.0030	0.03	5.40e-04	5.40e-04	
2,3,4,7,8-PECDF		0.067	0.0030	0.3	2.01e-02	2.01e-02	
1,2,3,4,7,8-HXCDF		0.244	0.0030	0.1	2.44e-02	2.44e-02	
1,2,3,6,7,8-HXCDF		0.210	0.0030	0.1	2.10e-02	2.10e-02	
1,2,3,7,8,9-HXCDF		0.009	0.0030	0.1	9.00e-04	9.00e-04	
2,3,4,6,7,8-HXCDF		0.018	0.0030	0.1	1.80e-03	1.80e-03	
1,2,3,4,6,7,8-HPCDF		0.400	0.0030	0.01	4.00e-03	4.00e-03	
1,2,3,4,7,8,9-HPCDF		0.053	0.0030	0.01	5.30e-04	5.30e-04	
OCDF		0.016	0.0030	0.0003	4.80e-06	4.80e-06	
			TOTAL TEQ		0.149	0.149	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-42_TEQ_SJ631344.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB044 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-42
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.160 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 **Time:** 16:42:39	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_047 S:** 11
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_047 S: 2
		% Lipid:	0.27

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		7.13	1.13	0.74	1.002
1,2,3,7,8-PECDD [3]		12.8	1.13	0.67	1.000
1,2,3,4,7,8-HXCDD		9.75	1.13	1.16	1.000
1,2,3,6,7,8-HXCDD		45.0	1.13	1.20	1.000
1,2,3,7,8,9-HXCDD		15.8	1.13	1.26	1.011
1,2,3,4,6,7,8-HPCDD		120	1.13	1.08	1.000
OCDD		664	1.13	0.90	1.000
2,3,7,8-TCDF		2.25	1.13	0.73	1.001
1,2,3,7,8-PECDF		6.75	1.13	1.60	1.000
2,3,4,7,8-PECDF		25.1	1.13	1.51	1.000
1,2,3,4,7,8-HXCDF		91.5	1.13	1.25	1.000
1,2,3,6,7,8-HXCDF		78.8	1.13	1.26	1.000
1,2,3,7,8,9-HXCDF		3.38	1.13	1.41	1.000
2,3,4,6,7,8-HXCDF		6.75	1.13	1.36	1.000
1,2,3,4,6,7,8-HPCDF		150	1.13	1.04	1.000
1,2,3,4,7,8,9-HPCDF		19.9	1.13	0.96	1.000
OCDF		6.00	1.13	0.92	1.002
TOTAL TETRA-DIOXINS		7.13	1.13		
TOTAL PENTA-DIOXINS		12.8	1.13		
TOTAL HEXA-DIOXINS		70.5	1.13		
TOTAL HEPTA-DIOXINS		126	1.13		
TOTAL TETRA-FURANS		2.25	1.13		
TOTAL PENTA-FURANS		33.4	1.13		
TOTAL HEXA-FURANS		182	1.13		
TOTAL HEPTA-FURANS		172	1.13		

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 08:55:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-42_Form1A_SJ631344_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB044 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.160 g (lipid)	**Lab Sample I.D.:**	L9584-42
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	DX72_047 S: 11

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		7.13	1.13	1	7.13e+00	7.13e+00	
1,2,3,7,8-PECDD		12.8	1.13	1	1.28e+01	1.28e+01	
1,2,3,4,7,8-HXCDD		9.75	1.13	0.1	9.75e-01	9.75e-01	
1,2,3,6,7,8-HXCDD		45.0	1.13	0.1	4.50e+00	4.50e+00	
1,2,3,7,8,9-HXCDD		15.8	1.13	0.1	1.58e+00	1.58e+00	
1,2,3,4,6,7,8-HPCDD		120	1.13	0.01	1.20e+00	1.20e+00	
OCDD		664	1.13	0.0001	6.64e-02	6.64e-02	
2,3,7,8-TCDF		2.25	1.13	0.1	2.25e-01	2.25e-01	
1,2,3,7,8-PECDF		6.75	1.13	0.05	3.38e-01	3.38e-01	
2,3,4,7,8-PECDF		25.1	1.13	0.5	1.26e+01	1.26e+01	
1,2,3,4,7,8-HXCDF		91.5	1.13	0.1	9.15e+00	9.15e+00	
1,2,3,6,7,8-HXCDF		78.8	1.13	0.1	7.88e+00	7.88e+00	
1,2,3,7,8,9-HXCDF		3.38	1.13	0.1	3.38e-01	3.38e-01	
2,3,4,6,7,8-HXCDF		6.75	1.13	0.1	6.75e-01	6.75e-01	
1,2,3,4,6,7,8-HPCDF		150	1.13	0.01	1.50e+00	1.50e+00	
1,2,3,4,7,8,9-HPCDF		19.9	1.13	0.01	1.99e-01	1.99e-01	
OCDF		6.00	1.13	0.0001	6.00e-04	6.00e-04	
			TOTAL TEQ		61.1	61.1	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		7.13	1.13	1	7.13e+00	7.13e+00	
1,2,3,7,8-PECDD		12.8	1.13	1	1.28e+01	1.28e+01	
1,2,3,4,7,8-HXCDD		9.75	1.13	0.1	9.75e-01	9.75e-01	
1,2,3,6,7,8-HXCDD		45.0	1.13	0.1	4.50e+00	4.50e+00	
1,2,3,7,8,9-HXCDD		15.8	1.13	0.1	1.58e+00	1.58e+00	
1,2,3,4,6,7,8-HPCDD		120	1.13	0.01	1.20e+00	1.20e+00	
OCDD		664	1.13	0.0003	1.99e-01	1.99e-01	
2,3,7,8-TCDF		2.25	1.13	0.1	2.25e-01	2.25e-01	
1,2,3,7,8-PECDF		6.75	1.13	0.03	2.03e-01	2.03e-01	
2,3,4,7,8-PECDF		25.1	1.13	0.3	7.53e+00	7.53e+00	
1,2,3,4,7,8-HXCDF		91.5	1.13	0.1	9.15e+00	9.15e+00	
1,2,3,6,7,8-HXCDF		78.8	1.13	0.1	7.88e+00	7.88e+00	
1,2,3,7,8,9-HXCDF		3.38	1.13	0.1	3.38e-01	3.38e-01	
2,3,4,6,7,8-HXCDF		6.75	1.13	0.1	6.75e-01	6.75e-01	
1,2,3,4,6,7,8-HPCDF		150	1.13	0.01	1.50e+00	1.50e+00	
1,2,3,4,7,8,9-HPCDF		19.9	1.13	0.01	1.99e-01	1.99e-01	
OCDF		6.00	1.13	0.0003	1.80e-03	1.80e-03	
			TOTAL TEQ		56.1	56.1	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 19:03:16; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-42_TEQ_SJ631344_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB045 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-44
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.1 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 15:57:17	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.010	0.0030	0.81	1.001
1,2,3,7,8-PECDD [3]		0.019	0.0030	0.67	1.000
1,2,3,4,7,8-HXCDD		0.014	0.0030	1.33	1.000
1,2,3,6,7,8-HXCDD		0.061	0.0030	1.29	1.001
1,2,3,7,8,9-HXCDD		0.023	0.0030	1.18	1.010
1,2,3,4,6,7,8-HPCDD		0.150	0.0030	1.11	1.000
OCDD		0.952	0.0030	0.90	1.000
2,3,7,8-TCDF	ND		0.0030		
1,2,3,7,8-PECDF		0.008	0.0030	1.73	1.001
2,3,4,7,8-PECDF		0.036	0.0030	1.57	1.001
1,2,3,4,7,8-HXCDF		0.135	0.0030	1.23	1.001
1,2,3,6,7,8-HXCDF		0.107	0.0030	1.23	1.000
1,2,3,7,8,9-HXCDF		0.004	0.0030	1.20	1.000
2,3,4,6,7,8-HXCDF		0.012	0.0030	1.14	1.000
1,2,3,4,6,7,8-HPCDF		0.292	0.0030	1.08	1.000
1,2,3,4,7,8,9-HPCDF		0.039	0.0030	1.12	1.000
OCDF		0.013	0.0030	0.84	1.002
TOTAL TETRA-DIOXINS		0.010	0.0030		
TOTAL PENTA-DIOXINS		0.019	0.0030		
TOTAL HEXA-DIOXINS		0.097	0.0030		
TOTAL HEPTA-DIOXINS		0.159	0.0030		
TOTAL TETRA-FURANS	ND		0.0030		
TOTAL PENTA-FURANS		0.044	0.0030		
TOTAL HEXA-FURANS		0.258	0.0030		
TOTAL HEPTA-FURANS		0.331	0.0030		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-44_Form1A_SJ637817.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB045 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-44
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.1 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 15:57:17	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_044 S: 3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	726	72.6	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	881	88.1	0.64	1.383
13C-1,2,3,4,7,8-HXCDD		1000	765	76.5	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	702	70.2	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	737	73.7	1.06	1.094
13C-OCDD		2000	1450	72.6	0.90	1.178
13C-2,3,7,8-TCDF		1000	680	68.0	0.78	0.967
13C-1,2,3,7,8-PECDF		1000	802	80.2	1.59	1.283
13C-2,3,4,7,8-PECDF		1000	821	82.1	1.58	1.352
13C-1,2,3,4,7,8-HXCDF		1000	731	73.1	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	666	66.6	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	723	72.3	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	708	70.8	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	672	67.2	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	697	69.7	0.47	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-44_Form2_SJ637817.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB045 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.1 g (wet)	**Lab Sample I.D.:**	L9584-44
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_044 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.010	0.0030	1	1.00e-02	1.00e-02	
1,2,3,7,8-PECDD		0.019	0.0030	1	1.90e-02	1.90e-02	
1,2,3,4,7,8-HXCDD		0.014	0.0030	0.1	1.40e-03	1.40e-03	
1,2,3,6,7,8-HXCDD		0.061	0.0030	0.1	6.10e-03	6.10e-03	
1,2,3,7,8,9-HXCDD		0.023	0.0030	0.1	2.30e-03	2.30e-03	
1,2,3,4,6,7,8-HPCDD		0.150	0.0030	0.01	1.50e-03	1.50e-03	
OCDD		0.952	0.0030	0.0001	9.52e-05	9.52e-05	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF		0.008	0.0030	0.05	4.00e-04	4.00e-04	
2,3,4,7,8-PECDF		0.036	0.0030	0.5	1.80e-02	1.80e-02	
1,2,3,4,7,8-HXCDF		0.135	0.0030	0.1	1.35e-02	1.35e-02	
1,2,3,6,7,8-HXCDF		0.107	0.0030	0.1	1.07e-02	1.07e-02	
1,2,3,7,8,9-HXCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
2,3,4,6,7,8-HXCDF		0.012	0.0030	0.1	1.20e-03	1.20e-03	
1,2,3,4,6,7,8-HPCDF		0.292	0.0030	0.01	2.92e-03	2.92e-03	
1,2,3,4,7,8,9-HPCDF		0.039	0.0030	0.01	3.90e-04	3.90e-04	
OCDF		0.013	0.0030	0.0001	1.30e-06	1.30e-06	
			TOTAL TEQ		0.0879	0.0881	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.010	0.0030	1	1.00e-02	1.00e-02	
1,2,3,7,8-PECDD		0.019	0.0030	1	1.90e-02	1.90e-02	
1,2,3,4,7,8-HXCDD		0.014	0.0030	0.1	1.40e-03	1.40e-03	
1,2,3,6,7,8-HXCDD		0.061	0.0030	0.1	6.10e-03	6.10e-03	
1,2,3,7,8,9-HXCDD		0.023	0.0030	0.1	2.30e-03	2.30e-03	
1,2,3,4,6,7,8-HPCDD		0.150	0.0030	0.01	1.50e-03	1.50e-03	
OCDD		0.952	0.0030	0.0003	2.86e-04	2.86e-04	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF		0.008	0.0030	0.03	2.40e-04	2.40e-04	
2,3,4,7,8-PECDF		0.036	0.0030	0.3	1.08e-02	1.08e-02	
1,2,3,4,7,8-HXCDF		0.135	0.0030	0.1	1.35e-02	1.35e-02	
1,2,3,6,7,8-HXCDF		0.107	0.0030	0.1	1.07e-02	1.07e-02	
1,2,3,7,8,9-HXCDF		0.004	0.0030	0.1	4.00e-04	4.00e-04	
2,3,4,6,7,8-HXCDF		0.012	0.0030	0.1	1.20e-03	1.20e-03	
1,2,3,4,6,7,8-HPCDF		0.292	0.0030	0.01	2.92e-03	2.92e-03	
1,2,3,4,7,8,9-HPCDF		0.039	0.0030	0.01	3.90e-04	3.90e-04	
OCDF		0.013	0.0030	0.0003	3.90e-06	3.90e-06	
			TOTAL TEQ		0.0807	0.0809	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-44_TEQ_SJ637817.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB045 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-44
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.110 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	29-Jan-2007 **Time:** 15:57:17	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_044 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_044 S: 3
		% Lipid:	0.19

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		5.46	1.64	0.81	1.001
1,2,3,7,8-PECDD [3]		10.4	1.64	0.67	1.000
1,2,3,4,7,8-HXCDD		7.64	1.64	1.33	1.000
1,2,3,6,7,8-HXCDD		33.3	1.64	1.29	1.001
1,2,3,7,8,9-HXCDD		12.6	1.64	1.18	1.010
1,2,3,4,6,7,8-HPCDD		81.9	1.64	1.11	1.000
OCDD		520	1.64	0.90	1.000
2,3,7,8-TCDF	ND		1.64		
1,2,3,7,8-PECDF		4.37	1.64	1.73	1.001
2,3,4,7,8-PECDF		19.7	1.64	1.57	1.001
1,2,3,4,7,8-HXCDF		73.7	1.64	1.23	1.001
1,2,3,6,7,8-HXCDF		58.4	1.64	1.23	1.000
1,2,3,7,8,9-HXCDF		2.18	1.64	1.20	1.000
2,3,4,6,7,8-HXCDF		6.55	1.64	1.14	1.000
1,2,3,4,6,7,8-HPCDF		159	1.64	1.08	1.000
1,2,3,4,7,8,9-HPCDF		21.3	1.64	1.12	1.000
OCDF		7.10	1.64	0.84	1.002
TOTAL TETRA-DIOXINS		5.46	1.64		
TOTAL PENTA-DIOXINS		10.4	1.64		
TOTAL HEXA-DIOXINS		53.0	1.64		
TOTAL HEPTA-DIOXINS		86.8	1.64		
TOTAL TETRA-FURANS	ND		1.64		
TOTAL PENTA-FURANS		24.0	1.64		
TOTAL HEXA-FURANS		141	1.64		
TOTAL HEPTA-FURANS		181	1.64		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 09:13:50; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_L9584-44_Form1A_SJ637817_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB045 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.110 g (lipid)	**Lab Sample I.D.:**	L9584-44
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	DX72_044 S: 8

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5.46	1.64	1	5.46e+00	5.46e+00	
1,2,3,7,8-PECDD		10.4	1.64	1	1.04e+01	1.04e+01	
1,2,3,4,7,8-HXCDD		7.64	1.64	0.1	7.64e-01	7.64e-01	
1,2,3,6,7,8-HXCDD		33.3	1.64	0.1	3.33e+00	3.33e+00	
1,2,3,7,8,9-HXCDD		12.6	1.64	0.1	1.26e+00	1.26e+00	
1,2,3,4,6,7,8-HPCDD		81.9	1.64	0.01	8.19e-01	8.19e-01	
OCDD		520	1.64	0.0001	5.20e-02	5.20e-02	
2,3,7,8-TCDF	ND		1.64	0.1	0.00e+00	8.20e-02	
1,2,3,7,8-PECDF		4.37	1.64	0.05	2.19e-01	2.19e-01	
2,3,4,7,8-PECDF		19.7	1.64	0.5	9.85e+00	9.85e+00	
1,2,3,4,7,8-HXCDF		73.7	1.64	0.1	7.37e+00	7.37e+00	
1,2,3,6,7,8-HXCDF		58.4	1.64	0.1	5.84e+00	5.84e+00	
1,2,3,7,8,9-HXCDF		2.18	1.64	0.1	2.18e-01	2.18e-01	
2,3,4,6,7,8-HXCDF		6.55	1.64	0.1	6.55e-01	6.55e-01	
1,2,3,4,6,7,8-HPCDF		159	1.64	0.01	1.59e+00	1.59e+00	
1,2,3,4,7,8,9-HPCDF		21.3	1.64	0.01	2.13e-01	2.13e-01	
OCDF		7.10	1.64	0.0001	7.10e-04	7.10e-04	
			TOTAL TEQ		48.0	48.1	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		5.46	1.64	1	5.46e+00	5.46e+00	
1,2,3,7,8-PECDD		10.4	1.64	1	1.04e+01	1.04e+01	
1,2,3,4,7,8-HXCDD		7.64	1.64	0.1	7.64e-01	7.64e-01	
1,2,3,6,7,8-HXCDD		33.3	1.64	0.1	3.33e+00	3.33e+00	
1,2,3,7,8,9-HXCDD		12.6	1.64	0.1	1.26e+00	1.26e+00	
1,2,3,4,6,7,8-HPCDD		81.9	1.64	0.01	8.19e-01	8.19e-01	
OCDD		520	1.64	0.0003	1.56e-01	1.56e-01	
2,3,7,8-TCDF	ND		1.64	0.1	0.00e+00	8.20e-02	
1,2,3,7,8-PECDF		4.37	1.64	0.03	1.31e-01	1.31e-01	
2,3,4,7,8-PECDF		19.7	1.64	0.3	5.91e+00	5.91e+00	
1,2,3,4,7,8-HXCDF		73.7	1.64	0.1	7.37e+00	7.37e+00	
1,2,3,6,7,8-HXCDF		58.4	1.64	0.1	5.84e+00	5.84e+00	
1,2,3,7,8,9-HXCDF		2.18	1.64	0.1	2.18e-01	2.18e-01	
2,3,4,6,7,8-HXCDF		6.55	1.64	0.1	6.55e-01	6.55e-01	
1,2,3,4,6,7,8-HPCDF		159	1.64	0.01	1.59e+00	1.59e+00	
1,2,3,4,7,8,9-HPCDF		21.3	1.64	0.01	2.13e-01	2.13e-01	
OCDF		7.10	1.64	0.0003	2.13e-03	2.13e-03	
			TOTAL TEQ		44.1	44.2	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 18:45:54; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-44_TEQ_SJ637817_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB046 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-39
Matrix:	BLOOD	**Sample Size:**	60.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	31-Jan-2007 **Time:** 14:53:23	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_047 S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_047 S: 2
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.011	0.0030	0.79	1.001
1,2,3,7,8-PECDD [3]		0.020	0.0030	0.70	1.000
1,2,3,4,7,8-HXCDD		0.019	0.0030	1.11	1.000
1,2,3,6,7,8-HXCDD		0.083	0.0030	1.23	1.000
1,2,3,7,8,9-HXCDD		0.029	0.0030	1.23	1.011
1,2,3,4,6,7,8-HPCDD		0.176	0.0030	1.08	1.000
OCDD		1.14	0.0030	0.89	1.001
2,3,7,8-TCDF		0.003	0.0030	0.81	1.001
1,2,3,7,8-PECDF		0.006	0.0030	1.55	1.000
2,3,4,7,8-PECDF		0.040	0.0030	1.42	1.000
1,2,3,4,7,8-HXCDF		0.202	0.0030	1.25	1.000
1,2,3,6,7,8-HXCDF		0.153	0.0030	1.23	1.000
1,2,3,7,8,9-HXCDF		0.006	0.0030	1.36	1.000
2,3,4,6,7,8-HXCDF		0.012	0.0030	1.31	1.000
1,2,3,4,6,7,8-HPCDF		0.424	0.0030	1.04	1.000
1,2,3,4,7,8,9-HPCDF		0.041	0.0030	1.00	1.000
OCDF		0.012	0.0030	0.85	1.002
TOTAL TETRA-DIOXINS		0.011	0.0030		
TOTAL PENTA-DIOXINS		0.020	0.0030		
TOTAL HEXA-DIOXINS		0.131	0.0030		
TOTAL HEPTA-DIOXINS		0.191	0.0030		
TOTAL TETRA-FURANS	ND		0.0030		
TOTAL PENTA-FURANS		0.046	0.0030		
TOTAL HEXA-FURANS		0.377	0.0030		
TOTAL HEPTA-FURANS		0.465	0.0030		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB046 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-39
Matrix:	BLOOD	**Sample Size:**	60.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	31-Jan-2007 **Time:** 14:53:23	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_047 S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_047 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	702	70.2	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	871	87.1	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		1000	687	68.7	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	668	66.8	1.26	0.989
13C-1,2,3,4,6,7,8-HPCDD		1000	669	66.9	1.06	1.095
13C-OCDD		2000	1180	59.2	0.90	1.179
13C-2,3,7,8-TCDF		1000	638	63.8	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	752	75.2	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	755	75.5	1.60	1.351
13C-1,2,3,4,7,8-HXCDF		1000	683	68.3	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	653	65.3	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	670	67.0	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		1000	649	64.9	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	622	62.2	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	640	64.0	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-39_Form2_SJ631342.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB046 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-39
Sample Size:	60.0 g (wet)	**GC Column ID:**	DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filename:**	**DX72_047 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.011	0.0030	1	1.10e-02	1.10e-02	
1,2,3,7,8-PECDD		0.020	0.0030	1	2.00e-02	2.00e-02	
1,2,3,4,7,8-HXCDD		0.019	0.0030	0.1	1.90e-03	1.90e-03	
1,2,3,6,7,8-HXCDD		0.083	0.0030	0.1	8.30e-03	8.30e-03	
1,2,3,7,8,9-HXCDD		0.029	0.0030	0.1	2.90e-03	2.90e-03	
1,2,3,4,6,7,8-HPCDD		0.176	0.0030	0.01	1.76e-03	1.76e-03	
OCDD		1.14	0.0030	0.0001	1.14e-04	1.14e-04	
2,3,7,8-TCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,7,8-PECDF		0.006	0.0030	0.05	3.00e-04	3.00e-04	
2,3,4,7,8-PECDF		0.040	0.0030	0.5	2.00e-02	2.00e-02	
1,2,3,4,7,8-HXCDF		0.202	0.0030	0.1	2.02e-02	2.02e-02	
1,2,3,6,7,8-HXCDF		0.153	0.0030	0.1	1.53e-02	1.53e-02	
1,2,3,7,8,9-HXCDF		0.006	0.0030	0.1	6.00e-04	6.00e-04	
2,3,4,6,7,8-HXCDF		0.012	0.0030	0.1	1.20e-03	1.20e-03	
1,2,3,4,6,7,8-HPCDF		0.424	0.0030	0.01	4.24e-03	4.24e-03	
1,2,3,4,7,8,9-HPCDF		0.041	0.0030	0.01	4.10e-04	4.10e-04	
OCDF		0.012	0.0030	0.0001	1.20e-06	1.20e-06	
			TOTAL TEQ		0.109	0.109	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.011	0.0030	1	1.10e-02	1.10e-02	
1,2,3,7,8-PECDD		0.020	0.0030	1	2.00e-02	2.00e-02	
1,2,3,4,7,8-HXCDD		0.019	0.0030	0.1	1.90e-03	1.90e-03	
1,2,3,6,7,8-HXCDD		0.083	0.0030	0.1	8.30e-03	8.30e-03	
1,2,3,7,8,9-HXCDD		0.029	0.0030	0.1	2.90e-03	2.90e-03	
1,2,3,4,6,7,8-HPCDD		0.176	0.0030	0.01	1.76e-03	1.76e-03	
OCDD		1.14	0.0030	0.0003	3.42e-04	3.42e-04	
2,3,7,8-TCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,7,8-PECDF		0.006	0.0030	0.03	1.80e-04	1.80e-04	
2,3,4,7,8-PECDF		0.040	0.0030	0.3	1.20e-02	1.20e-02	
1,2,3,4,7,8-HXCDF		0.202	0.0030	0.1	2.02e-02	2.02e-02	
1,2,3,6,7,8-HXCDF		0.153	0.0030	0.1	1.53e-02	1.53e-02	
1,2,3,7,8,9-HXCDF		0.006	0.0030	0.1	6.00e-04	6.00e-04	
2,3,4,6,7,8-HXCDF		0.012	0.0030	0.1	1.20e-03	1.20e-03	
1,2,3,4,6,7,8-HPCDF		0.424	0.0030	0.01	4.24e-03	4.24e-03	
1,2,3,4,7,8,9-HPCDF		0.041	0.0030	0.01	4.10e-04	4.10e-04	
OCDF		0.012	0.0030	0.0003	3.60e-06	3.60e-06	
			TOTAL TEQ		0.101	0.101	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-39_TEQ_SJ631342.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB046 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-39
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.100 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	31-Jan-2007 Time: 14:53:23	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	DX72_047 S: 9
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_047 S: 2
		% Lipid:	0.17

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		6.60	1.80	0.79	1.001
1,2,3,7,8-PECDD [3]		12.0	1.80	0.70	1.000
1,2,3,4,7,8-HXCDD		11.4	1.80	1.11	1.000
1,2,3,6,7,8-HXCDD		49.8	1.80	1.23	1.000
1,2,3,7,8,9-HXCDD		17.4	1.80	1.23	1.011
1,2,3,4,6,7,8-HPCDD		106	1.80	1.08	1.000
OCDD		684	1.80	0.89	1.001
2,3,7,8-TCDF		1.80	1.80	0.81	1.001
1,2,3,7,8-PECDF		3.60	1.80	1.55	1.000
2,3,4,7,8-PECDF		24.0	1.80	1.42	1.000
1,2,3,4,7,8-HXCDF		121	1.80	1.25	1.000
1,2,3,6,7,8-HXCDF		91.8	1.80	1.23	1.000
1,2,3,7,8,9-HXCDF		3.60	1.80	1.36	1.000
2,3,4,6,7,8-HXCDF		7.20	1.80	1.31	1.000
1,2,3,4,6,7,8-HPCDF		254	1.80	1.04	1.000
1,2,3,4,7,8,9-HPCDF		24.6	1.80	1.00	1.000
OCDF		7.20	1.80	0.85	1.002
TOTAL TETRA-DIOXINS		6.60	1.80		
TOTAL PENTA-DIOXINS		12.0	1.80		
TOTAL HEXA-DIOXINS		78.6	1.80		
TOTAL HEPTA-DIOXINS		115	1.80		
TOTAL TETRA-FURANS	ND		1.80		
TOTAL PENTA-FURANS		27.6	1.80		
TOTAL HEXA-FURANS		226	1.80		
TOTAL HEPTA-FURANS		279	1.80		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 08:55:56; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_L9584-39_Form1A_SJ631342_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB046 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.100 g (lipid)	**Lab Sample I.D.:**	L9584-39
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_047 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.60	1.80	1	6.60e+00	6.60e+00	
1,2,3,7,8-PECDD		12.0	1.80	1	1.20e+01	1.20e+01	
1,2,3,4,7,8-HXCDD		11.4	1.80	0.1	1.14e+00	1.14e+00	
1,2,3,6,7,8-HXCDD		49.8	1.80	0.1	4.98e+00	4.98e+00	
1,2,3,7,8,9-HXCDD		17.4	1.80	0.1	1.74e+00	1.74e+00	
1,2,3,4,6,7,8-HPCDD		106	1.80	0.01	1.06e+00	1.06e+00	
OCDD		684	1.80	0.0001	6.84e-02	6.84e-02	
2,3,7,8-TCDF		1.80	1.80	0.1	1.80e-01	1.80e-01	
1,2,3,7,8-PECDF		3.60	1.80	0.05	1.80e-01	1.80e-01	
2,3,4,7,8-PECDF		24.0	1.80	0.5	1.20e+01	1.20e+01	
1,2,3,4,7,8-HXCDF		121	1.80	0.1	1.21e+01	1.21e+01	
1,2,3,6,7,8-HXCDF		91.8	1.80	0.1	9.18e+00	9.18e+00	
1,2,3,7,8,9-HXCDF		3.60	1.80	0.1	3.60e-01	3.60e-01	
2,3,4,6,7,8-HXCDF		7.20	1.80	0.1	7.20e-01	7.20e-01	
1,2,3,4,6,7,8-HPCDF		254	1.80	0.01	2.54e+00	2.54e+00	
1,2,3,4,7,8,9-HPCDF		24.6	1.80	0.01	2.46e-01	2.46e-01	
OCDF		7.20	1.80	0.0001	7.20e-04	7.20e-04	
			TOTAL TEQ		65.1	65.1	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.60	1.80	1	6.60e+00	6.60e+00	
1,2,3,7,8-PECDD		12.0	1.80	1	1.20e+01	1.20e+01	
1,2,3,4,7,8-HXCDD		11.4	1.80	0.1	1.14e+00	1.14e+00	
1,2,3,6,7,8-HXCDD		49.8	1.80	0.1	4.98e+00	4.98e+00	
1,2,3,7,8,9-HXCDD		17.4	1.80	0.1	1.74e+00	1.74e+00	
1,2,3,4,6,7,8-HPCDD		106	1.80	0.01	1.06e+00	1.06e+00	
OCDD		684	1.80	0.0003	2.05e-01	2.05e-01	
2,3,7,8-TCDF		1.80	1.80	0.1	1.80e-01	1.80e-01	
1,2,3,7,8-PECDF		3.60	1.80	0.03	1.08e-01	1.08e-01	
2,3,4,7,8-PECDF		24.0	1.80	0.3	7.20e+00	7.20e+00	
1,2,3,4,7,8-HXCDF		121	1.80	0.1	1.21e+01	1.21e+01	
1,2,3,6,7,8-HXCDF		91.8	1.80	0.1	9.18e+00	9.18e+00	
1,2,3,7,8,9-HXCDF		3.60	1.80	0.1	3.60e-01	3.60e-01	
2,3,4,6,7,8-HXCDF		7.20	1.80	0.1	7.20e-01	7.20e-01	
1,2,3,4,6,7,8-HPCDF		254	1.80	0.01	2.54e+00	2.54e+00	
1,2,3,4,7,8,9-HPCDF		24.6	1.80	0.01	2.46e-01	2.46e-01	
OCDF		7.20	1.80	0.0003	2.16e-03	2.16e-03	
			TOTAL TEQ		60.4	60.4	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 19:03:16; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-39_TEQ_SJ631342_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB048 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-37 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	48.0 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 17:59:41	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.012	0.0040	0.70	1.001
1,2,3,7,8-PECDD [3]		0.025	0.0040	0.70	1.000
1,2,3,4,7,8-HXCDD	NDR	0.016	0.0040	1.53	1.000
1,2,3,6,7,8-HXCDD		0.078	0.0040	1.32	1.000
1,2,3,7,8,9-HXCDD		0.024	0.0040	1.08	1.010
1,2,3,4,6,7,8-HPCDD		0.179	0.0040	1.01	1.000
OCDD		1.34	0.0040	0.88	1.000
2,3,7,8-TCDF	ND		0.0040		
1,2,3,7,8-PECDF	NDR	0.009	0.0040	1.18	1.000
2,3,4,7,8-PECDF		0.040	0.0040	1.40	1.000
1,2,3,4,7,8-HXCDF		0.190	0.0060	1.22	1.000
1,2,3,6,7,8-HXCDF		0.148	0.0060	1.28	1.001
1,2,3,7,8,9-HXCDF		0.006	0.0060	1.10	1.000
2,3,4,6,7,8-HXCDF		0.013	0.0060	1.39	1.000
1,2,3,4,6,7,8-HPCDF		0.386	0.0040	1.06	1.000
1,2,3,4,7,8,9-HPCDF		0.044	0.0040	0.99	1.000
OCDF		0.024	0.0040	0.99	1.002
TOTAL TETRA-DIOXINS		0.012	0.0040		
TOTAL PENTA-DIOXINS		0.025	0.0040		
TOTAL HEXA-DIOXINS		0.109	0.0040		
TOTAL HEPTA-DIOXINS		0.203	0.0040		
TOTAL TETRA-FURANS	ND		0.0040		
TOTAL PENTA-FURANS		0.040	0.0040		
TOTAL HEXA-FURANS		0.358	0.0060		
TOTAL HEPTA-FURANS		0.429	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-37_Form1A_SJ641414.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB048 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-37 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	48.0 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 17:59:41	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_064 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	643	64.3	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		1000	800	80.0	0.62	1.381
13C-1,2,3,4,7,8-HXCDD		1000	721	72.1	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	715	71.5	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	483	48.3	1.04	1.094
13C-OCDD		2000	741	37.0	0.89	1.178
13C-2,3,7,8-TCDF		1000	660	66.0	0.78	0.966
13C-1,2,3,7,8-PECDF		1000	670	67.0	1.54	1.283
13C-2,3,4,7,8-PECDF		1000	663	66.3	1.56	1.350
13C-1,2,3,4,7,8-HXCDF		1000	703	70.3	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		1000	720	72.0	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		1000	629	62.9	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	632	63.2	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	491	49.1	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	483	48.3	0.46	1.103

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-37_Form2_SJ641414.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB048 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	48.0 g (wet)	**Lab Sample I.D.:**	L9584-37 RL
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_064 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.012	0.0040	1	1.20e-02	1.20e-02	
1,2,3,7,8-PECDD		0.025	0.0040	1	2.50e-02	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,6,7,8-HXCDD		0.078	0.0040	0.1	7.80e-03	7.80e-03	
1,2,3,7,8,9-HXCDD		0.024	0.0040	0.1	2.40e-03	2.40e-03	
1,2,3,4,6,7,8-HPCDD		0.179	0.0040	0.01	1.79e-03	1.79e-03	
OCDD		1.34	0.0040	0.0001	1.34e-04	1.34e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.05	0.00e+00	1.00e-04	
2,3,4,7,8-PECDF		0.040	0.0040	0.5	2.00e-02	2.00e-02	
1,2,3,4,7,8-HXCDF		0.190	0.0060	0.1	1.90e-02	1.90e-02	
1,2,3,6,7,8-HXCDF		0.148	0.0060	0.1	1.48e-02	1.48e-02	
1,2,3,7,8,9-HXCDF		0.006	0.0060	0.1	6.00e-04	6.00e-04	
2,3,4,6,7,8-HXCDF		0.013	0.0060	0.1	1.30e-03	1.30e-03	
1,2,3,4,6,7,8-HPCDF		0.386	0.0040	0.01	3.86e-03	3.86e-03	
1,2,3,4,7,8,9-HPCDF		0.044	0.0040	0.01	4.40e-04	4.40e-04	
OCDF		0.024	0.0040	0.0001	2.40e-06	2.40e-06	
			TOTAL TEQ		0.109	0.110	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.012	0.0040	1	1.20e-02	1.20e-02	
1,2,3,7,8-PECDD		0.025	0.0040	1	2.50e-02	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,6,7,8-HXCDD		0.078	0.0040	0.1	7.80e-03	7.80e-03	
1,2,3,7,8,9-HXCDD		0.024	0.0040	0.1	2.40e-03	2.40e-03	
1,2,3,4,6,7,8-HPCDD		0.179	0.0040	0.01	1.79e-03	1.79e-03	
OCDD		1.34	0.0040	0.0003	4.02e-04	4.02e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.03	0.00e+00	6.00e-05	
2,3,4,7,8-PECDF		0.040	0.0040	0.3	1.20e-02	1.20e-02	
1,2,3,4,7,8-HXCDF		0.190	0.0060	0.1	1.90e-02	1.90e-02	
1,2,3,6,7,8-HXCDF		0.148	0.0060	0.1	1.48e-02	1.48e-02	
1,2,3,7,8,9-HXCDF		0.006	0.0060	0.1	6.00e-04	6.00e-04	
2,3,4,6,7,8-HXCDF		0.013	0.0060	0.1	1.30e-03	1.30e-03	
1,2,3,4,6,7,8-HPCDF		0.386	0.0040	0.01	3.86e-03	3.86e-03	
1,2,3,4,7,8,9-HPCDF		0.044	0.0040	0.01	4.40e-04	4.40e-04	
OCDF		0.024	0.0040	0.0003	7.20e-06	7.20e-06	
			TOTAL TEQ		0.101	0.102	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-37_TEQ_SJ641414.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB048 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283	**Contract No.:**	2607
Lab Sample I.D.:	L9584-37 RL	**Matrix:**	BLOOD
Sample Size:	0.120 g (lipid)	**Sample Receipt Date:**	22-Dec-2006
Initial Calibration Date:	14-Feb-2007	**Extraction Date:**	22-Jan-2007
Instrument ID:	HR GC/MS	**Analysis Date:**	14-Feb-2007 **Time:** 17:59:41
GC Column ID:	DB5	**Extract Volume (uL):**	10
Sample Data Filename:	**DX72_064 S: 12**	**Injection Volume (uL):**	2.0
Blank Data Filename:	DX72_048 S: 7	**Dilution Factor:**	N/A
Cal. Ver. Data Filename:	DX72_064 S: 1	**Concentration Units:**	pg/g (lipid weight basis)
% Lipid:	0.26		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		4.80	1.60	0.70	1.001
1,2,3,7,8-PECDD [3]		9.99	1.60	0.70	1.000
1,2,3,4,7,8-HXCDD	NDR	6.40	1.60	1.53	1.000
1,2,3,6,7,8-HXCDD		31.2	1.60	1.32	1.000
1,2,3,7,8,9-HXCDD		9.59	1.60	1.08	1.010
1,2,3,4,6,7,8-HPCDD		71.6	1.60	1.01	1.000
OCDD		536	1.60	0.88	1.000
2,3,7,8-TCDF	ND		1.60		
1,2,3,7,8-PECDF	NDR	3.60	1.60	1.18	1.000
2,3,4,7,8-PECDF		16.0	1.60	1.40	1.000
1,2,3,4,7,8-HXCDF		76.0	2.40	1.22	1.000
1,2,3,6,7,8-HXCDF		59.2	2.40	1.28	1.001
1,2,3,7,8,9-HXCDF		2.40	2.40	1.10	1.000
2,3,4,6,7,8-HXCDF		5.20	2.40	1.39	1.000
1,2,3,4,6,7,8-HPCDF		154	1.60	1.06	1.000
1,2,3,4,7,8,9-HPCDF		17.6	1.60	0.99	1.000
OCDF		9.59	1.60	0.99	1.002
TOTAL TETRA-DIOXINS		4.80	1.60		
TOTAL PENTA-DIOXINS		9.99	1.60		
TOTAL HEXA-DIOXINS		43.6	1.60		
TOTAL HEPTA-DIOXINS		81.1	1.60		
TOTAL TETRA-FURANS	ND		1.60		
TOTAL PENTA-FURANS		16.0	1.60		
TOTAL HEXA-FURANS		143	2.40		
TOTAL HEPTA-FURANS		171	1.60		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 27-Apr-2007 15:56:09; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-37_Form1A_DX72_064S12_SJ641414_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB048 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-37 RL
Sample Size:	0.120 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	**DX72_064 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.80	1.60	1	4.80e+00	4.80e+00	
1,2,3,7,8-PECDD		9.99	1.60	1	9.99e+00	9.99e+00	
1,2,3,4,7,8-HXCDD	ND		1.60	0.1	0.00e+00	8.00e-02	
1,2,3,6,7,8-HXCDD		31.2	1.60	0.1	3.12e+00	3.12e+00	
1,2,3,7,8,9-HXCDD		9.59	1.60	0.1	9.59e-01	9.59e-01	
1,2,3,4,6,7,8-HPCDD		71.6	1.60	0.01	7.16e-01	7.16e-01	
OCDD		536	1.60	0.0001	5.36e-02	5.36e-02	
2,3,7,8-TCDF	ND		1.60	0.1	0.00e+00	8.00e-02	
1,2,3,7,8-PECDF	ND		1.60	0.05	0.00e+00	4.00e-02	
2,3,4,7,8-PECDF		16.0	1.60	0.5	8.00e+00	8.00e+00	
1,2,3,4,7,8-HXCDF		76.0	2.40	0.1	7.60e+00	7.60e+00	
1,2,3,6,7,8-HXCDF		59.2	2.40	0.1	5.92e+00	5.92e+00	
1,2,3,7,8,9-HXCDF		2.40	2.40	0.1	2.40e-01	2.40e-01	
2,3,4,6,7,8-HXCDF		5.20	2.40	0.1	5.20e-01	5.20e-01	
1,2,3,4,6,7,8-HPCDF		154	1.60	0.01	1.54e+00	1.54e+00	
1,2,3,4,7,8,9-HPCDF		17.6	1.60	0.01	1.76e-01	1.76e-01	
OCDF		9.59	1.60	0.0001	9.59e-04	9.59e-04	
			TOTAL TEQ		43.6	43.8	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		4.80	1.60	1	4.80e+00	4.80e+00	
1,2,3,7,8-PECDD		9.99	1.60	1	9.99e+00	9.99e+00	
1,2,3,4,7,8-HXCDD	ND		1.60	0.1	0.00e+00	8.00e-02	
1,2,3,6,7,8-HXCDD		31.2	1.60	0.1	3.12e+00	3.12e+00	
1,2,3,7,8,9-HXCDD		9.59	1.60	0.1	9.59e-01	9.59e-01	
1,2,3,4,6,7,8-HPCDD		71.6	1.60	0.01	7.16e-01	7.16e-01	
OCDD		536	1.60	0.0003	1.61e-01	1.61e-01	
2,3,7,8-TCDF	ND		1.60	0.1	0.00e+00	8.00e-02	
1,2,3,7,8-PECDF	ND		1.60	0.03	0.00e+00	2.40e-02	
2,3,4,7,8-PECDF		16.0	1.60	0.3	4.80e+00	4.80e+00	
1,2,3,4,7,8-HXCDF		76.0	2.40	0.1	7.60e+00	7.60e+00	
1,2,3,6,7,8-HXCDF		59.2	2.40	0.1	5.92e+00	5.92e+00	
1,2,3,7,8,9-HXCDF		2.40	2.40	0.1	2.40e-01	2.40e-01	
2,3,4,6,7,8-HXCDF		5.20	2.40	0.1	5.20e-01	5.20e-01	
1,2,3,4,6,7,8-HPCDF		154	1.60	0.01	1.54e+00	1.54e+00	
1,2,3,4,7,8,9-HPCDF		17.6	1.60	0.01	1.76e-01	1.76e-01	
OCDF		9.59	1.60	0.0003	2.88e-03	2.88e-03	
			TOTAL TEQ		40.5	40.7	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 16:00:14; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-37_TEQ_SJ641414_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB049 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-10
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	55.5 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 **Time:** 01:25:43	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_043 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.007	0.0040	0.82	1.001
1,2,3,7,8-PECDD [3]		0.022	0.0040	0.62	1.001
1,2,3,4,7,8-HXCDD		0.013	0.0040	1.18	1.001
1,2,3,6,7,8-HXCDD		0.057	0.0040	1.32	1.000
1,2,3,7,8,9-HXCDD		0.020	0.0040	1.31	1.010
1,2,3,4,6,7,8-HPCDD		0.122	0.0040	1.05	1.000
OCDD		0.709	0.0040	0.91	1.001
2,3,7,8-TCDF	ND		0.0040		
1,2,3,7,8-PECDF		0.004	0.0040	1.58	1.000
2,3,4,7,8-PECDF		0.042	0.0040	1.49	1.000
1,2,3,4,7,8-HXCDF		0.151	0.0040	1.25	1.000
1,2,3,6,7,8-HXCDF		0.116	0.0040	1.23	1.000
1,2,3,7,8,9-HXCDF	ND		0.0040		
2,3,4,6,7,8-HXCDF		0.013	0.0040	1.41	1.000
1,2,3,4,6,7,8-HPCDF		0.167	0.0040	1.03	1.000
1,2,3,4,7,8,9-HPCDF		0.009	0.0040	1.00	1.000
OCDF		0.008	0.0040	0.93	1.002
TOTAL TETRA-DIOXINS		0.007	0.0040		
TOTAL PENTA-DIOXINS		0.022	0.0040		
TOTAL HEXA-DIOXINS		0.090	0.0040		
TOTAL HEPTA-DIOXINS		0.131	0.0040		
TOTAL TETRA-FURANS	ND		0.0040		
TOTAL PENTA-FURANS		0.046	0.0040		
TOTAL HEXA-FURANS		0.280	0.0040		
TOTAL HEPTA-FURANS		0.176	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-10_Form1A_SJ638383.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB049 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-10
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	55.5 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 **Time:** 01:25:43	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_043 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	830	83.0	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	1020	102	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		1000	913	91.3	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	840	84.0	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	821	82.1	1.06	1.094
13C-OCDD		2000	1420	71.0	0.90	1.178
13C-2,3,7,8-TCDF		1000	764	76.4	0.79	0.966
13C-1,2,3,7,8-PECDF		1000	946	94.6	1.62	1.283
13C-2,3,4,7,8-PECDF		1000	918	91.8	1.59	1.351
13C-1,2,3,4,7,8-HXCDF		1000	853	85.3	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	805	80.5	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	833	83.3	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	822	82.2	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	751	75.1	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	791	79.1	0.47	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB049 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	55.5 g (wet)	**Lab Sample I.D.:**	L9584-10
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_043 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.007	0.0040	1	7.00e-03	7.00e-03	
1,2,3,7,8-PECDD		0.022	0.0040	1	2.20e-02	2.20e-02	
1,2,3,4,7,8-HXCDD		0.013	0.0040	0.1	1.30e-03	1.30e-03	
1,2,3,6,7,8-HXCDD		0.057	0.0040	0.1	5.70e-03	5.70e-03	
1,2,3,7,8,9-HXCDD		0.020	0.0040	0.1	2.00e-03	2.00e-03	
1,2,3,4,6,7,8-HPCDD		0.122	0.0040	0.01	1.22e-03	1.22e-03	
OCDD		0.709	0.0040	0.0001	7.09e-05	7.09e-05	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF		0.004	0.0040	0.05	2.00e-04	2.00e-04	
2,3,4,7,8-PECDF		0.042	0.0040	0.5	2.10e-02	2.10e-02	
1,2,3,4,7,8-HXCDF		0.151	0.0040	0.1	1.51e-02	1.51e-02	
1,2,3,6,7,8-HXCDF		0.116	0.0040	0.1	1.16e-02	1.16e-02	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.013	0.0040	0.1	1.30e-03	1.30e-03	
1,2,3,4,6,7,8-HPCDF		0.167	0.0040	0.01	1.67e-03	1.67e-03	
1,2,3,4,7,8,9-HPCDF		0.009	0.0040	0.01	9.00e-05	9.00e-05	
OCDF		0.008	0.0040	0.0001	8.00e-07	8.00e-07	
			TOTAL TEQ		0.0903	0.0907	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.007	0.0040	1	7.00e-03	7.00e-03	
1,2,3,7,8-PECDD		0.022	0.0040	1	2.20e-02	2.20e-02	
1,2,3,4,7,8-HXCDD		0.013	0.0040	0.1	1.30e-03	1.30e-03	
1,2,3,6,7,8-HXCDD		0.057	0.0040	0.1	5.70e-03	5.70e-03	
1,2,3,7,8,9-HXCDD		0.020	0.0040	0.1	2.00e-03	2.00e-03	
1,2,3,4,6,7,8-HPCDD		0.122	0.0040	0.01	1.22e-03	1.22e-03	
OCDD		0.709	0.0040	0.0003	2.13e-04	2.13e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF		0.004	0.0040	0.03	1.20e-04	1.20e-04	
2,3,4,7,8-PECDF		0.042	0.0040	0.3	1.26e-02	1.26e-02	
1,2,3,4,7,8-HXCDF		0.151	0.0040	0.1	1.51e-02	1.51e-02	
1,2,3,6,7,8-HXCDF		0.116	0.0040	0.1	1.16e-02	1.16e-02	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.013	0.0040	0.1	1.30e-03	1.30e-03	
1,2,3,4,6,7,8-HPCDF		0.167	0.0040	0.01	1.67e-03	1.67e-03	
1,2,3,4,7,8,9-HPCDF		0.009	0.0040	0.01	9.00e-05	9.00e-05	
OCDF		0.008	0.0040	0.0003	2.40e-06	2.40e-06	
			TOTAL TEQ		0.0819	0.0823	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-10_TEQ_SJ638383.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB049 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-10
Matrix:	BLOOD	**Sample Size:**	0.140 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jan-2007 **Time:** 01:25:43	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_043 S: 6**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_042 S: 8
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_043 S: 2
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.26

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		2.77	1.58	0.82	1.001
1,2,3,7,8-PECDD [3]		8.72	1.58	0.62	1.001
1,2,3,4,7,8-HXCDD		5.15	1.58	1.18	1.001
1,2,3,6,7,8-HXCDD		22.6	1.58	1.32	1.000
1,2,3,7,8,9-HXCDD		7.92	1.58	1.31	1.010
1,2,3,4,6,7,8-HPCDD		48.3	1.58	1.05	1.000
OCDD		281	1.58	0.91	1.001
2,3,7,8-TCDF	ND		1.58		
1,2,3,7,8-PECDF		1.58	1.58	1.58	1.000
2,3,4,7,8-PECDF		16.6	1.58	1.49	1.000
1,2,3,4,7,8-HXCDF		59.8	1.58	1.25	1.000
1,2,3,6,7,8-HXCDF		46.0	1.58	1.23	1.000
1,2,3,7,8,9-HXCDF	ND		1.58		
2,3,4,6,7,8-HXCDF		5.15	1.58	1.41	1.000
1,2,3,4,6,7,8-HPCDF		66.2	1.58	1.03	1.000
1,2,3,4,7,8,9-HPCDF		3.57	1.58	1.00	1.000
OCDF		3.17	1.58	0.93	1.002
TOTAL TETRA-DIOXINS		2.77	1.58		
TOTAL PENTA-DIOXINS		8.72	1.58		
TOTAL HEXA-DIOXINS		35.7	1.58		
TOTAL HEPTA-DIOXINS		51.9	1.58		
TOTAL TETRA-FURANS	ND		1.58		
TOTAL PENTA-FURANS		18.2	1.58		
TOTAL HEXA-FURANS		111	1.58		
TOTAL HEPTA-FURANS		69.7	1.58		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 27-Apr-2007 15:43:06; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-10_Form1A_DX72_043S6_SJ638383_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB049 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-10
Sample Size:	0.140 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	**DX72_043 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		2.77	1.58	1	2.77e+00	2.77e+00	
1,2,3,7,8-PECDD		8.72	1.58	1	8.72e+00	8.72e+00	
1,2,3,4,7,8-HXCDD		5.15	1.58	0.1	5.15e-01	5.15e-01	
1,2,3,6,7,8-HXCDD		22.6	1.58	0.1	2.26e+00	2.26e+00	
1,2,3,7,8,9-HXCDD		7.92	1.58	0.1	7.92e-01	7.92e-01	
1,2,3,4,6,7,8-HPCDD		48.3	1.58	0.01	4.83e-01	4.83e-01	
OCDD		281	1.58	0.0001	2.81e-02	2.81e-02	
2,3,7,8-TCDF	ND		1.58	0.1	0.00e+00	7.90e-02	
1,2,3,7,8-PECDF		1.58	1.58	0.05	7.90e-02	7.90e-02	
2,3,4,7,8-PECDF		16.6	1.58	0.5	8.30e+00	8.30e+00	
1,2,3,4,7,8-HXCDF		59.8	1.58	0.1	5.98e+00	5.98e+00	
1,2,3,6,7,8-HXCDF		46.0	1.58	0.1	4.60e+00	4.60e+00	
1,2,3,7,8,9-HXCDF	ND		1.58	0.1	0.00e+00	7.90e-02	
2,3,4,6,7,8-HXCDF		5.15	1.58	0.1	5.15e-01	5.15e-01	
1,2,3,4,6,7,8-HPCDF		66.2	1.58	0.01	6.62e-01	6.62e-01	
1,2,3,4,7,8,9-HPCDF		3.57	1.58	0.01	3.57e-02	3.57e-02	
OCDF		3.17	1.58	0.0001	3.17e-04	3.17e-04	
			TOTAL TEQ		35.7	35.9	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		2.77	1.58	1	2.77e+00	2.77e+00	
1,2,3,7,8-PECDD		8.72	1.58	1	8.72e+00	8.72e+00	
1,2,3,4,7,8-HXCDD		5.15	1.58	0.1	5.15e-01	5.15e-01	
1,2,3,6,7,8-HXCDD		22.6	1.58	0.1	2.26e+00	2.26e+00	
1,2,3,7,8,9-HXCDD		7.92	1.58	0.1	7.92e-01	7.92e-01	
1,2,3,4,6,7,8-HPCDD		48.3	1.58	0.01	4.83e-01	4.83e-01	
OCDD		281	1.58	0.0003	8.43e-02	8.43e-02	
2,3,7,8-TCDF	ND		1.58	0.1	0.00e+00	7.90e-02	
1,2,3,7,8-PECDF		1.58	1.58	0.03	4.74e-02	4.74e-02	
2,3,4,7,8-PECDF		16.6	1.58	0.3	4.98e+00	4.98e+00	
1,2,3,4,7,8-HXCDF		59.8	1.58	0.1	5.98e+00	5.98e+00	
1,2,3,6,7,8-HXCDF		46.0	1.58	0.1	4.60e+00	4.60e+00	
1,2,3,7,8,9-HXCDF	ND		1.58	0.1	0.00e+00	7.90e-02	
2,3,4,6,7,8-HXCDF		5.15	1.58	0.1	5.15e-01	5.15e-01	
1,2,3,4,6,7,8-HPCDF		66.2	1.58	0.01	6.62e-01	6.62e-01	
1,2,3,4,7,8,9-HPCDF		3.57	1.58	0.01	3.57e-02	3.57e-02	
OCDF		3.17	1.58	0.0003	9.51e-04	9.51e-04	
			TOTAL TEQ		32.4	32.6	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 15:50:16; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-10_TEQ_SJ638383_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB050 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-1 RW
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	55.1 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	02-Feb-2007 **Time:** 16:34:45	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_051 S: 8**
Dilution Factor:	2.5	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_051 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	0.092	0.0040	0.79	1.001
1,2,3,7,8-PECDD [3]	D	0.028	0.0043	0.69	1.001
1,2,3,4,7,8-HXCDD	D	0.025	0.0040	1.29	1.000
1,2,3,6,7,8-HXCDD	D	0.076	0.0040	1.31	1.000
1,2,3,7,8,9-HXCDD	D	0.028	0.0040	1.15	1.011
1,2,3,4,6,7,8-HPCDD	D	0.261	0.0040	1.08	1.000
OCDD	D	1.72	0.0057	0.90	1.000
2,3,7,8-TCDF	D	0.011	0.0040	0.87	1.001
1,2,3,7,8-PECDF	D	0.009	0.0040	1.59	1.001
2,3,4,7,8-PECDF	D	0.043	0.0040	1.74	1.000
1,2,3,4,7,8-HXCDF	D	0.056	0.0040	1.41	1.000
1,2,3,6,7,8-HXCDF	NDR D	0.045	0.0040	0.98	1.000
1,2,3,7,8,9-HXCDF	ND D		0.0040		
2,3,4,6,7,8-HXCDF	NDR D	0.010	0.0040	1.56	1.001
1,2,3,4,6,7,8-HPCDF	D	0.070	0.0040	0.96	1.000
1,2,3,4,7,8,9-HPCDF	D	0.010	0.0040	1.18	1.000
OCDF	NDR D	0.011	0.0043	1.30	1.001
TOTAL TETRA-DIOXINS	D	0.092	0.0040		
TOTAL PENTA-DIOXINS	D	0.028	0.0043		
TOTAL HEXA-DIOXINS	D	0.129	0.0040		
TOTAL HEPTA-DIOXINS	D	0.285	0.0040		
TOTAL TETRA-FURANS	D	0.011	0.0040		
TOTAL PENTA-FURANS	D	0.052	0.0040		
TOTAL HEXA-FURANS	D	0.056	0.0040		
TOTAL HEPTA-FURANS	D	0.080	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; D = dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-1_Form1A_SJ636312.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB050 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-1 RW
Matrix:	BLOOD	**Sample Size:**	55.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	02-Feb-2007 **Time:** 16:34:45	**GC Column ID:**	DB5
Extract Volume (uL):	50	**Sample Data Filename:**	**DX72_051 S: 8**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	2.5	**Cal. Ver. Data Filename:**	DX72_051 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD	D	1000	671	67.1	0.78	1.013
13C-1,2,3,7,8-PECDD [4]	D	1000	841	84.1	0.64	1.383
13C-1,2,3,4,7,8-HXCDD	D	1000	727	72.7	1.26	0.987
13C-1,2,3,6,7,8-HXCDD	D	1000	704	70.4	1.26	0.989
13C-1,2,3,4,6,7,8-HPCDD	D	1000	711	71.1	1.08	1.095
13C-OCDD	D	2000	1220	61.1	0.91	1.179
13C-2,3,7,8-TCDF	D	1000	642	64.2	0.79	0.967
13C-1,2,3,7,8-PECDF	D	1000	742	74.2	1.59	1.285
13C-2,3,4,7,8-PECDF	D	1000	742	74.2	1.59	1.352
13C-1,2,3,4,7,8-HXCDF	D	1000	698	69.8	0.52	0.954
13C-1,2,3,6,7,8-HXCDF	D	1000	660	66.0	0.54	0.958
13C-1,2,3,7,8,9-HXCDF	D	1000	680	68.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF	D	1000	666	66.6	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF	D	1000	632	63.2	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF	D	1000	665	66.5	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29; Report Filename: 1613_DIOXINS_1613DB5_L9584-1_Form2_SJ636312.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB050 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-1 RW
Sample Size:	55.1 g (wet)	**GC Column ID:**	DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filename:**	**DX72_051 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.092	0.0040	1	9.20e-02	9.20e-02	
1,2,3,7,8-PECDD		0.028	0.0043	1	2.80e-02	2.80e-02	
1,2,3,4,7,8-HXCDD		0.025	0.0040	0.1	2.50e-03	2.50e-03	
1,2,3,6,7,8-HXCDD		0.076	0.0040	0.1	7.60e-03	7.60e-03	
1,2,3,7,8,9-HXCDD		0.028	0.0040	0.1	2.80e-03	2.80e-03	
1,2,3,4,6,7,8-HPCDD		0.261	0.0040	0.01	2.61e-03	2.61e-03	
OCDD		1.72	0.0057	0.0001	1.72e-04	1.72e-04	
2,3,7,8-TCDF		0.011	0.0040	0.1	1.10e-03	1.10e-03	
1,2,3,7,8-PECDF		0.009	0.0040	0.05	4.50e-04	4.50e-04	
2,3,4,7,8-PECDF		0.043	0.0040	0.5	2.15e-02	2.15e-02	
1,2,3,4,7,8-HXCDF		0.056	0.0040	0.1	5.60e-03	5.60e-03	
1,2,3,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDF		0.070	0.0040	0.01	7.00e-04	7.00e-04	
1,2,3,4,7,8,9-HPCDF		0.010	0.0040	0.01	1.00e-04	1.00e-04	
OCDF	ND		0.0043	0.0001	0.00e+00	2.15e-07	
			TOTAL TEQ		0.165	0.166	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.092	0.0040	1	9.20e-02	9.20e-02	
1,2,3,7,8-PECDD		0.028	0.0043	1	2.80e-02	2.80e-02	
1,2,3,4,7,8-HXCDD		0.025	0.0040	0.1	2.50e-03	2.50e-03	
1,2,3,6,7,8-HXCDD		0.076	0.0040	0.1	7.60e-03	7.60e-03	
1,2,3,7,8,9-HXCDD		0.028	0.0040	0.1	2.80e-03	2.80e-03	
1,2,3,4,6,7,8-HPCDD		0.261	0.0040	0.01	2.61e-03	2.61e-03	
OCDD		1.72	0.0057	0.0003	5.16e-04	5.16e-04	
2,3,7,8-TCDF		0.011	0.0040	0.1	1.10e-03	1.10e-03	
1,2,3,7,8-PECDF		0.009	0.0040	0.03	2.70e-04	2.70e-04	
2,3,4,7,8-PECDF		0.043	0.0040	0.3	1.29e-02	1.29e-02	
1,2,3,4,7,8-HXCDF		0.056	0.0040	0.1	5.60e-03	5.60e-03	
1,2,3,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDF		0.070	0.0040	0.01	7.00e-04	7.00e-04	
1,2,3,4,7,8,9-HPCDF		0.010	0.0040	0.01	1.00e-04	1.00e-04	
OCDF	ND		0.0043	0.0003	0.00e+00	6.45e-07	
			TOTAL TEQ		0.157	0.157	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-1_TEQ_SJ636312.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB050 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-1 RW
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.250 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	02-Feb-2007 **Time:** 16:34:45	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_051 S: 8**
Dilution Factor:	2.5	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_051 S: 2
		% Lipid:	0.45

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	D	20.3	0.882	0.79	1.001
1,2,3,7,8-PECDD [3]	D	6.17	0.948	0.69	1.001
1,2,3,4,7,8-HXCDD	D	5.51	0.882	1.29	1.000
1,2,3,6,7,8-HXCDD	D	16.8	0.882	1.31	1.000
1,2,3,7,8,9-HXCDD	D	6.17	0.882	1.15	1.011
1,2,3,4,6,7,8-HPCDD	D	57.5	0.882	1.08	1.000
OCDD	D	379	1.26	0.90	1.000
2,3,7,8-TCDF	D	2.42	0.882	0.87	1.001
1,2,3,7,8-PECDF	D	1.98	0.882	1.59	1.001
2,3,4,7,8-PECDF	D	9.48	0.882	1.74	1.000
1,2,3,4,7,8-HXCDF	D	12.3	0.882	1.41	1.000
1,2,3,6,7,8-HXCDF	NDR D	9.92	0.882	0.98	1.000
1,2,3,7,8,9-HXCDF	ND D		0.882		
2,3,4,6,7,8-HXCDF	NDR D	2.20	0.882	1.56	1.001
1,2,3,4,6,7,8-HPCDF	D	15.4	0.882	0.96	1.000
1,2,3,4,7,8,9-HPCDF	D	2.20	0.882	1.18	1.000
OCDF	NDR D	2.42	0.948	1.30	1.001
TOTAL TETRA-DIOXINS	D	20.3	0.882		
TOTAL PENTA-DIOXINS	D	6.17	0.948		
TOTAL HEXA-DIOXINS	D	28.4	0.882		
TOTAL HEPTA-DIOXINS	D	62.8	0.882		
TOTAL TETRA-FURANS	D	2.42	0.882		
TOTAL PENTA-FURANS	D	11.5	0.882		
TOTAL HEXA-FURANS	D	12.3	0.882		
TOTAL HEPTA-FURANS	D	17.6	0.882		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; D = dilution data.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9584-1_Form1A_DX72_051S8_SJ636312_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB050 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-1 RW
Sample Size:	0.250 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	**DX72_051 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		20.3	0.882	1	2.03e+01	2.03e+01	
1,2,3,7,8-PECDD		6.17	0.948	1	6.17e+00	6.17e+00	
1,2,3,4,7,8-HXCDD		5.51	0.882	0.1	5.51e-01	5.51e-01	
1,2,3,6,7,8-HXCDD		16.8	0.882	0.1	1.68e+00	1.68e+00	
1,2,3,7,8,9-HXCDD		6.17	0.882	0.1	6.17e-01	6.17e-01	
1,2,3,4,6,7,8-HPCDD		57.5	0.882	0.01	5.75e-01	5.75e-01	
OCDD		379	1.26	0.0001	3.79e-02	3.79e-02	
2,3,7,8-TCDF		2.42	0.882	0.1	2.42e-01	2.42e-01	
1,2,3,7,8-PECDF		1.98	0.882	0.05	9.90e-02	9.90e-02	
2,3,4,7,8-PECDF		9.48	0.882	0.5	4.74e+00	4.74e+00	
1,2,3,4,7,8-HXCDF		12.3	0.882	0.1	1.23e+00	1.23e+00	
1,2,3,6,7,8-HXCDF	ND		0.882	0.1	0.00e+00	4.41e-02	
1,2,3,7,8,9-HXCDF	ND		0.882	0.1	0.00e+00	4.41e-02	
2,3,4,6,7,8-HXCDF	ND		0.882	0.1	0.00e+00	4.41e-02	
1,2,3,4,6,7,8-HPCDF		15.4	0.882	0.01	1.54e-01	1.54e-01	
1,2,3,4,7,8,9-HPCDF		2.20	0.882	0.01	2.20e-02	2.20e-02	
OCDF	ND		0.948	0.0001	0.00e+00	4.74e-05	
			TOTAL TEQ		36.4	36.6	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		20.3	0.882	1	2.03e+01	2.03e+01	
1,2,3,7,8-PECDD		6.17	0.948	1	6.17e+00	6.17e+00	
1,2,3,4,7,8-HXCDD		5.51	0.882	0.1	5.51e-01	5.51e-01	
1,2,3,6,7,8-HXCDD		16.8	0.882	0.1	1.68e+00	1.68e+00	
1,2,3,7,8,9-HXCDD		6.17	0.882	0.1	6.17e-01	6.17e-01	
1,2,3,4,6,7,8-HPCDD		57.5	0.882	0.01	5.75e-01	5.75e-01	
OCDD		379	1.26	0.0003	1.14e-01	1.14e-01	
2,3,7,8-TCDF		2.42	0.882	0.1	2.42e-01	2.42e-01	
1,2,3,7,8-PECDF		1.98	0.882	0.03	5.94e-02	5.94e-02	
2,3,4,7,8-PECDF		9.48	0.882	0.3	2.84e+00	2.84e+00	
1,2,3,4,7,8-HXCDF		12.3	0.882	0.1	1.23e+00	1.23e+00	
1,2,3,6,7,8-HXCDF	ND		0.882	0.1	0.00e+00	4.41e-02	
1,2,3,7,8,9-HXCDF	ND		0.882	0.1	0.00e+00	4.41e-02	
2,3,4,6,7,8-HXCDF	ND		0.882	0.1	0.00e+00	4.41e-02	
1,2,3,4,6,7,8-HPCDF		15.4	0.882	0.01	1.54e-01	1.54e-01	
1,2,3,4,7,8,9-HPCDF		2.20	0.882	0.01	2.20e-02	2.20e-02	
OCDF	ND		0.948	0.0003	0.00e+00	1.42e-04	
			TOTAL TEQ		34.6	34.7	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 15:36:45; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-1_TEQ_SJ636312_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB051 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-21 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	48.7 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 Time: 11:37:48	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0040		
1,2,3,7,8-PECDD [3]		0.187	0.0040	0.70	1.001
1,2,3,4,7,8-HXCDD		0.094	0.0040	1.20	1.000
1,2,3,6,7,8-HXCDD		0.476	0.0040	1.25	1.000
1,2,3,7,8,9-HXCDD		0.083	0.0040	1.21	1.009
1,2,3,4,6,7,8-HPCDD		0.386	0.0040	0.96	1.000
OCDD		3.99	0.0040	0.89	1.000
2,3,7,8-TCDF	NDR	0.015	0.0040	0.97	1.001
1,2,3,7,8-PECDF		0.023	0.0040	1.69	1.001
2,3,4,7,8-PECDF		0.115	0.0040	1.51	1.001
1,2,3,4,7,8-HXCDF		0.186	0.0110	1.18	1.000
1,2,3,6,7,8-HXCDF		0.141	0.0110	1.06	1.000
1,2,3,7,8,9-HXCDF	ND		0.0110		
2,3,4,6,7,8-HXCDF		0.014	0.0110	1.27	1.000
1,2,3,4,6,7,8-HPCDF		0.190	0.0040	1.01	1.000
1,2,3,4,7,8,9-HPCDF		0.030	0.0040	1.06	1.000
OCDF		0.035	0.0040	0.87	1.002
TOTAL TETRA-DIOXINS		0.881	0.0040		
TOTAL PENTA-DIOXINS		0.187	0.0040		
TOTAL HEXA-DIOXINS		0.654	0.0040		
TOTAL HEPTA-DIOXINS		0.430	0.0040		
TOTAL TETRA-FURANS	ND		0.0040		
TOTAL PENTA-FURANS		0.139	0.0040		
TOTAL HEXA-FURANS		0.342	0.0110		
TOTAL HEPTA-FURANS		0.220	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-21_Form1A_SJ641396.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB051 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-21 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	48.7 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 11:37:48	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_064 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	725	72.5	0.79	1.012
13C-1,2,3,7,8-PECDD [4]		1000	798	79.8	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		1000	778	77.8	1.23	0.988
13C-1,2,3,6,7,8-HXCDD		1000	737	73.7	1.21	0.991
13C-1,2,3,4,6,7,8-HPCDD		1000	469	46.9	1.06	1.093
13C-OCDD		2000	697	34.9	0.91	1.177
13C-2,3,7,8-TCDF		1000	724	72.4	0.76	0.966
13C-1,2,3,7,8-PECDF		1000	726	72.6	1.52	1.283
13C-2,3,4,7,8-PECDF		1000	725	72.5	1.58	1.351
13C-1,2,3,4,7,8-HXCDF		1000	716	71.6	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		1000	710	71.0	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		1000	639	63.9	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	672	67.2	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	514	51.4	0.46	1.061
13C-1,2,3,4,7,8,9-HPCDF		1000	475	47.5	0.47	1.103

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB051 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	48.7 g (wet)	**Lab Sample I.D.:**	L9584-21 RL
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_064 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0040	1	0.00e+00	2.00e-03	
1,2,3,7,8-PECDD		0.187	0.0040	1	1.87e-01	1.87e-01	
1,2,3,4,7,8-HXCDD		0.094	0.0040	0.1	9.40e-03	9.40e-03	
1,2,3,6,7,8-HXCDD		0.476	0.0040	0.1	4.76e-02	4.76e-02	
1,2,3,7,8,9-HXCDD		0.083	0.0040	0.1	8.30e-03	8.30e-03	
1,2,3,4,6,7,8-HPCDD		0.386	0.0040	0.01	3.86e-03	3.86e-03	
OCDD		3.99	0.0040	0.0001	3.99e-04	3.99e-04	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF		0.023	0.0040	0.05	1.15e-03	1.15e-03	
2,3,4,7,8-PECDF		0.115	0.0040	0.5	5.75e-02	5.75e-02	
1,2,3,4,7,8-HXCDF		0.186	0.0110	0.1	1.86e-02	1.86e-02	
1,2,3,6,7,8-HXCDF		0.141	0.0110	0.1	1.41e-02	1.41e-02	
1,2,3,7,8,9-HXCDF	ND		0.0110	0.1	0.00e+00	5.50e-04	
2,3,4,6,7,8-HXCDF		0.014	0.0110	0.1	1.40e-03	1.40e-03	
1,2,3,4,6,7,8-HPCDF		0.190	0.0040	0.01	1.90e-03	1.90e-03	
1,2,3,4,7,8,9-HPCDF		0.030	0.0040	0.01	3.00e-04	3.00e-04	
OCDF		0.035	0.0040	0.0001	3.50e-06	3.50e-06	
			TOTAL TEQ		0.352	0.354	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0040	1	0.00e+00	2.00e-03	
1,2,3,7,8-PECDD		0.187	0.0040	1	1.87e-01	1.87e-01	
1,2,3,4,7,8-HXCDD		0.094	0.0040	0.1	9.40e-03	9.40e-03	
1,2,3,6,7,8-HXCDD		0.476	0.0040	0.1	4.76e-02	4.76e-02	
1,2,3,7,8,9-HXCDD		0.083	0.0040	0.1	8.30e-03	8.30e-03	
1,2,3,4,6,7,8-HPCDD		0.386	0.0040	0.01	3.86e-03	3.86e-03	
OCDD		3.99	0.0040	0.0003	1.20e-03	1.20e-03	
2,3,7,8-TCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,7,8-PECDF		0.023	0.0040	0.03	6.90e-04	6.90e-04	
2,3,4,7,8-PECDF		0.115	0.0040	0.3	3.45e-02	3.45e-02	
1,2,3,4,7,8-HXCDF		0.186	0.0110	0.1	1.86e-02	1.86e-02	
1,2,3,6,7,8-HXCDF		0.141	0.0110	0.1	1.41e-02	1.41e-02	
1,2,3,7,8,9-HXCDF	ND		0.0110	0.1	0.00e+00	5.50e-04	
2,3,4,6,7,8-HXCDF		0.014	0.0110	0.1	1.40e-03	1.40e-03	
1,2,3,4,6,7,8-HPCDF		0.190	0.0040	0.01	1.90e-03	1.90e-03	
1,2,3,4,7,8,9-HPCDF		0.030	0.0040	0.01	3.00e-04	3.00e-04	
OCDF		0.035	0.0040	0.0003	1.05e-05	1.05e-05	
			TOTAL TEQ		0.329	0.332	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613-TEQ_L9584-21_TEQ_SJ641396.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB051 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-21 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.120 g (lipid)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 11:37:48	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: **7**
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1
		% Lipid:	0.24

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		1.62		
1,2,3,7,8-PECDD [3]		75.9	1.62	0.70	1.001
1,2,3,4,7,8-HXCDD		38.1	1.62	1.20	1.000
1,2,3,6,7,8-HXCDD		193	1.62	1.25	1.000
1,2,3,7,8,9-HXCDD		33.7	1.62	1.21	1.009
1,2,3,4,6,7,8-HPCDD		157	1.62	0.96	1.000
OCDD		1620	1.62	0.89	1.000
2,3,7,8-TCDF	NDR	6.09	1.62	0.97	1.001
1,2,3,7,8-PECDF		9.33	1.62	1.69	1.001
2,3,4,7,8-PECDF		46.7	1.62	1.51	1.001
1,2,3,4,7,8-HXCDF		75.5	4.46	1.18	1.000
1,2,3,6,7,8-HXCDF		57.2	4.46	1.06	1.000
1,2,3,7,8,9-HXCDF	ND		4.46		
2,3,4,6,7,8-HXCDF		5.68	4.46	1.27	1.000
1,2,3,4,6,7,8-HPCDF		77.1	1.62	1.01	1.000
1,2,3,4,7,8,9-HPCDF		12.2	1.62	1.06	1.000
OCDF		14.2	1.62	0.87	1.002
TOTAL TETRA-DIOXINS		357	1.62		
TOTAL PENTA-DIOXINS		75.9	1.62		
TOTAL HEXA-DIOXINS		265	1.62		
TOTAL HEPTA-DIOXINS		174	1.62		
TOTAL TETRA-FURANS	ND		1.62		
TOTAL PENTA-FURANS		56.4	1.62		
TOTAL HEXA-FURANS		139	4.46		
TOTAL HEPTA-FURANS		89.2	1.62		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 27-Apr-2007 15:56:09; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-21_Form1A_DX72_064S5_SJ641396_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB051 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.120 g (lipid)	**Lab Sample I.D.:**	L9584-21 RL
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_064 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		1.62	1	0.00e+00	8.10e-01	
1,2,3,7,8-PECDD		75.9	1.62	1	7.59e+01	7.59e+01	
1,2,3,4,7,8-HXCDD		38.1	1.62	0.1	3.81e+00	3.81e+00	
1,2,3,6,7,8-HXCDD		193	1.62	0.1	1.93e+01	1.93e+01	
1,2,3,7,8,9-HXCDD		33.7	1.62	0.1	3.37e+00	3.37e+00	
1,2,3,4,6,7,8-HPCDD		157	1.62	0.01	1.57e+00	1.57e+00	
OCDD		1620	1.62	0.0001	1.62e-01	1.62e-01	
2,3,7,8-TCDF	ND		1.62	0.1	0.00e+00	8.10e-02	
1,2,3,7,8-PECDF		9.33	1.62	0.05	4.67e-01	4.67e-01	
2,3,4,7,8-PECDF		46.7	1.62	0.5	2.34e+01	2.34e+01	
1,2,3,4,7,8-HXCDF		75.5	4.46	0.1	7.55e+00	7.55e+00	
1,2,3,6,7,8-HXCDF		57.2	4.46	0.1	5.72e+00	5.72e+00	
1,2,3,7,8,9-HXCDF	ND		4.46	0.1	0.00e+00	2.23e-01	
2,3,4,6,7,8-HXCDF		5.68	4.46	0.1	5.68e-01	5.68e-01	
1,2,3,4,6,7,8-HPCDF		77.1	1.62	0.01	7.71e-01	7.71e-01	
1,2,3,4,7,8,9-HPCDF		12.2	1.62	0.01	1.22e-01	1.22e-01	
OCDF		14.2	1.62	0.0001	1.42e-03	1.42e-03	
			TOTAL TEQ		143	144	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		1.62	1	0.00e+00	8.10e-01	
1,2,3,7,8-PECDD		75.9	1.62	1	7.59e+01	7.59e+01	
1,2,3,4,7,8-HXCDD		38.1	1.62	0.1	3.81e+00	3.81e+00	
1,2,3,6,7,8-HXCDD		193	1.62	0.1	1.93e+01	1.93e+01	
1,2,3,7,8,9-HXCDD		33.7	1.62	0.1	3.37e+00	3.37e+00	
1,2,3,4,6,7,8-HPCDD		157	1.62	0.01	1.57e+00	1.57e+00	
OCDD		1620	1.62	0.0003	4.86e-01	4.86e-01	
2,3,7,8-TCDF	ND		1.62	0.1	0.00e+00	8.10e-02	
1,2,3,7,8-PECDF		9.33	1.62	0.03	2.80e-01	2.80e-01	
2,3,4,7,8-PECDF		46.7	1.62	0.3	1.40e+01	1.40e+01	
1,2,3,4,7,8-HXCDF		75.5	4.46	0.1	7.55e+00	7.55e+00	
1,2,3,6,7,8-HXCDF		57.2	4.46	0.1	5.72e+00	5.72e+00	
1,2,3,7,8,9-HXCDF	ND		4.46	0.1	0.00e+00	2.23e-01	
2,3,4,6,7,8-HXCDF		5.68	4.46	0.1	5.68e-01	5.68e-01	
1,2,3,4,6,7,8-HPCDF		77.1	1.62	0.01	7.71e-01	7.71e-01	
1,2,3,4,7,8,9-HPCDF		12.2	1.62	0.01	1.22e-01	1.22e-01	
OCDF		14.2	1.62	0.0003	4.26e-03	4.26e-03	
			TOTAL TEQ		133	135	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 16:00:14; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-21_TEQ_SJ641396_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB052 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-7 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	37.6 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	02-Feb-2007 **Time:** 15:40:07	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_051 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_051 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.087	0.0050	0.81	1.001
1,2,3,7,8-PECDD [3]		0.031	0.0050	0.55	1.001
1,2,3,4,7,8-HXCDD		0.021	0.0050	1.32	1.000
1,2,3,6,7,8-HXCDD		0.071	0.0050	1.36	1.001
1,2,3,7,8,9-HXCDD		0.020	0.0050	1.22	1.011
1,2,3,4,6,7,8-HPCDD		0.187	0.0050	1.12	1.000
OCDD		0.883	0.0050	0.90	1.000
2,3,7,8-TCDF		0.006	0.0050	0.88	1.001
1,2,3,7,8-PECDF	ND		0.0050		
2,3,4,7,8-PECDF		0.066	0.0050	1.52	1.001
1,2,3,4,7,8-HXCDF		0.053	0.0050	1.25	1.000
1,2,3,6,7,8-HXCDF		0.040	0.0050	1.38	1.000
1,2,3,7,8,9-HXCDF	ND		0.0050		
2,3,4,6,7,8-HXCDF		0.018	0.0050	1.38	1.000
1,2,3,4,6,7,8-HPCDF		0.072	0.0050	1.00	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.005	0.0050	1.30	1.000
OCDF	ND		0.0050		
TOTAL TETRA-DIOXINS		0.087	0.0050		
TOTAL PENTA-DIOXINS		0.032	0.0050		
TOTAL HEXA-DIOXINS		0.113	0.0050		
TOTAL HEPTA-DIOXINS		0.198	0.0050		
TOTAL TETRA-FURANS		0.006	0.0050		
TOTAL PENTA-FURANS		0.066	0.0050		
TOTAL HEXA-FURANS		0.111	0.0050		
TOTAL HEPTA-FURANS		0.072	0.0050		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB052 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-7 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	37.6 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	02-Feb-2007 **Time:** 15:40:07	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_051 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_051 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	567	56.7	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	704	70.4	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	644	64.4	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	593	59.3	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	587	58.7	1.06	1.095
13C-OCDD		2000	1050	52.5	0.90	1.179
13C-2,3,7,8-TCDF		1000	526	52.6	0.78	0.967
13C-1,2,3,7,8-PECDF		1000	637	63.7	1.59	1.285
13C-2,3,4,7,8-PECDF		1000	645	64.5	1.59	1.352
13C-1,2,3,4,7,8-HXCDF		1000	598	59.8	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	553	55.3	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	576	57.6	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	564	56.4	0.54	0.981
13C-1,2,3,4,6,7,8-HPCDF		1000	533	53.3	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	563	56.3	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-7_Form2_SJ637926.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB052 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	37.6 g (wet)	**Lab Sample I.D.:**	L9584-7 i
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_051 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.087	0.0050	1	8.70e-02	8.70e-02	
1,2,3,7,8-PECDD		0.031	0.0050	1	3.10e-02	3.10e-02	
1,2,3,4,7,8-HXCDD		0.021	0.0050	0.1	2.10e-03	2.10e-03	
1,2,3,6,7,8-HXCDD		0.071	0.0050	0.1	7.10e-03	7.10e-03	
1,2,3,7,8,9-HXCDD		0.020	0.0050	0.1	2.00e-03	2.00e-03	
1,2,3,4,6,7,8-HPCDD		0.187	0.0050	0.01	1.87e-03	1.87e-03	
OCDD		0.883	0.0050	0.0001	8.83e-05	8.83e-05	
2,3,7,8-TCDF		0.006	0.0050	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF	ND		0.0050	0.05	0.00e+00	1.25e-04	
2,3,4,7,8-PECDF		0.066	0.0050	0.5	3.30e-02	3.30e-02	
1,2,3,4,7,8-HXCDF		0.053	0.0050	0.1	5.30e-03	5.30e-03	
1,2,3,6,7,8-HXCDF		0.040	0.0050	0.1	4.00e-03	4.00e-03	
1,2,3,7,8,9-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
2,3,4,6,7,8-HXCDF		0.018	0.0050	0.1	1.80e-03	1.80e-03	
1,2,3,4,6,7,8-HPCDF		0.072	0.0050	0.01	7.20e-04	7.20e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0050	0.01	0.00e+00	2.50e-05	
OCDF	ND		0.0050	0.0001	0.00e+00	2.50e-07	
			TOTAL TEQ		0.177	0.177	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.087	0.0050	1	8.70e-02	8.70e-02	
1,2,3,7,8-PECDD		0.031	0.0050	1	3.10e-02	3.10e-02	
1,2,3,4,7,8-HXCDD		0.021	0.0050	0.1	2.10e-03	2.10e-03	
1,2,3,6,7,8-HXCDD		0.071	0.0050	0.1	7.10e-03	7.10e-03	
1,2,3,7,8,9-HXCDD		0.020	0.0050	0.1	2.00e-03	2.00e-03	
1,2,3,4,6,7,8-HPCDD		0.187	0.0050	0.01	1.87e-03	1.87e-03	
OCDD		0.883	0.0050	0.0003	2.65e-04	2.65e-04	
2,3,7,8-TCDF		0.006	0.0050	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF	ND		0.0050	0.03	0.00e+00	7.50e-05	
2,3,4,7,8-PECDF		0.066	0.0050	0.3	1.98e-02	1.98e-02	
1,2,3,4,7,8-HXCDF		0.053	0.0050	0.1	5.30e-03	5.30e-03	
1,2,3,6,7,8-HXCDF		0.040	0.0050	0.1	4.00e-03	4.00e-03	
1,2,3,7,8,9-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
2,3,4,6,7,8-HXCDF		0.018	0.0050	0.1	1.80e-03	1.80e-03	
1,2,3,4,6,7,8-HPCDF		0.072	0.0050	0.01	7.20e-04	7.20e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0050	0.01	0.00e+00	2.50e-05	
OCDF	ND		0.0050	0.0003	0.00e+00	7.50e-07	
			TOTAL TEQ		0.164	0.164	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Henry Huang QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-7_TEQ_SJ637926.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB052 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-7 i
Matrix:	BLOOD	**Sample Size:**	0.0980 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	02-Feb-2007 **Time:** 15:40:07	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_051 S:** 7
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_042 S: 8
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_051 S: 2
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.26

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		33.4	1.92	0.81	1.001
1,2,3,7,8-PECDD [3]		11.9	1.92	0.55	1.001
1,2,3,4,7,8-HXCDD		8.06	1.92	1.32	1.000
1,2,3,6,7,8-HXCDD		27.2	1.92	1.36	1.001
1,2,3,7,8,9-HXCDD		7.67	1.92	1.22	1.011
1,2,3,4,6,7,8-HPCDD		71.7	1.92	1.12	1.000
OCDD		339	1.92	0.90	1.000
2,3,7,8-TCDF		2.30	1.92	0.88	1.001
1,2,3,7,8-PECDF	ND		1.92		
2,3,4,7,8-PECDF		25.3	1.92	1.52	1.001
1,2,3,4,7,8-HXCDF		20.3	1.92	1.25	1.000
1,2,3,6,7,8-HXCDF		15.3	1.92	1.38	1.000
1,2,3,7,8,9-HXCDF	ND		1.92		
2,3,4,6,7,8-HXCDF		6.91	1.92	1.38	1.000
1,2,3,4,6,7,8-HPCDF		27.6	1.92	1.00	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.92	1.92	1.30	1.000
OCDF	ND		1.92		
TOTAL TETRA-DIOXINS		33.4	1.92		
TOTAL PENTA-DIOXINS		12.3	1.92		
TOTAL HEXA-DIOXINS		43.4	1.92		
TOTAL HEPTA-DIOXINS		76.0	1.92		
TOTAL TETRA-FURANS		2.30	1.92		
TOTAL PENTA-FURANS		25.3	1.92		
TOTAL HEXA-FURANS		42.6	1.92		
TOTAL HEPTA-FURANS		27.6	1.92		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 27-Apr-2007 15:43:06; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-7_Form1A_DX72_051S7_SJ637926_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB052 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-7 i
Sample Size:	0.0980 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	DX72_051 S: 7

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		33.4	1.92	1	3.34e+01	3.34e+01	
1,2,3,7,8-PECDD		11.9	1.92	1	1.19e+01	1.19e+01	
1,2,3,4,7,8-HXCDD		8.06	1.92	0.1	8.06e-01	8.06e-01	
1,2,3,6,7,8-HXCDD		27.2	1.92	0.1	2.72e+00	2.72e+00	
1,2,3,7,8,9-HXCDD		7.67	1.92	0.1	7.67e-01	7.67e-01	
1,2,3,4,6,7,8-HPCDD		71.7	1.92	0.01	7.17e-01	7.17e-01	
OCDD		339	1.92	0.0001	3.39e-02	3.39e-02	
2,3,7,8-TCDF		2.30	1.92	0.1	2.30e-01	2.30e-01	
1,2,3,7,8-PECDF	ND		1.92	0.05	0.00e+00	4.80e-02	
2,3,4,7,8-PECDF		25.3	1.92	0.5	1.27e+01	1.27e+01	
1,2,3,4,7,8-HXCDF		20.3	1.92	0.1	2.03e+00	2.03e+00	
1,2,3,6,7,8-HXCDF		15.3	1.92	0.1	1.53e+00	1.53e+00	
1,2,3,7,8,9-HXCDF	ND		1.92	0.1	0.00e+00	9.60e-02	
2,3,4,6,7,8-HXCDF		6.91	1.92	0.1	6.91e-01	6.91e-01	
1,2,3,4,6,7,8-HPCDF		27.6	1.92	0.01	2.76e-01	2.76e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.92	0.01	0.00e+00	9.60e-03	
OCDF	ND		1.92	0.0001	0.00e+00	9.60e-05	
			TOTAL TEQ		67.8	67.9	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		33.4	1.92	1	3.34e+01	3.34e+01	
1,2,3,7,8-PECDD		11.9	1.92	1	1.19e+01	1.19e+01	
1,2,3,4,7,8-HXCDD		8.06	1.92	0.1	8.06e-01	8.06e-01	
1,2,3,6,7,8-HXCDD		27.2	1.92	0.1	2.72e+00	2.72e+00	
1,2,3,7,8,9-HXCDD		7.67	1.92	0.1	7.67e-01	7.67e-01	
1,2,3,4,6,7,8-HPCDD		71.7	1.92	0.01	7.17e-01	7.17e-01	
OCDD		339	1.92	0.0003	1.02e-01	1.02e-01	
2,3,7,8-TCDF		2.30	1.92	0.1	2.30e-01	2.30e-01	
1,2,3,7,8-PECDF	ND		1.92	0.03	0.00e+00	2.88e-02	
2,3,4,7,8-PECDF		25.3	1.92	0.3	7.59e+00	7.59e+00	
1,2,3,4,7,8-HXCDF		20.3	1.92	0.1	2.03e+00	2.03e+00	
1,2,3,6,7,8-HXCDF		15.3	1.92	0.1	1.53e+00	1.53e+00	
1,2,3,7,8,9-HXCDF	ND		1.92	0.1	0.00e+00	9.60e-02	
2,3,4,6,7,8-HXCDF		6.91	1.92	0.1	6.91e-01	6.91e-01	
1,2,3,4,6,7,8-HPCDF		27.6	1.92	0.01	2.76e-01	2.76e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.92	0.01	0.00e+00	9.60e-03	
OCDF	ND		1.92	0.0003	0.00e+00	2.88e-04	
			TOTAL TEQ		62.8	62.9	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 15:50:16; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-7_TEQ_SJ637926_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB053 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-22
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	44.0 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	27-Jan-2007 **Time:** 04:09:23	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_043 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_043 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.035	0.0050	0.72	1.001
1,2,3,7,8-PECDD [3]		0.032	0.0050	0.63	1.001
1,2,3,4,7,8-HXCDD		0.013	0.0050	1.30	1.000
1,2,3,6,7,8-HXCDD		0.082	0.0050	1.20	1.000
1,2,3,7,8,9-HXCDD		0.015	0.0050	1.30	1.010
1,2,3,4,6,7,8-HPCDD		0.100	0.0050	1.05	1.000
OCDD		0.959	0.0050	0.89	1.000
2,3,7,8-TCDF	ND		0.0050		
1,2,3,7,8-PECDF	ND		0.0050		
2,3,4,7,8-PECDF		0.033	0.0050	1.56	1.000
1,2,3,4,7,8-HXCDF		0.037	0.0050	1.26	1.000
1,2,3,6,7,8-HXCDF		0.029	0.0050	1.29	1.000
1,2,3,7,8,9-HXCDF	ND		0.0050		
2,3,4,6,7,8-HXCDF		0.011	0.0050	1.30	1.000
1,2,3,4,6,7,8-HPCDF		0.065	0.0050	1.07	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.0050		
OCDF		0.005	0.0050	1.00	1.002
TOTAL TETRA-DIOXINS		0.035	0.0050		
TOTAL PENTA-DIOXINS		0.032	0.0050		
TOTAL HEXA-DIOXINS		0.110	0.0050		
TOTAL HEPTA-DIOXINS		0.110	0.0050		
TOTAL TETRA-FURANS	ND		0.0050		
TOTAL PENTA-FURANS		0.033	0.0050		
TOTAL HEXA-FURANS		0.076	0.0050		
TOTAL HEPTA-FURANS		0.065	0.0050		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-22_Form1A_SJ638386.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB053 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-22
Matrix:	BLOOD	**Sample Size:**	44.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jan-2007 **Time:** 04:09:23	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_043 S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_042 S: 8
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_043 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	780	78.0	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	905	90.5	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	805	80.5	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		1000	759	75.9	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	770	77.0	1.06	1.094
13C-OCDD		2000	1290	64.6	0.91	1.178
13C-2,3,7,8-TCDF		1000	725	72.5	0.80	0.967
13C-1,2,3,7,8-PECDF		1000	884	88.4	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	866	86.6	1.59	1.352
13C-1,2,3,4,7,8-HXCDF		1000	774	77.4	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	701	70.1	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	773	77.3	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	743	74.3	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	699	69.9	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	751	75.1	0.47	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-22_Form2_SJ638386.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB053 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	44.0 g (wet)	**Lab Sample I.D.:**	L9584-22
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_043 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.035	0.0050	1	3.50e-02	3.50e-02	
1,2,3,7,8-PECDD		0.032	0.0050	1	3.20e-02	3.20e-02	
1,2,3,4,7,8-HXCDD		0.013	0.0050	0.1	1.30e-03	1.30e-03	
1,2,3,6,7,8-HXCDD		0.082	0.0050	0.1	8.20e-03	8.20e-03	
1,2,3,7,8,9-HXCDD		0.015	0.0050	0.1	1.50e-03	1.50e-03	
1,2,3,4,6,7,8-HPCDD		0.100	0.0050	0.01	1.00e-03	1.00e-03	
OCDD		0.959	0.0050	0.0001	9.59e-05	9.59e-05	
2,3,7,8-TCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
1,2,3,7,8-PECDF	ND		0.0050	0.05	0.00e+00	1.25e-04	
2,3,4,7,8-PECDF		0.033	0.0050	0.5	1.65e-02	1.65e-02	
1,2,3,4,7,8-HXCDF		0.037	0.0050	0.1	3.70e-03	3.70e-03	
1,2,3,6,7,8-HXCDF		0.029	0.0050	0.1	2.90e-03	2.90e-03	
1,2,3,7,8,9-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
2,3,4,6,7,8-HXCDF		0.011	0.0050	0.1	1.10e-03	1.10e-03	
1,2,3,4,6,7,8-HPCDF		0.065	0.0050	0.01	6.50e-04	6.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0050	0.01	0.00e+00	2.50e-05	
OCDF		0.005	0.0050	0.0001	5.00e-07	5.00e-07	
			TOTAL TEQ		0.104	0.105	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.035	0.0050	1	3.50e-02	3.50e-02	
1,2,3,7,8-PECDD		0.032	0.0050	1	3.20e-02	3.20e-02	
1,2,3,4,7,8-HXCDD		0.013	0.0050	0.1	1.30e-03	1.30e-03	
1,2,3,6,7,8-HXCDD		0.082	0.0050	0.1	8.20e-03	8.20e-03	
1,2,3,7,8,9-HXCDD		0.015	0.0050	0.1	1.50e-03	1.50e-03	
1,2,3,4,6,7,8-HPCDD		0.100	0.0050	0.01	1.00e-03	1.00e-03	
OCDD		0.959	0.0050	0.0003	2.88e-04	2.88e-04	
2,3,7,8-TCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
1,2,3,7,8-PECDF	ND		0.0050	0.03	0.00e+00	7.50e-05	
2,3,4,7,8-PECDF		0.033	0.0050	0.3	9.90e-03	9.90e-03	
1,2,3,4,7,8-HXCDF		0.037	0.0050	0.1	3.70e-03	3.70e-03	
1,2,3,6,7,8-HXCDF		0.029	0.0050	0.1	2.90e-03	2.90e-03	
1,2,3,7,8,9-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
2,3,4,6,7,8-HXCDF		0.011	0.0050	0.1	1.10e-03	1.10e-03	
1,2,3,4,6,7,8-HPCDF		0.065	0.0050	0.01	6.50e-04	6.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0050	0.01	0.00e+00	2.50e-05	
OCDF		0.005	0.0050	0.0003	1.50e-06	1.50e-06	
			TOTAL TEQ		0.0975	0.0981	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-22_TEQ_SJ638386.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB053 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-22
Matrix:	BLOOD	**Sample Size:**	0.110 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Jan-2007 **Time:** 04:09:23	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_043 S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_042 S: 8
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_043 S: 2
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.26

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		14.0	2.00	0.72	1.001
1,2,3,7,8-PECDD [3]		12.8	2.00	0.63	1.001
1,2,3,4,7,8-HXCDD		5.20	2.00	1.30	1.000
1,2,3,6,7,8-HXCDD		32.8	2.00	1.20	1.000
1,2,3,7,8,9-HXCDD		6.00	2.00	1.30	1.010
1,2,3,4,6,7,8-HPCDD		40.0	2.00	1.05	1.000
OCDD		383	2.00	0.89	1.000
2,3,7,8-TCDF	ND		2.00		
1,2,3,7,8-PECDF	ND		2.00		
2,3,4,7,8-PECDF		13.2	2.00	1.56	1.000
1,2,3,4,7,8-HXCDF		14.8	2.00	1.26	1.000
1,2,3,6,7,8-HXCDF		11.6	2.00	1.29	1.000
1,2,3,7,8,9-HXCDF	ND		2.00		
2,3,4,6,7,8-HXCDF		4.40	2.00	1.30	1.000
1,2,3,4,6,7,8-HPCDF		26.0	2.00	1.07	1.000
1,2,3,4,7,8,9-HPCDF	ND		2.00		
OCDF		2.00	2.00	1.00	1.002
TOTAL TETRA-DIOXINS		14.0	2.00		
TOTAL PENTA-DIOXINS		12.8	2.00		
TOTAL HEXA-DIOXINS		44.0	2.00		
TOTAL HEPTA-DIOXINS		44.0	2.00		
TOTAL TETRA-FURANS	ND		2.00		
TOTAL PENTA-FURANS		13.2	2.00		
TOTAL HEXA-FURANS		30.4	2.00		
TOTAL HEPTA-FURANS		26.0	2.00		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L9584-22_Form1A_DX72_043S9_SJ638386_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB053 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-22
Sample Size:	0.110 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	**DX72_043 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		14.0	2.00	1	1.40e+01	1.40e+01	
1,2,3,7,8-PECDD		12.8	2.00	1	1.28e+01	1.28e+01	
1,2,3,4,7,8-HXCDD		5.20	2.00	0.1	5.20e-01	5.20e-01	
1,2,3,6,7,8-HXCDD		32.8	2.00	0.1	3.28e+00	3.28e+00	
1,2,3,7,8,9-HXCDD		6.00	2.00	0.1	6.00e-01	6.00e-01	
1,2,3,4,6,7,8-HPCDD		40.0	2.00	0.01	4.00e-01	4.00e-01	
OCDD		383	2.00	0.0001	3.83e-02	3.83e-02	
2,3,7,8-TCDF	ND		2.00	0.1	0.00e+00	1.00e-01	
1,2,3,7,8-PECDF	ND		2.00	0.05	0.00e+00	5.00e-02	
2,3,4,7,8-PECDF		13.2	2.00	0.5	6.60e+00	6.60e+00	
1,2,3,4,7,8-HXCDF		14.8	2.00	0.1	1.48e+00	1.48e+00	
1,2,3,6,7,8-HXCDF		11.6	2.00	0.1	1.16e+00	1.16e+00	
1,2,3,7,8,9-HXCDF	ND		2.00	0.1	0.00e+00	1.00e-01	
2,3,4,6,7,8-HXCDF		4.40	2.00	0.1	4.40e-01	4.40e-01	
1,2,3,4,6,7,8-HPCDF		26.0	2.00	0.01	2.60e-01	2.60e-01	
1,2,3,4,7,8,9-HPCDF	ND		2.00	0.01	0.00e+00	1.00e-02	
OCDF		2.00	2.00	0.0001	2.00e-04	2.00e-04	
			TOTAL TEQ		41.6	41.8	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		14.0	2.00	1	1.40e+01	1.40e+01	
1,2,3,7,8-PECDD		12.8	2.00	1	1.28e+01	1.28e+01	
1,2,3,4,7,8-HXCDD		5.20	2.00	0.1	5.20e-01	5.20e-01	
1,2,3,6,7,8-HXCDD		32.8	2.00	0.1	3.28e+00	3.28e+00	
1,2,3,7,8,9-HXCDD		6.00	2.00	0.1	6.00e-01	6.00e-01	
1,2,3,4,6,7,8-HPCDD		40.0	2.00	0.01	4.00e-01	4.00e-01	
OCDD		383	2.00	0.0003	1.15e-01	1.15e-01	
2,3,7,8-TCDF	ND		2.00	0.1	0.00e+00	1.00e-01	
1,2,3,7,8-PECDF	ND		2.00	0.03	0.00e+00	3.00e-02	
2,3,4,7,8-PECDF		13.2	2.00	0.3	3.96e+00	3.96e+00	
1,2,3,4,7,8-HXCDF		14.8	2.00	0.1	1.48e+00	1.48e+00	
1,2,3,6,7,8-HXCDF		11.6	2.00	0.1	1.16e+00	1.16e+00	
1,2,3,7,8,9-HXCDF	ND		2.00	0.1	0.00e+00	1.00e-01	
2,3,4,6,7,8-HXCDF		4.40	2.00	0.1	4.40e-01	4.40e-01	
1,2,3,4,6,7,8-HPCDF		26.0	2.00	0.01	2.60e-01	2.60e-01	
1,2,3,4,7,8,9-HPCDF	ND		2.00	0.01	0.00e+00	1.00e-02	
OCDF		2.00	2.00	0.0003	6.00e-04	6.00e-04	
			TOTAL TEQ		39.0	39.3	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 15:50:16; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-22_TEQ_SJ638386_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB054 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-12 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	35.2 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 Time: 15:16:08	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_049 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.108	0.0060	0.82	1.001
1,2,3,7,8-PECDD [3]		0.037	0.0060	0.65	1.001
1,2,3,4,7,8-HXCDD		0.021	0.0060	1.33	1.000
1,2,3,6,7,8-HXCDD		0.104	0.0060	1.30	1.000
1,2,3,7,8,9-HXCDD		0.027	0.0060	1.15	1.010
1,2,3,4,6,7,8-HPCDD		0.156	0.0060	1.04	1.000
OCDD		1.39	0.0060	0.91	1.000
2,3,7,8-TCDF		0.012	0.0060	0.81	1.001
1,2,3,7,8-PECDF		0.007	0.0060	1.58	1.000
2,3,4,7,8-PECDF		0.081	0.0060	1.56	1.001
1,2,3,4,7,8-HXCDF		0.065	0.0060	1.40	1.000
1,2,3,6,7,8-HXCDF		0.048	0.0060	1.38	1.000
1,2,3,7,8,9-HXCDF	ND		0.0060		
2,3,4,6,7,8-HXCDF		0.010	0.0060	1.16	1.000
1,2,3,4,6,7,8-HPCDF		0.107	0.0060	1.12	1.000
1,2,3,4,7,8,9-HPCDF		0.008	0.0060	0.90	1.000
OCDF		0.013	0.0060	0.97	1.002
TOTAL TETRA-DIOXINS		0.108	0.0060		
TOTAL PENTA-DIOXINS		0.037	0.0060		
TOTAL HEXA-DIOXINS		0.152	0.0060		
TOTAL HEPTA-DIOXINS		0.174	0.0060		
TOTAL TETRA-FURANS		0.012	0.0060		
TOTAL PENTA-FURANS		0.088	0.0060		
TOTAL HEXA-FURANS		0.122	0.0060		
TOTAL HEPTA-FURANS		0.122	0.0060		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-12_Form1A_SJ640665.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB054 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-12 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	35.2 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 Time: 15:16:08	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_049 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	743	74.3	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	881	88.1	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	753	75.3	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	704	70.4	1.27	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	710	71.0	1.06	1.095
13C-OCDD		2000	1250	62.6	0.90	1.180
13C-2,3,7,8-TCDF		1000	729	72.9	0.80	0.967
13C-1,2,3,7,8-PECDF		1000	797	79.7	1.59	1.285
13C-2,3,4,7,8-PECDF		1000	802	80.2	1.59	1.351
13C-1,2,3,4,7,8-HXCDF		1000	714	71.4	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	679	67.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	705	70.5	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	688	68.8	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF		1000	642	64.2	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	672	67.2	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_L9584-12_Form2_SJ640665.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB054 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	35.2 g (wet)	**Lab Sample I.D.:**	L9584-12 R
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_049 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.108	0.0060	1	1.08e-01	1.08e-01	
1,2,3,7,8-PECDD		0.037	0.0060	1	3.70e-02	3.70e-02	
1,2,3,4,7,8-HXCDD		0.021	0.0060	0.1	2.10e-03	2.10e-03	
1,2,3,6,7,8-HXCDD		0.104	0.0060	0.1	1.04e-02	1.04e-02	
1,2,3,7,8,9-HXCDD		0.027	0.0060	0.1	2.70e-03	2.70e-03	
1,2,3,4,6,7,8-HPCDD		0.156	0.0060	0.01	1.56e-03	1.56e-03	
OCDD		1.39	0.0060	0.0001	1.39e-04	1.39e-04	
2,3,7,8-TCDF		0.012	0.0060	0.1	1.20e-03	1.20e-03	
1,2,3,7,8-PECDF		0.007	0.0060	0.05	3.50e-04	3.50e-04	
2,3,4,7,8-PECDF		0.081	0.0060	0.5	4.05e-02	4.05e-02	
1,2,3,4,7,8-HXCDF		0.065	0.0060	0.1	6.50e-03	6.50e-03	
1,2,3,6,7,8-HXCDF		0.048	0.0060	0.1	4.80e-03	4.80e-03	
1,2,3,7,8,9-HXCDF	ND		0.0060	0.1	0.00e+00	3.00e-04	
2,3,4,6,7,8-HXCDF		0.010	0.0060	0.1	1.00e-03	1.00e-03	
1,2,3,4,6,7,8-HPCDF		0.107	0.0060	0.01	1.07e-03	1.07e-03	
1,2,3,4,7,8,9-HPCDF		0.008	0.0060	0.01	8.00e-05	8.00e-05	
OCDF		0.013	0.0060	0.0001	1.30e-06	1.30e-06	
			TOTAL TEQ		0.217	0.218	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.108	0.0060	1	1.08e-01	1.08e-01	
1,2,3,7,8-PECDD		0.037	0.0060	1	3.70e-02	3.70e-02	
1,2,3,4,7,8-HXCDD		0.021	0.0060	0.1	2.10e-03	2.10e-03	
1,2,3,6,7,8-HXCDD		0.104	0.0060	0.1	1.04e-02	1.04e-02	
1,2,3,7,8,9-HXCDD		0.027	0.0060	0.1	2.70e-03	2.70e-03	
1,2,3,4,6,7,8-HPCDD		0.156	0.0060	0.01	1.56e-03	1.56e-03	
OCDD		1.39	0.0060	0.0003	4.17e-04	4.17e-04	
2,3,7,8-TCDF		0.012	0.0060	0.1	1.20e-03	1.20e-03	
1,2,3,7,8-PECDF		0.007	0.0060	0.03	2.10e-04	2.10e-04	
2,3,4,7,8-PECDF		0.081	0.0060	0.3	2.43e-02	2.43e-02	
1,2,3,4,7,8-HXCDF		0.065	0.0060	0.1	6.50e-03	6.50e-03	
1,2,3,6,7,8-HXCDF		0.048	0.0060	0.1	4.80e-03	4.80e-03	
1,2,3,7,8,9-HXCDF	ND		0.0060	0.1	0.00e+00	3.00e-04	
2,3,4,6,7,8-HXCDF		0.010	0.0060	0.1	1.00e-03	1.00e-03	
1,2,3,4,6,7,8-HPCDF		0.107	0.0060	0.01	1.07e-03	1.07e-03	
1,2,3,4,7,8,9-HPCDF		0.008	0.0060	0.01	8.00e-05	8.00e-05	
OCDF		0.013	0.0060	0.0003	3.90e-06	3.90e-06	
			TOTAL TEQ		0.201	0.202	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-12_TEQ_SJ640665.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB054 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283	**Contract No.:**	2607
Lab Sample I.D.:	L9584-12 R	**Matrix:**	BLOOD
Sample Size:	0.0910 g (lipid)	**Sample Receipt Date:**	22-Dec-2006
Initial Calibration Date:	25-Jan-2007	**Extraction Date:**	22-Jan-2007
Instrument ID:	HR GC/MS	**Analysis Date:**	01-Feb-2007 **Time:** 15:16:08
GC Column ID:	DB5	**Extract Volume (uL):**	10
Sample Data Filename:	**DX72_049 S: 9**	**Injection Volume (uL):**	2.0
Blank Data Filename:	DX72_048 S: 7	**Dilution Factor:**	N/A
Cal. Ver. Data Filename:	DX72_049 S: 2	**Concentration Units:**	pg/g (lipid weight basis)
% Lipid:	0.26		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		41.8	2.32	0.82	1.001
1,2,3,7,8-PECDD [3]		14.3	2.32	0.65	1.001
1,2,3,4,7,8-HXCDD		8.13	2.32	1.33	1.000
1,2,3,6,7,8-HXCDD		40.3	2.32	1.30	1.000
1,2,3,7,8,9-HXCDD		10.4	2.32	1.15	1.010
1,2,3,4,6,7,8-HPCDD		60.4	2.32	1.04	1.000
OCDD		538	2.32	0.91	1.000
2,3,7,8-TCDF		4.64	2.32	0.81	1.001
1,2,3,7,8-PECDF		2.71	2.32	1.58	1.000
2,3,4,7,8-PECDF		31.3	2.32	1.56	1.001
1,2,3,4,7,8-HXCDF		25.2	2.32	1.40	1.000
1,2,3,6,7,8-HXCDF		18.6	2.32	1.38	1.000
1,2,3,7,8,9-HXCDF	ND		2.32		
2,3,4,6,7,8-HXCDF		3.87	2.32	1.16	1.000
1,2,3,4,6,7,8-HPCDF		41.4	2.32	1.12	1.000
1,2,3,4,7,8,9-HPCDF		3.10	2.32	0.90	1.000
OCDF		5.03	2.32	0.97	1.002
TOTAL TETRA-DIOXINS		41.8	2.32		
TOTAL PENTA-DIOXINS		14.3	2.32		
TOTAL HEXA-DIOXINS		58.8	2.32		
TOTAL HEPTA-DIOXINS		67.3	2.32		
TOTAL TETRA-FURANS		4.64	2.32		
TOTAL PENTA-FURANS		34.1	2.32		
TOTAL HEXA-FURANS		47.2	2.32		
TOTAL HEPTA-FURANS		47.2	2.32		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB054 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-12 R
Sample Size:	0.0910 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	**DX72_049 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		41.8	2.32	1	4.18e+01	4.18e+01	
1,2,3,7,8-PECDD		14.3	2.32	1	1.43e+01	1.43e+01	
1,2,3,4,7,8-HXCDD		8.13	2.32	0.1	8.13e-01	8.13e-01	
1,2,3,6,7,8-HXCDD		40.3	2.32	0.1	4.03e+00	4.03e+00	
1,2,3,7,8,9-HXCDD		10.4	2.32	0.1	1.04e+00	1.04e+00	
1,2,3,4,6,7,8-HPCDD		60.4	2.32	0.01	6.04e-01	6.04e-01	
OCDD		538	2.32	0.0001	5.38e-02	5.38e-02	
2,3,7,8-TCDF		4.64	2.32	0.1	4.64e-01	4.64e-01	
1,2,3,7,8-PECDF		2.71	2.32	0.05	1.36e-01	1.36e-01	
2,3,4,7,8-PECDF		31.3	2.32	0.5	1.57e+01	1.57e+01	
1,2,3,4,7,8-HXCDF		25.2	2.32	0.1	2.52e+00	2.52e+00	
1,2,3,6,7,8-HXCDF		18.6	2.32	0.1	1.86e+00	1.86e+00	
1,2,3,7,8,9-HXCDF	ND		2.32	0.1	0.00e+00	1.16e-01	
2,3,4,6,7,8-HXCDF		3.87	2.32	0.1	3.87e-01	3.87e-01	
1,2,3,4,6,7,8-HPCDF		41.4	2.32	0.01	4.14e-01	4.14e-01	
1,2,3,4,7,8,9-HPCDF		3.10	2.32	0.01	3.10e-02	3.10e-02	
OCDF		5.03	2.32	0.0001	5.03e-04	5.03e-04	
			TOTAL TEQ		84.1	84.2	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		41.8	2.32	1	4.18e+01	4.18e+01	
1,2,3,7,8-PECDD		14.3	2.32	1	1.43e+01	1.43e+01	
1,2,3,4,7,8-HXCDD		8.13	2.32	0.1	8.13e-01	8.13e-01	
1,2,3,6,7,8-HXCDD		40.3	2.32	0.1	4.03e+00	4.03e+00	
1,2,3,7,8,9-HXCDD		10.4	2.32	0.1	1.04e+00	1.04e+00	
1,2,3,4,6,7,8-HPCDD		60.4	2.32	0.01	6.04e-01	6.04e-01	
OCDD		538	2.32	0.0003	1.61e-01	1.61e-01	
2,3,7,8-TCDF		4.64	2.32	0.1	4.64e-01	4.64e-01	
1,2,3,7,8-PECDF		2.71	2.32	0.03	8.13e-02	8.13e-02	
2,3,4,7,8-PECDF		31.3	2.32	0.3	9.39e+00	9.39e+00	
1,2,3,4,7,8-HXCDF		25.2	2.32	0.1	2.52e+00	2.52e+00	
1,2,3,6,7,8-HXCDF		18.6	2.32	0.1	1.86e+00	1.86e+00	
1,2,3,7,8,9-HXCDF	ND		2.32	0.1	0.00e+00	1.16e-01	
2,3,4,6,7,8-HXCDF		3.87	2.32	0.1	3.87e-01	3.87e-01	
1,2,3,4,6,7,8-HPCDF		41.4	2.32	0.01	4.14e-01	4.14e-01	
1,2,3,4,7,8,9-HPCDF		3.10	2.32	0.01	3.10e-02	3.10e-02	
OCDF		5.03	2.32	0.0003	1.51e-03	1.51e-03	
			TOTAL TEQ		77.9	78.0	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L9584-12_TEQ_SJ640665_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB055 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-33 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	56.5 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 16:10:35	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.109	0.0040	0.80	1.001
1,2,3,7,8-PECDD [3]		0.080	0.0040	0.58	1.001
1,2,3,4,7,8-HXCDD		0.030	0.0040	1.15	1.000
1,2,3,6,7,8-HXCDD		0.175	0.0040	1.30	1.000
1,2,3,7,8,9-HXCDD		0.033	0.0040	1.16	1.010
1,2,3,4,6,7,8-HPCDD		0.184	0.0040	1.08	1.000
OCDD		1.42	0.0040	0.93	1.000
2,3,7,8-TCDF		0.005	0.0040	0.81	1.001
1,2,3,7,8-PECDF		0.005	0.0040	1.71	1.001
2,3,4,7,8-PECDF		0.060	0.0040	1.42	1.000
1,2,3,4,7,8-HXCDF		0.075	0.0040	1.26	1.000
1,2,3,6,7,8-HXCDF		0.056	0.0040	1.18	1.000
1,2,3,7,8,9-HXCDF	ND		0.0040		
2,3,4,6,7,8-HXCDF	NDR	0.012	0.0040	1.54	1.000
1,2,3,4,6,7,8-HPCDF		0.115	0.0040	1.05	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.008	0.0040	0.75	1.000
OCDF		0.011	0.0040	0.89	1.002
TOTAL TETRA-DIOXINS		0.109	0.0040		
TOTAL PENTA-DIOXINS		0.080	0.0040		
TOTAL HEXA-DIOXINS		0.238	0.0040		
TOTAL HEPTA-DIOXINS		0.202	0.0040		
TOTAL TETRA-FURANS		0.005	0.0040		
TOTAL PENTA-FURANS		0.065	0.0040		
TOTAL HEXA-FURANS		0.131	0.0040		
TOTAL HEPTA-FURANS		0.115	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-33_Form1A_SJ641412.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB055 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-33 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	56.5 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 16:10:35	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_064 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	725	72.5	0.79	1.012
13C-1,2,3,7,8-PECDD [4]		1000	783	78.3	0.62	1.381
13C-1,2,3,4,7,8-HXCDD		1000	782	78.2	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	741	74.1	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	577	57.7	1.03	1.094
13C-OCDD		2000	934	46.7	0.88	1.178
13C-2,3,7,8-TCDF		1000	726	72.6	0.77	0.966
13C-1,2,3,7,8-PECDF		1000	704	70.4	1.54	1.283
13C-2,3,4,7,8-PECDF		1000	694	69.4	1.54	1.349
13C-1,2,3,4,7,8-HXCDF		1000	735	73.5	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		1000	744	74.4	0.52	0.959
13C-1,2,3,7,8,9-HXCDF		1000	683	68.3	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		1000	685	68.5	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	588	58.8	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	580	58.0	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_L9584-33_Form2_SJ641412.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB055 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	56.5 g (wet)	**Lab Sample I.D.:**	L9584-33 RL
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_064 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.109	0.0040	1	1.09e-01	1.09e-01	
1,2,3,7,8-PECDD		0.080	0.0040	1	8.00e-02	8.00e-02	
1,2,3,4,7,8-HXCDD		0.030	0.0040	0.1	3.00e-03	3.00e-03	
1,2,3,6,7,8-HXCDD		0.175	0.0040	0.1	1.75e-02	1.75e-02	
1,2,3,7,8,9-HXCDD		0.033	0.0040	0.1	3.30e-03	3.30e-03	
1,2,3,4,6,7,8-HPCDD		0.184	0.0040	0.01	1.84e-03	1.84e-03	
OCDD		1.42	0.0040	0.0001	1.42e-04	1.42e-04	
2,3,7,8-TCDF		0.005	0.0040	0.1	5.00e-04	5.00e-04	
1,2,3,7,8-PECDF		0.005	0.0040	0.05	2.50e-04	2.50e-04	
2,3,4,7,8-PECDF		0.060	0.0040	0.5	3.00e-02	3.00e-02	
1,2,3,4,7,8-HXCDF		0.075	0.0040	0.1	7.50e-03	7.50e-03	
1,2,3,6,7,8-HXCDF		0.056	0.0040	0.1	5.60e-03	5.60e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDF		0.115	0.0040	0.01	1.15e-03	1.15e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0040	0.01	0.00e+00	2.00e-05	
OCDF		0.011	0.0040	0.0001	1.10e-06	1.10e-06	
			TOTAL TEQ		0.260	0.260	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.109	0.0040	1	1.09e-01	1.09e-01	
1,2,3,7,8-PECDD		0.080	0.0040	1	8.00e-02	8.00e-02	
1,2,3,4,7,8-HXCDD		0.030	0.0040	0.1	3.00e-03	3.00e-03	
1,2,3,6,7,8-HXCDD		0.175	0.0040	0.1	1.75e-02	1.75e-02	
1,2,3,7,8,9-HXCDD		0.033	0.0040	0.1	3.30e-03	3.30e-03	
1,2,3,4,6,7,8-HPCDD		0.184	0.0040	0.01	1.84e-03	1.84e-03	
OCDD		1.42	0.0040	0.0003	4.26e-04	4.26e-04	
2,3,7,8-TCDF		0.005	0.0040	0.1	5.00e-04	5.00e-04	
1,2,3,7,8-PECDF		0.005	0.0040	0.03	1.50e-04	1.50e-04	
2,3,4,7,8-PECDF		0.060	0.0040	0.3	1.80e-02	1.80e-02	
1,2,3,4,7,8-HXCDF		0.075	0.0040	0.1	7.50e-03	7.50e-03	
1,2,3,6,7,8-HXCDF		0.056	0.0040	0.1	5.60e-03	5.60e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
1,2,3,4,6,7,8-HPCDF		0.115	0.0040	0.01	1.15e-03	1.15e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0040	0.01	0.00e+00	2.00e-05	
OCDF		0.011	0.0040	0.0003	3.30e-06	3.30e-06	
			TOTAL TEQ		0.248	0.248	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-33_TEQ_SJ641412.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB055 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-33 RL
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.150 g (lipid)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 16:10:35	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_064 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_064 S: 1
		% Lipid:	0.26

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		41.1	1.51	0.80	1.001
1,2,3,7,8-PECDD [3]		30.1	1.51	0.58	1.001
1,2,3,4,7,8-HXCDD		11.3	1.51	1.15	1.000
1,2,3,6,7,8-HXCDD		65.9	1.51	1.30	1.000
1,2,3,7,8,9-HXCDD		12.4	1.51	1.16	1.010
1,2,3,4,6,7,8-HPCDD		69.3	1.51	1.08	1.000
OCDD		535	1.51	0.93	1.000
2,3,7,8-TCDF		1.88	1.51	0.81	1.001
1,2,3,7,8-PECDF		1.88	1.51	1.71	1.001
2,3,4,7,8-PECDF		22.6	1.51	1.42	1.000
1,2,3,4,7,8-HXCDF		28.3	1.51	1.26	1.000
1,2,3,6,7,8-HXCDF		21.1	1.51	1.18	1.000
1,2,3,7,8,9-HXCDF	ND		1.51		
2,3,4,6,7,8-HXCDF	NDR	4.52	1.51	1.54	1.000
1,2,3,4,6,7,8-HPCDF		43.3	1.51	1.05	1.000
1,2,3,4,7,8,9-HPCDF	NDR	3.01	1.51	0.75	1.000
OCDF		4.14	1.51	0.89	1.002
TOTAL TETRA-DIOXINS		41.1	1.51		
TOTAL PENTA-DIOXINS		30.1	1.51		
TOTAL HEXA-DIOXINS		89.7	1.51		
TOTAL HEPTA-DIOXINS		76.1	1.51		
TOTAL TETRA-FURANS		1.88	1.51		
TOTAL PENTA-FURANS		24.5	1.51		
TOTAL HEXA-FURANS		49.4	1.51		
TOTAL HEPTA-FURANS		43.3	1.51		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 27-Apr-2007 15:56:09; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-33_Form1A_DX72_064S10_SJ641412_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB055 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-33 RL
Sample Size:	0.150 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	**DX72_064 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		41.1	1.51	1	4.11e+01	4.11e+01	
1,2,3,7,8-PECDD		30.1	1.51	1	3.01e+01	3.01e+01	
1,2,3,4,7,8-HXCDD		11.3	1.51	0.1	1.13e+00	1.13e+00	
1,2,3,6,7,8-HXCDD		65.9	1.51	0.1	6.59e+00	6.59e+00	
1,2,3,7,8,9-HXCDD		12.4	1.51	0.1	1.24e+00	1.24e+00	
1,2,3,4,6,7,8-HPCDD		69.3	1.51	0.01	6.93e-01	6.93e-01	
OCDD		535	1.51	0.0001	5.35e-02	5.35e-02	
2,3,7,8-TCDF		1.88	1.51	0.1	1.88e-01	1.88e-01	
1,2,3,7,8-PECDF		1.88	1.51	0.05	9.40e-02	9.40e-02	
2,3,4,7,8-PECDF		22.6	1.51	0.5	1.13e+01	1.13e+01	
1,2,3,4,7,8-HXCDF		28.3	1.51	0.1	2.83e+00	2.83e+00	
1,2,3,6,7,8-HXCDF		21.1	1.51	0.1	2.11e+00	2.11e+00	
1,2,3,7,8,9-HXCDF	ND		1.51	0.1	0.00e+00	7.55e-02	
2,3,4,6,7,8-HXCDF	ND		1.51	0.1	0.00e+00	7.55e-02	
1,2,3,4,6,7,8-HPCDF		43.3	1.51	0.01	4.33e-01	4.33e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.51	0.01	0.00e+00	7.55e-03	
OCDF		4.14	1.51	0.0001	4.14e-04	4.14e-04	
			TOTAL TEQ		97.9	98.0	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		41.1	1.51	1	4.11e+01	4.11e+01	
1,2,3,7,8-PECDD		30.1	1.51	1	3.01e+01	3.01e+01	
1,2,3,4,7,8-HXCDD		11.3	1.51	0.1	1.13e+00	1.13e+00	
1,2,3,6,7,8-HXCDD		65.9	1.51	0.1	6.59e+00	6.59e+00	
1,2,3,7,8,9-HXCDD		12.4	1.51	0.1	1.24e+00	1.24e+00	
1,2,3,4,6,7,8-HPCDD		69.3	1.51	0.01	6.93e-01	6.93e-01	
OCDD		535	1.51	0.0003	1.61e-01	1.61e-01	
2,3,7,8-TCDF		1.88	1.51	0.1	1.88e-01	1.88e-01	
1,2,3,7,8-PECDF		1.88	1.51	0.03	5.64e-02	5.64e-02	
2,3,4,7,8-PECDF		22.6	1.51	0.3	6.78e+00	6.78e+00	
1,2,3,4,7,8-HXCDF		28.3	1.51	0.1	2.83e+00	2.83e+00	
1,2,3,6,7,8-HXCDF		21.1	1.51	0.1	2.11e+00	2.11e+00	
1,2,3,7,8,9-HXCDF	ND		1.51	0.1	0.00e+00	7.55e-02	
2,3,4,6,7,8-HXCDF	ND		1.51	0.1	0.00e+00	7.55e-02	
1,2,3,4,6,7,8-HPCDF		43.3	1.51	0.01	4.33e-01	4.33e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.51	0.01	0.00e+00	7.55e-03	
OCDF		4.14	1.51	0.0003	1.24e-03	1.24e-03	
			TOTAL TEQ		93.4	93.6	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 16:00:14; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-33_TEQ_SJ641412_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB056 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-4 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	49.9 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	02-Feb-2007 **Time:** 14:45:30	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_051 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_051 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.229	0.0040	0.77	1.001
1,2,3,7,8-PECDD [3]		0.182	0.0040	0.65	1.001
1,2,3,4,7,8-HXCDD		0.097	0.0040	1.28	1.000
1,2,3,6,7,8-HXCDD		0.403	0.0040	1.27	1.000
1,2,3,7,8,9-HXCDD		0.065	0.0040	1.35	1.010
1,2,3,4,6,7,8-HPCDD		0.333	0.0040	1.07	1.000
OCDD		2.17	0.0040	0.89	1.000
2,3,7,8-TCDF		0.010	0.0040	0.83	1.001
1,2,3,7,8-PECDF		0.007	0.0040	1.66	1.001
2,3,4,7,8-PECDF		0.130	0.0040	1.57	1.001
1,2,3,4,7,8-HXCDF		0.096	0.0040	1.25	1.000
1,2,3,6,7,8-HXCDF		0.069	0.0040	1.15	1.000
1,2,3,7,8,9-HXCDF	ND		0.0040		
2,3,4,6,7,8-HXCDF		0.017	0.0040	1.26	1.000
1,2,3,4,6,7,8-HPCDF		0.065	0.0040	0.97	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.006	0.0040	1.37	1.000
OCDF		0.004	0.0040	0.91	1.002
TOTAL TETRA-DIOXINS		0.229	0.0040		
TOTAL PENTA-DIOXINS		0.182	0.0040		
TOTAL HEXA-DIOXINS		0.565	0.0040		
TOTAL HEPTA-DIOXINS		0.346	0.0040		
TOTAL TETRA-FURANS		0.010	0.0040		
TOTAL PENTA-FURANS		0.138	0.0040		
TOTAL HEXA-FURANS		0.183	0.0040		
TOTAL HEPTA-FURANS		0.065	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-4_Form1A_SJ637925.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB056 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-4 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	49.9 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	02-Feb-2007 **Time:** 14:45:30	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_051 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_051 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	734	73.4	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	886	88.6	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	790	79.0	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	749	74.9	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	747	74.7	1.07	1.094
13C-OCDD		2000	1330	66.3	0.91	1.179
13C-2,3,7,8-TCDF		1000	700	70.0	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	798	79.8	1.57	1.285
13C-2,3,4,7,8-PECDF		1000	806	80.6	1.58	1.353
13C-1,2,3,4,7,8-HXCDF		1000	712	71.2	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	682	68.2	0.53	0.959
13C-1,2,3,7,8,9-HXCDF		1000	712	71.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	698	69.8	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF		1000	663	66.3	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	704	70.4	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9584-4_Form2_SJ637925.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB056 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	49.9 g (wet)	**Lab Sample I.D.:**	L9584-4 i
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_051 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.229	0.0040	1	2.29e-01	2.29e-01	
1,2,3,7,8-PECDD		0.182	0.0040	1	1.82e-01	1.82e-01	
1,2,3,4,7,8-HXCDD		0.097	0.0040	0.1	9.70e-03	9.70e-03	
1,2,3,6,7,8-HXCDD		0.403	0.0040	0.1	4.03e-02	4.03e-02	
1,2,3,7,8,9-HXCDD		0.065	0.0040	0.1	6.50e-03	6.50e-03	
1,2,3,4,6,7,8-HPCDD		0.333	0.0040	0.01	3.33e-03	3.33e-03	
OCDD		2.17	0.0040	0.0001	2.17e-04	2.17e-04	
2,3,7,8-TCDF		0.010	0.0040	0.1	1.00e-03	1.00e-03	
1,2,3,7,8-PECDF		0.007	0.0040	0.05	3.50e-04	3.50e-04	
2,3,4,7,8-PECDF		0.130	0.0040	0.5	6.50e-02	6.50e-02	
1,2,3,4,7,8-HXCDF		0.096	0.0040	0.1	9.60e-03	9.60e-03	
1,2,3,6,7,8-HXCDF		0.069	0.0040	0.1	6.90e-03	6.90e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.017	0.0040	0.1	1.70e-03	1.70e-03	
1,2,3,4,6,7,8-HPCDF		0.065	0.0040	0.01	6.50e-04	6.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0040	0.01	0.00e+00	2.00e-05	
OCDF		0.004	0.0040	0.0001	4.00e-07	4.00e-07	
			TOTAL TEQ		0.556	0.556	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.229	0.0040	1	2.29e-01	2.29e-01	
1,2,3,7,8-PECDD		0.182	0.0040	1	1.82e-01	1.82e-01	
1,2,3,4,7,8-HXCDD		0.097	0.0040	0.1	9.70e-03	9.70e-03	
1,2,3,6,7,8-HXCDD		0.403	0.0040	0.1	4.03e-02	4.03e-02	
1,2,3,7,8,9-HXCDD		0.065	0.0040	0.1	6.50e-03	6.50e-03	
1,2,3,4,6,7,8-HPCDD		0.333	0.0040	0.01	3.33e-03	3.33e-03	
OCDD		2.17	0.0040	0.0003	6.51e-04	6.51e-04	
2,3,7,8-TCDF		0.010	0.0040	0.1	1.00e-03	1.00e-03	
1,2,3,7,8-PECDF		0.007	0.0040	0.03	2.10e-04	2.10e-04	
2,3,4,7,8-PECDF		0.130	0.0040	0.3	3.90e-02	3.90e-02	
1,2,3,4,7,8-HXCDF		0.096	0.0040	0.1	9.60e-03	9.60e-03	
1,2,3,6,7,8-HXCDF		0.069	0.0040	0.1	6.90e-03	6.90e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.017	0.0040	0.1	1.70e-03	1.70e-03	
1,2,3,4,6,7,8-HPCDF		0.065	0.0040	0.01	6.50e-04	6.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0040	0.01	0.00e+00	2.00e-05	
OCDF		0.004	0.0040	0.0003	1.20e-06	1.20e-06	
			TOTAL TEQ		0.531	0.531	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-4_TEQ_SJ637925.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB056 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-4 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.160 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	02-Feb-2007 **Time:** 14:45:30	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_051 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_051 S: 2
		% Lipid:	0.33

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		71.4	1.25	0.77	1.001
1,2,3,7,8-PECDD [3]		56.7	1.25	0.65	1.001
1,2,3,4,7,8-HXCDD		30.2	1.25	1.28	1.000
1,2,3,6,7,8-HXCDD		126	1.25	1.27	1.000
1,2,3,7,8,9-HXCDD		20.3	1.25	1.35	1.010
1,2,3,4,6,7,8-HPCDD		104	1.25	1.07	1.000
OCDD		676	1.25	0.89	1.000
2,3,7,8-TCDF		3.12	1.25	0.83	1.001
1,2,3,7,8-PECDF		2.18	1.25	1.66	1.001
2,3,4,7,8-PECDF		40.5	1.25	1.57	1.001
1,2,3,4,7,8-HXCDF		29.9	1.25	1.25	1.000
1,2,3,6,7,8-HXCDF		21.5	1.25	1.15	1.000
1,2,3,7,8,9-HXCDF	ND		1.25		
2,3,4,6,7,8-HXCDF		5.30	1.25	1.26	1.000
1,2,3,4,6,7,8-HPCDF		20.3	1.25	0.97	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.87	1.25	1.37	1.000
OCDF		1.25	1.25	0.91	1.002
TOTAL TETRA-DIOXINS		71.4	1.25		
TOTAL PENTA-DIOXINS		56.7	1.25		
TOTAL HEXA-DIOXINS		176	1.25		
TOTAL HEPTA-DIOXINS		108	1.25		
TOTAL TETRA-FURANS		3.12	1.25		
TOTAL PENTA-FURANS		43.0	1.25		
TOTAL HEXA-FURANS		57.1	1.25		
TOTAL HEPTA-FURANS		20.3	1.25		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB056 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.160 g (lipid)	**Lab Sample I.D.:**	L9584-4 i
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_051 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		71.4	1.25	1	7.14e+01	7.14e+01	
1,2,3,7,8-PECDD		56.7	1.25	1	5.67e+01	5.67e+01	
1,2,3,4,7,8-HXCDD		30.2	1.25	0.1	3.02e+00	3.02e+00	
1,2,3,6,7,8-HXCDD		126	1.25	0.1	1.26e+01	1.26e+01	
1,2,3,7,8,9-HXCDD		20.3	1.25	0.1	2.03e+00	2.03e+00	
1,2,3,4,6,7,8-HPCDD		104	1.25	0.01	1.04e+00	1.04e+00	
OCDD		676	1.25	0.0001	6.76e-02	6.76e-02	
2,3,7,8-TCDF		3.12	1.25	0.1	3.12e-01	3.12e-01	
1,2,3,7,8-PECDF		2.18	1.25	0.05	1.09e-01	1.09e-01	
2,3,4,7,8-PECDF		40.5	1.25	0.5	2.03e+01	2.03e+01	
1,2,3,4,7,8-HXCDF		29.9	1.25	0.1	2.99e+00	2.99e+00	
1,2,3,6,7,8-HXCDF		21.5	1.25	0.1	2.15e+00	2.15e+00	
1,2,3,7,8,9-HXCDF	ND		1.25	0.1	0.00e+00	6.25e-02	
2,3,4,6,7,8-HXCDF		5.30	1.25	0.1	5.30e-01	5.30e-01	
1,2,3,4,6,7,8-HPCDF		20.3	1.25	0.01	2.03e-01	2.03e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.25	0.01	0.00e+00	6.25e-03	
OCDF		1.25	1.25	0.0001	1.25e-04	1.25e-04	
			TOTAL TEQ		173	173	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		71.4	1.25	1	7.14e+01	7.14e+01	
1,2,3,7,8-PECDD		56.7	1.25	1	5.67e+01	5.67e+01	
1,2,3,4,7,8-HXCDD		30.2	1.25	0.1	3.02e+00	3.02e+00	
1,2,3,6,7,8-HXCDD		126	1.25	0.1	1.26e+01	1.26e+01	
1,2,3,7,8,9-HXCDD		20.3	1.25	0.1	2.03e+00	2.03e+00	
1,2,3,4,6,7,8-HPCDD		104	1.25	0.01	1.04e+00	1.04e+00	
OCDD		676	1.25	0.0003	2.03e-01	2.03e-01	
2,3,7,8-TCDF		3.12	1.25	0.1	3.12e-01	3.12e-01	
1,2,3,7,8-PECDF		2.18	1.25	0.03	6.54e-02	6.54e-02	
2,3,4,7,8-PECDF		40.5	1.25	0.3	1.22e+01	1.22e+01	
1,2,3,4,7,8-HXCDF		29.9	1.25	0.1	2.99e+00	2.99e+00	
1,2,3,6,7,8-HXCDF		21.5	1.25	0.1	2.15e+00	2.15e+00	
1,2,3,7,8,9-HXCDF	ND		1.25	0.1	0.00e+00	6.25e-02	
2,3,4,6,7,8-HXCDF		5.30	1.25	0.1	5.30e-01	5.30e-01	
1,2,3,4,6,7,8-HPCDF		20.3	1.25	0.01	2.03e-01	2.03e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.25	0.01	0.00e+00	6.25e-03	
OCDF		1.25	1.25	0.0003	3.75e-04	3.75e-04	
			TOTAL TEQ		165	165	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 15:50:16; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-4_TEQ_SJ637925_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB057 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-16 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	48.0 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 Time: 17:05:24	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S:** 11
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: **7**
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_049 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.021	0.0040	0.78	1.001
1,2,3,7,8-PECDD [3]		0.011	0.0040	0.70	1.000
1,2,3,4,7,8-HXCDD		0.011	0.0040	1.17	1.000
1,2,3,6,7,8-HXCDD		0.026	0.0040	1.37	1.000
1,2,3,7,8,9-HXCDD		0.012	0.0040	1.17	1.010
1,2,3,4,6,7,8-HPCDD		0.137	0.0040	1.00	1.000
OCDD		0.934	0.0040	0.88	1.000
2,3,7,8-TCDF		0.006	0.0040	0.88	1.001
1,2,3,7,8-PECDF	NDR	0.005	0.0040	2.12	1.000
2,3,4,7,8-PECDF		0.019	0.0040	1.39	1.000
1,2,3,4,7,8-HXCDF		0.023	0.0040	1.13	1.000
1,2,3,6,7,8-HXCDF		0.016	0.0040	1.27	1.000
1,2,3,7,8,9-HXCDF	ND		0.0040		
2,3,4,6,7,8-HXCDF		0.004	0.0040	1.19	1.001
1,2,3,4,6,7,8-HPCDF		0.037	0.0040	1.05	1.000
1,2,3,4,7,8,9-HPCDF		0.005	0.0040	0.93	1.000
OCDF	NDR	0.005	0.0040	1.15	1.002
TOTAL TETRA-DIOXINS		0.021	0.0040		
TOTAL PENTA-DIOXINS		0.011	0.0040		
TOTAL HEXA-DIOXINS		0.049	0.0040		
TOTAL HEPTA-DIOXINS		0.156	0.0040		
TOTAL TETRA-FURANS		0.006	0.0040		
TOTAL PENTA-FURANS		0.019	0.0040		
TOTAL HEXA-FURANS		0.043	0.0040		
TOTAL HEPTA-FURANS		0.047	0.0040		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-16_Form1A_SJ640667.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB057 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-16 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	48.0 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 17:05:24	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S:** 11
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_049 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	709	70.9	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	869	86.9	0.64	1.382
13C-1,2,3,4,7,8-HXCDD		1000	707	70.7	1.29	0.987
13C-1,2,3,6,7,8-HXCDD		1000	703	70.3	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	691	69.1	1.06	1.095
13C-OCDD		2000	1220	61.0	0.90	1.179
13C-2,3,7,8-TCDF		1000	700	70.0	0.80	0.967
13C-1,2,3,7,8-PECDF		1000	783	78.3	1.59	1.284
13C-2,3,4,7,8-PECDF		1000	779	77.9	1.58	1.351
13C-1,2,3,4,7,8-HXCDF		1000	694	69.4	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	653	65.3	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	670	67.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	664	66.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	621	62.1	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	642	64.2	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-16_Form2_SJ640667.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB057 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	48.0 g (wet)	**Lab Sample I.D.:**	L9584-16 R
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_049 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.021	0.0040	1	2.10e-02	2.10e-02	
1,2,3,7,8-PECDD		0.011	0.0040	1	1.10e-02	1.10e-02	
1,2,3,4,7,8-HXCDD		0.011	0.0040	0.1	1.10e-03	1.10e-03	
1,2,3,6,7,8-HXCDD		0.026	0.0040	0.1	2.60e-03	2.60e-03	
1,2,3,7,8,9-HXCDD		0.012	0.0040	0.1	1.20e-03	1.20e-03	
1,2,3,4,6,7,8-HPCDD		0.137	0.0040	0.01	1.37e-03	1.37e-03	
OCDD		0.934	0.0040	0.0001	9.34e-05	9.34e-05	
2,3,7,8-TCDF		0.006	0.0040	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.05	0.00e+00	1.00e-04	
2,3,4,7,8-PECDF		0.019	0.0040	0.5	9.50e-03	9.50e-03	
1,2,3,4,7,8-HXCDF		0.023	0.0040	0.1	2.30e-03	2.30e-03	
1,2,3,6,7,8-HXCDF		0.016	0.0040	0.1	1.60e-03	1.60e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.004	0.0040	0.1	4.00e-04	4.00e-04	
1,2,3,4,6,7,8-HPCDF		0.037	0.0040	0.01	3.70e-04	3.70e-04	
1,2,3,4,7,8,9-HPCDF		0.005	0.0040	0.01	5.00e-05	5.00e-05	
OCDF	ND		0.0040	0.0001	0.00e+00	2.00e-07	
			TOTAL TEQ		0.0532	0.0535	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.021	0.0040	1	2.10e-02	2.10e-02	
1,2,3,7,8-PECDD		0.011	0.0040	1	1.10e-02	1.10e-02	
1,2,3,4,7,8-HXCDD		0.011	0.0040	0.1	1.10e-03	1.10e-03	
1,2,3,6,7,8-HXCDD		0.026	0.0040	0.1	2.60e-03	2.60e-03	
1,2,3,7,8,9-HXCDD		0.012	0.0040	0.1	1.20e-03	1.20e-03	
1,2,3,4,6,7,8-HPCDD		0.137	0.0040	0.01	1.37e-03	1.37e-03	
OCDD		0.934	0.0040	0.0003	2.80e-04	2.80e-04	
2,3,7,8-TCDF		0.006	0.0040	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF	ND		0.0040	0.03	0.00e+00	6.00e-05	
2,3,4,7,8-PECDF		0.019	0.0040	0.3	5.70e-03	5.70e-03	
1,2,3,4,7,8-HXCDF		0.023	0.0040	0.1	2.30e-03	2.30e-03	
1,2,3,6,7,8-HXCDF		0.016	0.0040	0.1	1.60e-03	1.60e-03	
1,2,3,7,8,9-HXCDF	ND		0.0040	0.1	0.00e+00	2.00e-04	
2,3,4,6,7,8-HXCDF		0.004	0.0040	0.1	4.00e-04	4.00e-04	
1,2,3,4,6,7,8-HPCDF		0.037	0.0040	0.01	3.70e-04	3.70e-04	
1,2,3,4,7,8,9-HPCDF		0.005	0.0040	0.01	5.00e-05	5.00e-05	
OCDF	ND		0.0040	0.0003	0.00e+00	6.00e-07	
			TOTAL TEQ		0.0496	0.0498	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-16_TEQ_SJ640667.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB057 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-16 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.150 g (lipid)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 17:05:24	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_049 S: 2
		% Lipid:	0.31

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		6.71	1.28	0.78	1.001
1,2,3,7,8-PECDD [3]		3.52	1.28	0.70	1.000
1,2,3,4,7,8-HXCDD		3.52	1.28	1.17	1.000
1,2,3,6,7,8-HXCDD		8.31	1.28	1.37	1.000
1,2,3,7,8,9-HXCDD		3.84	1.28	1.17	1.010
1,2,3,4,6,7,8-HPCDD		43.8	1.28	1.00	1.000
OCDD		299	1.28	0.88	1.000
2,3,7,8-TCDF		1.92	1.28	0.88	1.001
1,2,3,7,8-PECDF	NDR	1.60	1.28	2.12	1.000
2,3,4,7,8-PECDF		6.07	1.28	1.39	1.000
1,2,3,4,7,8-HXCDF		7.35	1.28	1.13	1.000
1,2,3,6,7,8-HXCDF		5.12	1.28	1.27	1.000
1,2,3,7,8,9-HXCDF	ND		1.28		
2,3,4,6,7,8-HXCDF		1.28	1.28	1.19	1.001
1,2,3,4,6,7,8-HPCDF		11.8	1.28	1.05	1.000
1,2,3,4,7,8,9-HPCDF		1.60	1.28	0.93	1.000
OCDF	NDR	1.60	1.28	1.15	1.002
TOTAL TETRA-DIOXINS		6.71	1.28		
TOTAL PENTA-DIOXINS		3.52	1.28		
TOTAL HEXA-DIOXINS		15.7	1.28		
TOTAL HEPTA-DIOXINS		49.9	1.28		
TOTAL TETRA-FURANS		1.92	1.28		
TOTAL PENTA-FURANS		6.07	1.28		
TOTAL HEXA-FURANS		13.7	1.28		
TOTAL HEPTA-FURANS		15.0	1.28		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB057 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-16 R
Sample Size:	0.150 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	**DX72_049 S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.71	1.28	1	6.71e+00	6.71e+00	
1,2,3,7,8-PECDD		3.52	1.28	1	3.52e+00	3.52e+00	
1,2,3,4,7,8-HXCDD		3.52	1.28	0.1	3.52e-01	3.52e-01	
1,2,3,6,7,8-HXCDD		8.31	1.28	0.1	8.31e-01	8.31e-01	
1,2,3,7,8,9-HXCDD		3.84	1.28	0.1	3.84e-01	3.84e-01	
1,2,3,4,6,7,8-HPCDD		43.8	1.28	0.01	4.38e-01	4.38e-01	
OCDD		299	1.28	0.0001	2.99e-02	2.99e-02	
2,3,7,8-TCDF		1.92	1.28	0.1	1.92e-01	1.92e-01	
1,2,3,7,8-PECDF	ND		1.28	0.05	0.00e+00	3.20e-02	
2,3,4,7,8-PECDF		6.07	1.28	0.5	3.04e+00	3.04e+00	
1,2,3,4,7,8-HXCDF		7.35	1.28	0.1	7.35e-01	7.35e-01	
1,2,3,6,7,8-HXCDF		5.12	1.28	0.1	5.12e-01	5.12e-01	
1,2,3,7,8,9-HXCDF	ND		1.28	0.1	0.00e+00	6.40e-02	
2,3,4,6,7,8-HXCDF		1.28	1.28	0.1	1.28e-01	1.28e-01	
1,2,3,4,6,7,8-HPCDF		11.8	1.28	0.01	1.18e-01	1.18e-01	
1,2,3,4,7,8,9-HPCDF		1.60	1.28	0.01	1.60e-02	1.60e-02	
OCDF	ND		1.28	0.0001	0.00e+00	6.40e-05	
			TOTAL TEQ		17.0	17.1	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		6.71	1.28	1	6.71e+00	6.71e+00	
1,2,3,7,8-PECDD		3.52	1.28	1	3.52e+00	3.52e+00	
1,2,3,4,7,8-HXCDD		3.52	1.28	0.1	3.52e-01	3.52e-01	
1,2,3,6,7,8-HXCDD		8.31	1.28	0.1	8.31e-01	8.31e-01	
1,2,3,7,8,9-HXCDD		3.84	1.28	0.1	3.84e-01	3.84e-01	
1,2,3,4,6,7,8-HPCDD		43.8	1.28	0.01	4.38e-01	4.38e-01	
OCDD		299	1.28	0.0003	8.97e-02	8.97e-02	
2,3,7,8-TCDF		1.92	1.28	0.1	1.92e-01	1.92e-01	
1,2,3,7,8-PECDF	ND		1.28	0.03	0.00e+00	1.92e-02	
2,3,4,7,8-PECDF		6.07	1.28	0.3	1.82e+00	1.82e+00	
1,2,3,4,7,8-HXCDF		7.35	1.28	0.1	7.35e-01	7.35e-01	
1,2,3,6,7,8-HXCDF		5.12	1.28	0.1	5.12e-01	5.12e-01	
1,2,3,7,8,9-HXCDF	ND		1.28	0.1	0.00e+00	6.40e-02	
2,3,4,6,7,8-HXCDF		1.28	1.28	0.1	1.28e-01	1.28e-01	
1,2,3,4,6,7,8-HPCDF		11.8	1.28	0.01	1.18e-01	1.18e-01	
1,2,3,4,7,8,9-HPCDF		1.60	1.28	0.01	1.60e-02	1.60e-02	
OCDF	ND		1.28	0.0003	0.00e+00	1.92e-04	
			TOTAL TEQ		15.8	15.9	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 16:00:14; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-16_TEQ_SJ640667_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB058 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-17 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	41.9 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 18:00:03	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_049 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.073	0.0050	0.77	1.001
1,2,3,7,8-PECDD [3]		0.041	0.0050	0.58	1.001
1,2,3,4,7,8-HXCDD		0.026	0.0050	1.29	1.000
1,2,3,6,7,8-HXCDD		0.102	0.0050	1.13	1.000
1,2,3,7,8,9-HXCDD		0.032	0.0050	1.24	1.011
1,2,3,4,6,7,8-HPCDD		0.315	0.0050	0.99	1.000
OCDD		2.61	0.0050	0.88	1.000
2,3,7,8-TCDF		0.007	0.0050	0.88	1.001
1,2,3,7,8-PECDF		0.009	0.0050	1.56	1.000
2,3,4,7,8-PECDF		0.039	0.0050	1.54	1.001
1,2,3,4,7,8-HXCDF		0.094	0.0050	1.34	1.000
1,2,3,6,7,8-HXCDF		0.067	0.0050	1.16	1.000
1,2,3,7,8,9-HXCDF	ND		0.0050		
2,3,4,6,7,8-HXCDF	NDR	0.008	0.0050	1.58	1.000
1,2,3,4,6,7,8-HPCDF		0.138	0.0050	0.99	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.012	0.0050	0.79	1.000
OCDF		0.023	0.0050	1.00	1.002
TOTAL TETRA-DIOXINS		0.073	0.0050		
TOTAL PENTA-DIOXINS		0.041	0.0050		
TOTAL HEXA-DIOXINS		0.160	0.0050		
TOTAL HEPTA-DIOXINS		0.363	0.0050		
TOTAL TETRA-FURANS		0.007	0.0050		
TOTAL PENTA-FURANS		0.053	0.0050		
TOTAL HEXA-FURANS		0.169	0.0050		
TOTAL HEPTA-FURANS		0.159	0.0050		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-17_Form1A_SJ640668.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB058 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-17 R
Matrix:	BLOOD	**Sample Size:**	41.9 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	22-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 Time: 18:00:03	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_049 S: 12**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_048 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_049 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	768	76.8	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	925	92.5	0.64	1.381
13C-1,2,3,4,7,8-HXCDD		1000	769	76.9	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	736	73.6	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	712	71.2	1.06	1.095
13C-OCDD		2000	1270	63.6	0.91	1.180
13C-2,3,7,8-TCDF		1000	744	74.4	0.80	0.966
13C-1,2,3,7,8-PECDF		1000	842	84.2	1.58	1.284
13C-2,3,4,7,8-PECDF		1000	834	83.4	1.59	1.350
13C-1,2,3,4,7,8-HXCDF		1000	713	71.3	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	686	68.6	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	709	70.9	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	696	69.6	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF		1000	643	64.3	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	670	67.0	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB058 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	41.9 g (wet)	**Lab Sample I.D.:**	L9584-17 R
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_049 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.073	0.0050	1	7.30e-02	7.30e-02	
1,2,3,7,8-PECDD		0.041	0.0050	1	4.10e-02	4.10e-02	
1,2,3,4,7,8-HXCDD		0.026	0.0050	0.1	2.60e-03	2.60e-03	
1,2,3,6,7,8-HXCDD		0.102	0.0050	0.1	1.02e-02	1.02e-02	
1,2,3,7,8,9-HXCDD		0.032	0.0050	0.1	3.20e-03	3.20e-03	
1,2,3,4,6,7,8-HPCDD		0.315	0.0050	0.01	3.15e-03	3.15e-03	
OCDD		2.61	0.0050	0.0001	2.61e-04	2.61e-04	
2,3,7,8-TCDF		0.007	0.0050	0.1	7.00e-04	7.00e-04	
1,2,3,7,8-PECDF		0.009	0.0050	0.05	4.50e-04	4.50e-04	
2,3,4,7,8-PECDF		0.039	0.0050	0.5	1.95e-02	1.95e-02	
1,2,3,4,7,8-HXCDF		0.094	0.0050	0.1	9.40e-03	9.40e-03	
1,2,3,6,7,8-HXCDF		0.067	0.0050	0.1	6.70e-03	6.70e-03	
1,2,3,7,8,9-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
2,3,4,6,7,8-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
1,2,3,4,6,7,8-HPCDF		0.138	0.0050	0.01	1.38e-03	1.38e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0050	0.01	0.00e+00	2.50e-05	
OCDF		0.023	0.0050	0.0001	2.30e-06	2.30e-06	
			TOTAL TEQ		0.172	0.172	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.073	0.0050	1	7.30e-02	7.30e-02	
1,2,3,7,8-PECDD		0.041	0.0050	1	4.10e-02	4.10e-02	
1,2,3,4,7,8-HXCDD		0.026	0.0050	0.1	2.60e-03	2.60e-03	
1,2,3,6,7,8-HXCDD		0.102	0.0050	0.1	1.02e-02	1.02e-02	
1,2,3,7,8,9-HXCDD		0.032	0.0050	0.1	3.20e-03	3.20e-03	
1,2,3,4,6,7,8-HPCDD		0.315	0.0050	0.01	3.15e-03	3.15e-03	
OCDD		2.61	0.0050	0.0003	7.83e-04	7.83e-04	
2,3,7,8-TCDF		0.007	0.0050	0.1	7.00e-04	7.00e-04	
1,2,3,7,8-PECDF		0.009	0.0050	0.03	2.70e-04	2.70e-04	
2,3,4,7,8-PECDF		0.039	0.0050	0.3	1.17e-02	1.17e-02	
1,2,3,4,7,8-HXCDF		0.094	0.0050	0.1	9.40e-03	9.40e-03	
1,2,3,6,7,8-HXCDF		0.067	0.0050	0.1	6.70e-03	6.70e-03	
1,2,3,7,8,9-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
2,3,4,6,7,8-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
1,2,3,4,6,7,8-HPCDF		0.138	0.0050	0.01	1.38e-03	1.38e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0050	0.01	0.00e+00	2.50e-05	
OCDF		0.023	0.0050	0.0003	6.90e-06	6.90e-06	
			TOTAL TEQ		0.164	0.165	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-17_TEQ_SJ640668.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB058 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-17 R
Matrix:	BLOOD	**Sample Size:**	0.120 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	22-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 **Time:** 18:00:03	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_049 S: 12**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_048 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_049 S: 2
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.29

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		25.5	1.75	0.77	1.001
1,2,3,7,8-PECDD [3]		14.3	1.75	0.58	1.001
1,2,3,4,7,8-HXCDD		9.07	1.75	1.29	1.000
1,2,3,6,7,8-HXCDD		35.6	1.75	1.13	1.000
1,2,3,7,8,9-HXCDD		11.2	1.75	1.24	1.011
1,2,3,4,6,7,8-HPCDD		110	1.75	0.99	1.000
OCDD		911	1.75	0.88	1.000
2,3,7,8-TCDF		2.44	1.75	0.88	1.001
1,2,3,7,8-PECDF		3.14	1.75	1.56	1.000
2,3,4,7,8-PECDF		13.6	1.75	1.54	1.001
1,2,3,4,7,8-HXCDF		32.8	1.75	1.34	1.000
1,2,3,6,7,8-HXCDF		23.4	1.75	1.16	1.000
1,2,3,7,8,9-HXCDF	ND		1.75		
2,3,4,6,7,8-HXCDF	NDR	2.79	1.75	1.58	1.000
1,2,3,4,6,7,8-HPCDF		48.2	1.75	0.99	1.000
1,2,3,4,7,8,9-HPCDF	NDR	4.19	1.75	0.79	1.000
OCDF		8.03	1.75	1.00	1.002
TOTAL TETRA-DIOXINS		25.5	1.75		
TOTAL PENTA-DIOXINS		14.3	1.75		
TOTAL HEXA-DIOXINS		55.8	1.75		
TOTAL HEPTA-DIOXINS		127	1.75		
TOTAL TETRA-FURANS		2.44	1.75		
TOTAL PENTA-FURANS		18.5	1.75		
TOTAL HEXA-FURANS		59.0	1.75		
TOTAL HEPTA-FURANS		55.5	1.75		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB058 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-17 R
Sample Size:	0.120 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	**DX72_049 S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		25.5	1.75	1	2.55e+01	2.55e+01	
1,2,3,7,8-PECDD		14.3	1.75	1	1.43e+01	1.43e+01	
1,2,3,4,7,8-HXCDD		9.07	1.75	0.1	9.07e-01	9.07e-01	
1,2,3,6,7,8-HXCDD		35.6	1.75	0.1	3.56e+00	3.56e+00	
1,2,3,7,8,9-HXCDD		11.2	1.75	0.1	1.12e+00	1.12e+00	
1,2,3,4,6,7,8-HPCDD		110	1.75	0.01	1.10e+00	1.10e+00	
OCDD		911	1.75	0.0001	9.11e-02	9.11e-02	
2,3,7,8-TCDF		2.44	1.75	0.1	2.44e-01	2.44e-01	
1,2,3,7,8-PECDF		3.14	1.75	0.05	1.57e-01	1.57e-01	
2,3,4,7,8-PECDF		13.6	1.75	0.5	6.80e+00	6.80e+00	
1,2,3,4,7,8-HXCDF		32.8	1.75	0.1	3.28e+00	3.28e+00	
1,2,3,6,7,8-HXCDF		23.4	1.75	0.1	2.34e+00	2.34e+00	
1,2,3,7,8,9-HXCDF	ND		1.75	0.1	0.00e+00	8.75e-02	
2,3,4,6,7,8-HXCDF	ND		1.75	0.1	0.00e+00	8.75e-02	
1,2,3,4,6,7,8-HPCDF		48.2	1.75	0.01	4.82e-01	4.82e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.75	0.01	0.00e+00	8.75e-03	
OCDF		8.03	1.75	0.0001	8.03e-04	8.03e-04	
			TOTAL TEQ		59.9	60.1	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		25.5	1.75	1	2.55e+01	2.55e+01	
1,2,3,7,8-PECDD		14.3	1.75	1	1.43e+01	1.43e+01	
1,2,3,4,7,8-HXCDD		9.07	1.75	0.1	9.07e-01	9.07e-01	
1,2,3,6,7,8-HXCDD		35.6	1.75	0.1	3.56e+00	3.56e+00	
1,2,3,7,8,9-HXCDD		11.2	1.75	0.1	1.12e+00	1.12e+00	
1,2,3,4,6,7,8-HPCDD		110	1.75	0.01	1.10e+00	1.10e+00	
OCDD		911	1.75	0.0003	2.73e-01	2.73e-01	
2,3,7,8-TCDF		2.44	1.75	0.1	2.44e-01	2.44e-01	
1,2,3,7,8-PECDF		3.14	1.75	0.03	9.42e-02	9.42e-02	
2,3,4,7,8-PECDF		13.6	1.75	0.3	4.08e+00	4.08e+00	
1,2,3,4,7,8-HXCDF		32.8	1.75	0.1	3.28e+00	3.28e+00	
1,2,3,6,7,8-HXCDF		23.4	1.75	0.1	2.34e+00	2.34e+00	
1,2,3,7,8,9-HXCDF	ND		1.75	0.1	0.00e+00	8.75e-02	
2,3,4,6,7,8-HXCDF	ND		1.75	0.1	0.00e+00	8.75e-02	
1,2,3,4,6,7,8-HPCDF		48.2	1.75	0.01	4.82e-01	4.82e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.75	0.01	0.00e+00	8.75e-03	
OCDF		8.03	1.75	0.0003	2.41e-03	2.41e-03	
			TOTAL TEQ		57.3	57.5	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 16:00:14; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-17_TEQ_SJ640668_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB059 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-11 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.2 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	12-Feb-2007
Analysis Date:	13-Feb-2007 **Time:** 12:39:24	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_062 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_062 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.142	0.0030	0.77	1.001
1,2,3,7,8-PECDD [3]		0.057	0.0030	0.61	1.001
1,2,3,4,7,8-HXCDD		0.038	0.0030	1.18	1.000
1,2,3,6,7,8-HXCDD		0.146	0.0030	1.33	1.000
1,2,3,7,8,9-HXCDD		0.036	0.0030	1.27	1.010
1,2,3,4,6,7,8-HPCDD		0.266	0.0030	1.06	1.000
OCDD		2.13	0.0030	0.87	1.000
2,3,7,8-TCDF		0.010	0.0030	0.71	1.001
1,2,3,7,8-PECDF	NDR	0.008	0.0030	1.24	1.000
2,3,4,7,8-PECDF		0.067	0.0030	1.40	1.000
1,2,3,4,7,8-HXCDF		0.080	0.0030	1.14	1.000
1,2,3,6,7,8-HXCDF		0.057	0.0030	1.31	1.001
1,2,3,7,8,9-HXCDF	NDR	0.004	0.0030	0.81	1.000
2,3,4,6,7,8-HXCDF	NDR	0.014	0.0030	1.02	1.001
1,2,3,4,6,7,8-HPCDF		0.086	0.0030	1.02	1.000
1,2,3,4,7,8,9-HPCDF		0.009	0.0030	0.98	1.000
OCDF		0.009	0.0030	0.80	1.001
TOTAL TETRA-DIOXINS		0.142	0.0030		
TOTAL PENTA-DIOXINS		0.057	0.0030		
TOTAL HEXA-DIOXINS		0.224	0.0030		
TOTAL HEPTA-DIOXINS		0.294	0.0030		
TOTAL TETRA-FURANS		0.010	0.0030		
TOTAL PENTA-FURANS		0.067	0.0030		
TOTAL HEXA-FURANS		0.138	0.0030		
TOTAL HEPTA-FURANS		0.095	0.0030		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB059 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283	**Contract No.:**	2607
Lab Sample I.D.:	L9584-11 L	**Matrix:**	BLOOD
Sample Size:	60.2 g (wet)	**Sample Receipt Date:**	22-Dec-2006
Initial Calibration Date:	12-Feb-2007	**Extraction Date:**	17-Jan-2007
Instrument ID:	HR GC/MS	**Analysis Date:**	13-Feb-2007 Time: 12:39:24
GC Column ID:	DB5	**Extract Volume (uL):**	10
Sample Data Filename:	**DX72_062 S: 7**	**Injection Volume (uL):**	2.0
Blank Data Filename:	DX72_042 S: 8	**Dilution Factor:**	N/A
Cal. Ver. Data Filename:	DX72_062 S: 1	**Concentration Units:**	pg absolute

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	847	84.7	0.77	1.012
13C-1,2,3,7,8-PECDD [4]		1000	943	94.3	0.62	1.380
13C-1,2,3,4,7,8-HXCDD		1000	931	93.1	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	911	91.1	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	1020	102	1.04	1.095
13C-OCDD		2000	1410	70.3	0.89	1.179
13C-2,3,7,8-TCDF		1000	832	83.2	0.78	0.966
13C-1,2,3,7,8-PECDF		1000	868	86.8	1.54	1.282
13C-2,3,4,7,8-PECDF		1000	868	86.8	1.55	1.349
13C-1,2,3,4,7,8-HXCDF		1000	897	89.7	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		1000	920	92.0	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		1000	856	85.6	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		1000	872	87.2	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	886	88.6	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	954	95.4	0.45	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB059 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.2 g (wet)	**Lab Sample I.D.:**	L9584-11 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_062 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.142	0.0030	1	1.42e-01	1.42e-01	
1,2,3,7,8-PECDD		0.057	0.0030	1	5.70e-02	5.70e-02	
1,2,3,4,7,8-HXCDD		0.038	0.0030	0.1	3.80e-03	3.80e-03	
1,2,3,6,7,8-HXCDD		0.146	0.0030	0.1	1.46e-02	1.46e-02	
1,2,3,7,8,9-HXCDD		0.036	0.0030	0.1	3.60e-03	3.60e-03	
1,2,3,4,6,7,8-HPCDD		0.266	0.0030	0.01	2.66e-03	2.66e-03	
OCDD		2.13	0.0030	0.0001	2.13e-04	2.13e-04	
2,3,7,8-TCDF		0.010	0.0030	0.1	1.00e-03	1.00e-03	
1,2,3,7,8-PECDF	ND		0.0030	0.05	0.00e+00	7.50e-05	
2,3,4,7,8-PECDF		0.067	0.0030	0.5	3.35e-02	3.35e-02	
1,2,3,4,7,8-HXCDF		0.080	0.0030	0.1	8.00e-03	8.00e-03	
1,2,3,6,7,8-HXCDF		0.057	0.0030	0.1	5.70e-03	5.70e-03	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDF		0.086	0.0030	0.01	8.60e-04	8.60e-04	
1,2,3,4,7,8,9-HPCDF		0.009	0.0030	0.01	9.00e-05	9.00e-05	
OCDF		0.009	0.0030	0.0001	9.00e-07	9.00e-07	
			TOTAL TEQ		0.273	0.273	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.142	0.0030	1	1.42e-01	1.42e-01	
1,2,3,7,8-PECDD		0.057	0.0030	1	5.70e-02	5.70e-02	
1,2,3,4,7,8-HXCDD		0.038	0.0030	0.1	3.80e-03	3.80e-03	
1,2,3,6,7,8-HXCDD		0.146	0.0030	0.1	1.46e-02	1.46e-02	
1,2,3,7,8,9-HXCDD		0.036	0.0030	0.1	3.60e-03	3.60e-03	
1,2,3,4,6,7,8-HPCDD		0.266	0.0030	0.01	2.66e-03	2.66e-03	
OCDD		2.13	0.0030	0.0003	6.39e-04	6.39e-04	
2,3,7,8-TCDF		0.010	0.0030	0.1	1.00e-03	1.00e-03	
1,2,3,7,8-PECDF	ND		0.0030	0.03	0.00e+00	4.50e-05	
2,3,4,7,8-PECDF		0.067	0.0030	0.3	2.01e-02	2.01e-02	
1,2,3,4,7,8-HXCDF		0.080	0.0030	0.1	8.00e-03	8.00e-03	
1,2,3,6,7,8-HXCDF		0.057	0.0030	0.1	5.70e-03	5.70e-03	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDF		0.086	0.0030	0.01	8.60e-04	8.60e-04	
1,2,3,4,7,8,9-HPCDF		0.009	0.0030	0.01	9.00e-05	9.00e-05	
OCDF		0.009	0.0030	0.0003	2.70e-06	2.70e-06	
			TOTAL TEQ		0.260	0.260	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB059 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-11 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.110 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	12-Feb-2007
Analysis Date:	13-Feb-2007 **Time:** 12:39:24	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_062 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_062 S: 1
		% Lipid:	0.19

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		77.7	1.64	0.77	1.001
1,2,3,7,8-PECDD [3]		31.2	1.64	0.61	1.001
1,2,3,4,7,8-HXCDD		20.8	1.64	1.18	1.000
1,2,3,6,7,8-HXCDD		79.8	1.64	1.33	1.000
1,2,3,7,8,9-HXCDD		19.7	1.64	1.27	1.010
1,2,3,4,6,7,8-HPCDD		145	1.64	1.06	1.000
OCDD		1160	1.64	0.87	1.000
2,3,7,8-TCDF		5.47	1.64	0.71	1.001
1,2,3,7,8-PECDF	NDR	4.38	1.64	1.24	1.000
2,3,4,7,8-PECDF		36.6	1.64	1.40	1.000
1,2,3,4,7,8-HXCDF		43.8	1.64	1.14	1.000
1,2,3,6,7,8-HXCDF		31.2	1.64	1.31	1.001
1,2,3,7,8,9-HXCDF	NDR	2.19	1.64	0.81	1.000
2,3,4,6,7,8-HXCDF	NDR	7.66	1.64	1.02	1.001
1,2,3,4,6,7,8-HPCDF		47.0	1.64	1.02	1.000
1,2,3,4,7,8,9-HPCDF		4.92	1.64	0.98	1.000
OCDF		4.92	1.64	0.80	1.001
TOTAL TETRA-DIOXINS		77.7	1.64		
TOTAL PENTA-DIOXINS		31.2	1.64		
TOTAL HEXA-DIOXINS		123	1.64		
TOTAL HEPTA-DIOXINS		161	1.64		
TOTAL TETRA-FURANS		5.47	1.64		
TOTAL PENTA-FURANS		36.6	1.64		
TOTAL HEXA-FURANS		75.5	1.64		
TOTAL HEPTA-FURANS		52.0	1.64		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB059 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.110 g (lipid)	**Lab Sample I.D.:**	L9584-11 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_062 S:** 7

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		77.7	1.64	1	7.77e+01	7.77e+01	
1,2,3,7,8-PECDD		31.2	1.64	1	3.12e+01	3.12e+01	
1,2,3,4,7,8-HXCDD		20.8	1.64	0.1	2.08e+00	2.08e+00	
1,2,3,6,7,8-HXCDD		79.8	1.64	0.1	7.98e+00	7.98e+00	
1,2,3,7,8,9-HXCDD		19.7	1.64	0.1	1.97e+00	1.97e+00	
1,2,3,4,6,7,8-HPCDD		145	1.64	0.01	1.45e+00	1.45e+00	
OCDD		1160	1.64	0.0001	1.16e-01	1.16e-01	
2,3,7,8-TCDF		5.47	1.64	0.1	5.47e-01	5.47e-01	
1,2,3,7,8-PECDF	ND		1.64	0.05	0.00e+00	4.10e-02	
2,3,4,7,8-PECDF		36.6	1.64	0.5	1.83e+01	1.83e+01	
1,2,3,4,7,8-HXCDF		43.8	1.64	0.1	4.38e+00	4.38e+00	
1,2,3,6,7,8-HXCDF		31.2	1.64	0.1	3.12e+00	3.12e+00	
1,2,3,7,8,9-HXCDF	ND		1.64	0.1	0.00e+00	8.20e-02	
2,3,4,6,7,8-HXCDF	ND		1.64	0.1	0.00e+00	8.20e-02	
1,2,3,4,6,7,8-HPCDF		47.0	1.64	0.01	4.70e-01	4.70e-01	
1,2,3,4,7,8,9-HPCDF		4.92	1.64	0.01	4.92e-02	4.92e-02	
OCDF		4.92	1.64	0.0001	4.92e-04	4.92e-04	
			TOTAL TEQ		149	150	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		77.7	1.64	1	7.77e+01	7.77e+01	
1,2,3,7,8-PECDD		31.2	1.64	1	3.12e+01	3.12e+01	
1,2,3,4,7,8-HXCDD		20.8	1.64	0.1	2.08e+00	2.08e+00	
1,2,3,6,7,8-HXCDD		79.8	1.64	0.1	7.98e+00	7.98e+00	
1,2,3,7,8,9-HXCDD		19.7	1.64	0.1	1.97e+00	1.97e+00	
1,2,3,4,6,7,8-HPCDD		145	1.64	0.01	1.45e+00	1.45e+00	
OCDD		1160	1.64	0.0003	3.48e-01	3.48e-01	
2,3,7,8-TCDF		5.47	1.64	0.1	5.47e-01	5.47e-01	
1,2,3,7,8-PECDF	ND		1.64	0.03	0.00e+00	2.46e-02	
2,3,4,7,8-PECDF		36.6	1.64	0.3	1.10e+01	1.10e+01	
1,2,3,4,7,8-HXCDF		43.8	1.64	0.1	4.38e+00	4.38e+00	
1,2,3,6,7,8-HXCDF		31.2	1.64	0.1	3.12e+00	3.12e+00	
1,2,3,7,8,9-HXCDF	ND		1.64	0.1	0.00e+00	8.20e-02	
2,3,4,6,7,8-HXCDF	ND		1.64	0.1	0.00e+00	8.20e-02	
1,2,3,4,6,7,8-HPCDF		47.0	1.64	0.01	4.70e-01	4.70e-01	
1,2,3,4,7,8,9-HPCDF		4.92	1.64	0.01	4.92e-02	4.92e-02	
OCDF		4.92	1.64	0.0003	1.48e-03	1.48e-03	
			TOTAL TEQ		142	142	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 18:45:54; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-11_TEQ_SJ638701_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB060 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-14 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	41.0 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 Time: 16:10:46	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_049 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.087	0.0050	0.80	1.001
1,2,3,7,8-PECDD [3]		0.056	0.0050	0.63	1.000
1,2,3,4,7,8-HXCDD		0.031	0.0050	1.32	1.000
1,2,3,6,7,8-HXCDD		0.128	0.0050	1.33	1.000
1,2,3,7,8,9-HXCDD		0.033	0.0050	1.23	1.011
1,2,3,4,6,7,8-HPCDD		0.197	0.0050	1.05	1.000
OCDD		1.47	0.0050	0.89	1.000
2,3,7,8-TCDF		0.006	0.0050	0.70	1.001
1,2,3,7,8-PECDF		0.005	0.0050	1.43	1.000
2,3,4,7,8-PECDF		0.051	0.0050	1.50	1.000
1,2,3,4,7,8-HXCDF		0.055	0.0050	1.35	1.000
1,2,3,6,7,8-HXCDF		0.040	0.0050	1.29	1.001
1,2,3,7,8,9-HXCDF	ND		0.0050		
2,3,4,6,7,8-HXCDF		0.006	0.0050	1.19	1.000
1,2,3,4,6,7,8-HPCDF		0.058	0.0050	1.11	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.005	0.0050	0.72	1.000
OCDF		0.006	0.0050	0.96	1.002
TOTAL TETRA-DIOXINS		0.087	0.0050		
TOTAL PENTA-DIOXINS		0.056	0.0050		
TOTAL HEXA-DIOXINS		0.192	0.0050		
TOTAL HEPTA-DIOXINS		0.217	0.0050		
TOTAL TETRA-FURANS		0.006	0.0050		
TOTAL PENTA-FURANS		0.051	0.0050		
TOTAL HEXA-FURANS		0.102	0.0050		
TOTAL HEPTA-FURANS		0.058	0.0050		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB5_L9584-14_Form1A_SJ640666.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB060 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-14 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	41.0 g (wet)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 Time: 16:10:46	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_049 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	808	80.8	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	974	97.4	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		1000	798	79.8	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	770	77.0	1.25	0.989
13C-1,2,3,4,6,7,8-HPCDD		1000	757	75.7	1.04	1.095
13C-OCDD		2000	1330	66.4	0.90	1.179
13C-2,3,7,8-TCDF		1000	785	78.5	0.80	0.967
13C-1,2,3,7,8-PECDF		1000	881	88.1	1.59	1.284
13C-2,3,4,7,8-PECDF		1000	880	88.0	1.58	1.351
13C-1,2,3,4,7,8-HXCDF		1000	764	76.4	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		1000	738	73.8	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	752	75.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	740	74.0	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	695	69.5	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	718	71.8	0.46	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_L9584-14_Form2_SJ640666.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB060 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	41.0 g (wet)	**Lab Sample I.D.:**	L9584-14 R
Concentration Units:	pg/g (wet weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_049 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.087	0.0050	1	8.70e-02	8.70e-02	
1,2,3,7,8-PECDD		0.056	0.0050	1	5.60e-02	5.60e-02	
1,2,3,4,7,8-HXCDD		0.031	0.0050	0.1	3.10e-03	3.10e-03	
1,2,3,6,7,8-HXCDD		0.128	0.0050	0.1	1.28e-02	1.28e-02	
1,2,3,7,8,9-HXCDD		0.033	0.0050	0.1	3.30e-03	3.30e-03	
1,2,3,4,6,7,8-HPCDD		0.197	0.0050	0.01	1.97e-03	1.97e-03	
OCDD		1.47	0.0050	0.0001	1.47e-04	1.47e-04	
2,3,7,8-TCDF		0.006	0.0050	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF		0.005	0.0050	0.05	2.50e-04	2.50e-04	
2,3,4,7,8-PECDF		0.051	0.0050	0.5	2.55e-02	2.55e-02	
1,2,3,4,7,8-HXCDF		0.055	0.0050	0.1	5.50e-03	5.50e-03	
1,2,3,6,7,8-HXCDF		0.040	0.0050	0.1	4.00e-03	4.00e-03	
1,2,3,7,8,9-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
2,3,4,6,7,8-HXCDF		0.006	0.0050	0.1	6.00e-04	6.00e-04	
1,2,3,4,6,7,8-HPCDF		0.058	0.0050	0.01	5.80e-04	5.80e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0050	0.01	0.00e+00	2.50e-05	
OCDF		0.006	0.0050	0.0001	6.00e-07	6.00e-07	
			TOTAL TEQ		0.201	0.202	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.087	0.0050	1	8.70e-02	8.70e-02	
1,2,3,7,8-PECDD		0.056	0.0050	1	5.60e-02	5.60e-02	
1,2,3,4,7,8-HXCDD		0.031	0.0050	0.1	3.10e-03	3.10e-03	
1,2,3,6,7,8-HXCDD		0.128	0.0050	0.1	1.28e-02	1.28e-02	
1,2,3,7,8,9-HXCDD		0.033	0.0050	0.1	3.30e-03	3.30e-03	
1,2,3,4,6,7,8-HPCDD		0.197	0.0050	0.01	1.97e-03	1.97e-03	
OCDD		1.47	0.0050	0.0003	4.41e-04	4.41e-04	
2,3,7,8-TCDF		0.006	0.0050	0.1	6.00e-04	6.00e-04	
1,2,3,7,8-PECDF		0.005	0.0050	0.03	1.50e-04	1.50e-04	
2,3,4,7,8-PECDF		0.051	0.0050	0.3	1.53e-02	1.53e-02	
1,2,3,4,7,8-HXCDF		0.055	0.0050	0.1	5.50e-03	5.50e-03	
1,2,3,6,7,8-HXCDF		0.040	0.0050	0.1	4.00e-03	4.00e-03	
1,2,3,7,8,9-HXCDF	ND		0.0050	0.1	0.00e+00	2.50e-04	
2,3,4,6,7,8-HXCDF		0.006	0.0050	0.1	6.00e-04	6.00e-04	
1,2,3,4,6,7,8-HPCDF		0.058	0.0050	0.01	5.80e-04	5.80e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0050	0.01	0.00e+00	2.50e-05	
OCDF		0.006	0.0050	0.0003	1.80e-06	1.80e-06	
			TOTAL TEQ		0.191	0.192	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-14_TEQ_SJ640666.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB060 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-14 R
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.0990 g (lipid)
Extraction Date:	22-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	01-Feb-2007 **Time:** 16:10:46	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_049 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_048 S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_049 S: 2
		% Lipid:	0.24

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		36.0	2.07	0.80	1.001
1,2,3,7,8-PECDD [3]		23.2	2.07	0.63	1.000
1,2,3,4,7,8-HXCDD		12.8	2.07	1.32	1.000
1,2,3,6,7,8-HXCDD		53.0	2.07	1.33	1.000
1,2,3,7,8,9-HXCDD		13.7	2.07	1.23	1.011
1,2,3,4,6,7,8-HPCDD		81.5	2.07	1.05	1.000
OCDD		608	2.07	0.89	1.000
2,3,7,8-TCDF		2.48	2.07	0.70	1.001
1,2,3,7,8-PECDF		2.07	2.07	1.43	1.000
2,3,4,7,8-PECDF		21.1	2.07	1.50	1.000
1,2,3,4,7,8-HXCDF		22.8	2.07	1.35	1.000
1,2,3,6,7,8-HXCDF		16.6	2.07	1.29	1.001
1,2,3,7,8,9-HXCDF	ND		2.07		
2,3,4,6,7,8-HXCDF		2.48	2.07	1.19	1.000
1,2,3,4,6,7,8-HPCDF		24.0	2.07	1.11	1.000
1,2,3,4,7,8,9-HPCDF	NDR	2.07	2.07	0.72	1.000
OCDF		2.48	2.07	0.96	1.002
TOTAL TETRA-DIOXINS		36.0	2.07		
TOTAL PENTA-DIOXINS		23.2	2.07		
TOTAL HEXA-DIOXINS		79.5	2.07		
TOTAL HEPTA-DIOXINS		89.8	2.07		
TOTAL TETRA-FURANS		2.48	2.07		
TOTAL PENTA-FURANS		21.1	2.07		
TOTAL HEXA-FURANS		42.2	2.07		
TOTAL HEPTA-FURANS		24.0	2.07		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB060 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-14 R
Sample Size:	0.0990 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	**DX72_049 S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		36.0	2.07	1	3.60e+01	3.60e+01	
1,2,3,7,8-PECDD		23.2	2.07	1	2.32e+01	2.32e+01	
1,2,3,4,7,8-HXCDD		12.8	2.07	0.1	1.28e+00	1.28e+00	
1,2,3,6,7,8-HXCDD		53.0	2.07	0.1	5.30e+00	5.30e+00	
1,2,3,7,8,9-HXCDD		13.7	2.07	0.1	1.37e+00	1.37e+00	
1,2,3,4,6,7,8-HPCDD		81.5	2.07	0.01	8.15e-01	8.15e-01	
OCDD		608	2.07	0.0001	6.08e-02	6.08e-02	
2,3,7,8-TCDF		2.48	2.07	0.1	2.48e-01	2.48e-01	
1,2,3,7,8-PECDF		2.07	2.07	0.05	1.04e-01	1.04e-01	
2,3,4,7,8-PECDF		21.1	2.07	0.5	1.06e+01	1.06e+01	
1,2,3,4,7,8-HXCDF		22.8	2.07	0.1	2.28e+00	2.28e+00	
1,2,3,6,7,8-HXCDF		16.6	2.07	0.1	1.66e+00	1.66e+00	
1,2,3,7,8,9-HXCDF	ND		2.07	0.1	0.00e+00	1.04e-01	
2,3,4,6,7,8-HXCDF		2.48	2.07	0.1	2.48e-01	2.48e-01	
1,2,3,4,6,7,8-HPCDF		24.0	2.07	0.01	2.40e-01	2.40e-01	
1,2,3,4,7,8,9-HPCDF	ND		2.07	0.01	0.00e+00	1.04e-02	
OCDF		2.48	2.07	0.0001	2.48e-04	2.48e-04	
			TOTAL TEQ		83.4	83.5	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		36.0	2.07	1	3.60e+01	3.60e+01	
1,2,3,7,8-PECDD		23.2	2.07	1	2.32e+01	2.32e+01	
1,2,3,4,7,8-HXCDD		12.8	2.07	0.1	1.28e+00	1.28e+00	
1,2,3,6,7,8-HXCDD		53.0	2.07	0.1	5.30e+00	5.30e+00	
1,2,3,7,8,9-HXCDD		13.7	2.07	0.1	1.37e+00	1.37e+00	
1,2,3,4,6,7,8-HPCDD		81.5	2.07	0.01	8.15e-01	8.15e-01	
OCDD		608	2.07	0.0003	1.82e-01	1.82e-01	
2,3,7,8-TCDF		2.48	2.07	0.1	2.48e-01	2.48e-01	
1,2,3,7,8-PECDF		2.07	2.07	0.03	6.21e-02	6.21e-02	
2,3,4,7,8-PECDF		21.1	2.07	0.3	6.33e+00	6.33e+00	
1,2,3,4,7,8-HXCDF		22.8	2.07	0.1	2.28e+00	2.28e+00	
1,2,3,6,7,8-HXCDF		16.6	2.07	0.1	1.66e+00	1.66e+00	
1,2,3,7,8,9-HXCDF	ND		2.07	0.1	0.00e+00	1.04e-01	
2,3,4,6,7,8-HXCDF		2.48	2.07	0.1	2.48e-01	2.48e-01	
1,2,3,4,6,7,8-HPCDF		24.0	2.07	0.01	2.40e-01	2.40e-01	
1,2,3,4,7,8,9-HPCDF	ND		2.07	0.01	0.00e+00	1.04e-02	
OCDF		2.48	2.07	0.0003	7.44e-04	7.44e-04	
			TOTAL TEQ		79.2	79.3	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 16:00:14; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-14_TEQ_SJ640666_lipid.html; Workgroup: WG21139; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB061 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-5 Ri
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	57.4 g (wet)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	30-Jan-2007 **Time:** 14:52:38	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_045B S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	DX72_045B S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.154	0.0030	0.81	1.001
1,2,3,7,8-PECDD [3]		0.062	0.0030	0.68	1.000
1,2,3,4,7,8-HXCDD	NDR	0.041	0.0030	1.52	1.000
1,2,3,6,7,8-HXCDD		0.142	0.0030	1.26	1.000
1,2,3,7,8,9-HXCDD		0.060	0.0030	1.18	1.010
1,2,3,4,6,7,8-HPCDD		0.383	0.0030	1.07	1.000
OCDD		1.98	0.0037	0.91	1.000
2,3,7,8-TCDF	NDR	0.007	0.0030	1.04	1.001
1,2,3,7,8-PECDF		0.004	0.0030	1.48	1.000
2,3,4,7,8-PECDF		0.056	0.0030	1.72	1.000
1,2,3,4,7,8-HXCDF		0.061	0.0030	1.18	1.000
1,2,3,6,7,8-HXCDF		0.048	0.0030	1.26	1.000
1,2,3,7,8,9-HXCDF	ND		0.0030		
2,3,4,6,7,8-HXCDF		0.009	0.0030	1.09	1.000
1,2,3,4,6,7,8-HPCDF		0.071	0.0030	0.97	1.000
1,2,3,4,7,8,9-HPCDF		0.008	0.0030	0.92	1.000
OCDF		0.011	0.0030	0.96	1.002
TOTAL TETRA-DIOXINS		0.154	0.0030		
TOTAL PENTA-DIOXINS		0.062	0.0030		
TOTAL HEXA-DIOXINS		0.208	0.0030		
TOTAL HEPTA-DIOXINS		0.410	0.0030		
TOTAL TETRA-FURANS	ND		0.0030		
TOTAL PENTA-FURANS		0.066	0.0030		
TOTAL HEXA-FURANS		0.117	0.0030		
TOTAL HEPTA-FURANS		0.078	0.0030		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-5_Form1A_SJ636315.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB061 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-5 Ri
Matrix:	BLOOD	**Sample Size:**	57.4 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	30-Jan-2007 **Time:** 14:52:38	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_045B S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_045B S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	435	43.5	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	486	48.6	0.64	1.384
13C-1,2,3,4,7,8-HXCDD		1000	410	41.0	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	394	39.4	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	371	37.1	1.05	1.095
13C-OCDD		2000	618	30.9	0.91	1.179
13C-2,3,7,8-TCDF		1000	381	38.1	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	492	49.2	1.59	1.283
13C-2,3,4,7,8-PECDF		1000	420	42.0	1.60	1.353
13C-1,2,3,4,7,8-HXCDF		1000	443	44.3	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	421	42.1	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	422	42.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	375	37.5	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	401	40.1	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	399	39.9	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_L9584-5_Form2_SJ636315.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB061 Composite

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-5 Ri
Sample Size:	57.4 g (wet)	**GC Column ID:**	DB5
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filename:**	**DX72_045B S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.154	0.0030	1	1.54e-01	1.54e-01	
1,2,3,7,8-PECDD		0.062	0.0030	1	6.20e-02	6.20e-02	
1,2,3,4,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDD		0.142	0.0030	0.1	1.42e-02	1.42e-02	
1,2,3,7,8,9-HXCDD		0.060	0.0030	0.1	6.00e-03	6.00e-03	
1,2,3,4,6,7,8-HPCDD		0.383	0.0030	0.01	3.83e-03	3.83e-03	
OCDD		1.98	0.0037	0.0001	1.98e-04	1.98e-04	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF		0.004	0.0030	0.05	2.00e-04	2.00e-04	
2,3,4,7,8-PECDF		0.056	0.0030	0.5	2.80e-02	2.80e-02	
1,2,3,4,7,8-HXCDF		0.061	0.0030	0.1	6.10e-03	6.10e-03	
1,2,3,6,7,8-HXCDF		0.048	0.0030	0.1	4.80e-03	4.80e-03	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF		0.009	0.0030	0.1	9.00e-04	9.00e-04	
1,2,3,4,6,7,8-HPCDF		0.071	0.0030	0.01	7.10e-04	7.10e-04	
1,2,3,4,7,8,9-HPCDF		0.008	0.0030	0.01	8.00e-05	8.00e-05	
OCDF		0.011	0.0030	0.0001	1.10e-06	1.10e-06	
			TOTAL TEQ		0.281	0.281	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.154	0.0030	1	1.54e-01	1.54e-01	
1,2,3,7,8-PECDD		0.062	0.0030	1	6.20e-02	6.20e-02	
1,2,3,4,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDD		0.142	0.0030	0.1	1.42e-02	1.42e-02	
1,2,3,7,8,9-HXCDD		0.060	0.0030	0.1	6.00e-03	6.00e-03	
1,2,3,4,6,7,8-HPCDD		0.383	0.0030	0.01	3.83e-03	3.83e-03	
OCDD		1.98	0.0037	0.0003	5.94e-04	5.94e-04	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF		0.004	0.0030	0.03	1.20e-04	1.20e-04	
2,3,4,7,8-PECDF		0.056	0.0030	0.3	1.68e-02	1.68e-02	
1,2,3,4,7,8-HXCDF		0.061	0.0030	0.1	6.10e-03	6.10e-03	
1,2,3,6,7,8-HXCDF		0.048	0.0030	0.1	4.80e-03	4.80e-03	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF		0.009	0.0030	0.1	9.00e-04	9.00e-04	
1,2,3,4,6,7,8-HPCDF		0.071	0.0030	0.01	7.10e-04	7.10e-04	
1,2,3,4,7,8,9-HPCDF		0.008	0.0030	0.01	8.00e-05	8.00e-05	
OCDF		0.011	0.0030	0.0003	3.30e-06	3.30e-06	
			TOTAL TEQ		0.270	0.271	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-5_TEQ_SJ636315.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB061 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-5 Ri
Matrix:	BLOOD	**Sample Size:**	0.200 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	30-Jan-2007 **Time:** 14:52:38	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_045B S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_045B S: 2
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.35

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		44.2	0.860	0.81	1.001
1,2,3,7,8-PECDD [3]		17.8	0.860	0.68	1.000
1,2,3,4,7,8-HXCDD	NDR	11.8	0.860	1.52	1.000
1,2,3,6,7,8-HXCDD		40.7	0.860	1.26	1.000
1,2,3,7,8,9-HXCDD		17.2	0.860	1.18	1.010
1,2,3,4,6,7,8-HPCDD		110	0.860	1.07	1.000
OCDD		568	1.06	0.91	1.000
2,3,7,8-TCDF	NDR	2.01	0.860	1.04	1.001
1,2,3,7,8-PECDF		1.15	0.860	1.48	1.000
2,3,4,7,8-PECDF		16.1	0.860	1.72	1.000
1,2,3,4,7,8-HXCDF		17.5	0.860	1.18	1.000
1,2,3,6,7,8-HXCDF		13.8	0.860	1.26	1.000
1,2,3,7,8,9-HXCDF	ND		0.860		
2,3,4,6,7,8-HXCDF		2.58	0.860	1.09	1.000
1,2,3,4,6,7,8-HPCDF		20.4	0.860	0.97	1.000
1,2,3,4,7,8,9-HPCDF		2.29	0.860	0.92	1.000
OCDF		3.15	0.860	0.96	1.002
TOTAL TETRA-DIOXINS		44.2	0.860		
TOTAL PENTA-DIOXINS		17.8	0.860		
TOTAL HEXA-DIOXINS		59.7	0.860		
TOTAL HEPTA-DIOXINS		118	0.860		
TOTAL TETRA-FURANS	ND		0.860		
TOTAL PENTA-FURANS		18.9	0.860		
TOTAL HEXA-FURANS		33.6	0.860		
TOTAL HEPTA-FURANS		22.4	0.860		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 27-Apr-2007 15:32:50; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613DB5_L9584-5_Form1A_DX72_045BS9_SJ636315_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VNB061 Composite

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-5 Ri
Sample Size:	0.200 g (lipid)	**GC Column ID:**	DB5
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename:**	DX72_045B S: 9

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		44.2	0.860	1	4.42e+01	4.42e+01	
1,2,3,7,8-PECDD		17.8	0.860	1	1.78e+01	1.78e+01	
1,2,3,4,7,8-HXCDD	ND		0.860	0.1	0.00e+00	4.30e-02	
1,2,3,6,7,8-HXCDD		40.7	0.860	0.1	4.07e+00	4.07e+00	
1,2,3,7,8,9-HXCDD		17.2	0.860	0.1	1.72e+00	1.72e+00	
1,2,3,4,6,7,8-HPCDD		110	0.860	0.01	1.10e+00	1.10e+00	
OCDD		568	1.06	0.0001	5.68e-02	5.68e-02	
2,3,7,8-TCDF	ND		0.860	0.1	0.00e+00	4.30e-02	
1,2,3,7,8-PECDF		1.15	0.860	0.05	5.75e-02	5.75e-02	
2,3,4,7,8-PECDF		16.1	0.860	0.5	8.05e+00	8.05e+00	
1,2,3,4,7,8-HXCDF		17.5	0.860	0.1	1.75e+00	1.75e+00	
1,2,3,6,7,8-HXCDF		13.8	0.860	0.1	1.38e+00	1.38e+00	
1,2,3,7,8,9-HXCDF	ND		0.860	0.1	0.00e+00	4.30e-02	
2,3,4,6,7,8-HXCDF		2.58	0.860	0.1	2.58e-01	2.58e-01	
1,2,3,4,6,7,8-HPCDF		20.4	0.860	0.01	2.04e-01	2.04e-01	
1,2,3,4,7,8,9-HPCDF		2.29	0.860	0.01	2.29e-02	2.29e-02	
OCDF		3.15	0.860	0.0001	3.15e-04	3.15e-04	
			TOTAL TEQ		80.7	80.8	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		44.2	0.860	1	4.42e+01	4.42e+01	
1,2,3,7,8-PECDD		17.8	0.860	1	1.78e+01	1.78e+01	
1,2,3,4,7,8-HXCDD	ND		0.860	0.1	0.00e+00	4.30e-02	
1,2,3,6,7,8-HXCDD		40.7	0.860	0.1	4.07e+00	4.07e+00	
1,2,3,7,8,9-HXCDD		17.2	0.860	0.1	1.72e+00	1.72e+00	
1,2,3,4,6,7,8-HPCDD		110	0.860	0.01	1.10e+00	1.10e+00	
OCDD		568	1.06	0.0003	1.70e-01	1.70e-01	
2,3,7,8-TCDF	ND		0.860	0.1	0.00e+00	4.30e-02	
1,2,3,7,8-PECDF		1.15	0.860	0.03	3.45e-02	3.45e-02	
2,3,4,7,8-PECDF		16.1	0.860	0.3	4.83e+00	4.83e+00	
1,2,3,4,7,8-HXCDF		17.5	0.860	0.1	1.75e+00	1.75e+00	
1,2,3,6,7,8-HXCDF		13.8	0.860	0.1	1.38e+00	1.38e+00	
1,2,3,7,8,9-HXCDF	ND		0.860	0.1	0.00e+00	4.30e-02	
2,3,4,6,7,8-HXCDF		2.58	0.860	0.1	2.58e-01	2.58e-01	
1,2,3,4,6,7,8-HPCDF		20.4	0.860	0.01	2.04e-01	2.04e-01	
1,2,3,4,7,8,9-HPCDF		2.29	0.860	0.01	2.29e-02	2.29e-02	
OCDF		3.15	0.860	0.0003	9.45e-04	9.45e-04	
			TOTAL TEQ		77.5	77.7	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 27-Apr-2007 15:36:45; Application: XMLTransformer-1.8.0;
Report Filename: 1613_DIOXINS_1613-TEQ_L9584-5_TEQ_SJ636315_lipid.html; Workgroup: WG21015; Design ID: 621]

A2.4
Rinseate

BATCH SUMMARY

Batch ID:	WG21245	***Date:***	18-Feb-2007
Analysis Type:	DIOXINS	***Matrix Type:***	Aqueous

BATCH MAKEUP

Contract:	2607	***Samples:***	L9590-1 L9590-8
Blank:	WG21245-101		
Reference or Spike:	WG21245-102		
Duplicate:			

Comments:

1. Data are not blank corrected. The method blank in this batch was not as clean as we are normally able to achieve. The levels of sample 06VN001 (Axys ID L9590-1) especially should be compared to the blank levels.

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN001
Sample Collection:
05-Dec-2006 09:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	AQUEOUS	**Lab Sample I.D.:**	L9590-1
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.831 L
Extraction Date:	01-Feb-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	15-Feb-2007 **Time:** 02:15:20	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_065 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_065 S: 6
Concentration Units:	pg/L	**Cal. Ver. Data Filename:**	DX72_065 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.602		
1,2,3,7,8-PECDD [3]	ND		0.602		
1,2,3,4,7,8-HXCDD	ND		0.602		
1,2,3,6,7,8-HXCDD	ND		0.602		
1,2,3,7,8,9-HXCDD	ND		0.602		
1,2,3,4,6,7,8-HPCDD	NDR	2.73	0.602	0.84	1.000
OCDD		14.3	0.602	0.94	1.000
2,3,7,8-TCDF		0.829	0.602	0.71	1.002
1,2,3,7,8-PECDF	ND		0.602		
2,3,4,7,8-PECDF		0.611	0.602	1.54	1.000
1,2,3,4,7,8-HXCDF	ND		0.602		
1,2,3,6,7,8-HXCDF	ND		0.602		
1,2,3,7,8,9-HXCDF	ND		0.602		
2,3,4,6,7,8-HXCDF	ND		0.602		
1,2,3,4,6,7,8-HPCDF		1.05	0.602	1.07	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.602		
OCDF	NDR	0.778	0.602	1.45	1.002
TOTAL TETRA-DIOXINS	ND		0.602		
TOTAL PENTA-DIOXINS	ND		0.602		
TOTAL HEXA-DIOXINS	ND		0.602		
TOTAL HEPTA-DIOXINS		2.59	0.602		
TOTAL TETRA-FURANS		0.829	0.602		
TOTAL PENTA-FURANS		0.611	0.602		
TOTAL HEXA-FURANS	ND		0.602		
TOTAL HEPTA-FURANS		1.05	0.602		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN001
Sample Collection:
05-Dec-2006 09:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	AQUEOUS	**Lab Sample I.D.:**	L9590-1
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.831 L
Extraction Date:	01-Feb-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	15-Feb-2007 **Time:** 02:15:20	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_065 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_065 S: 6
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_065 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1420	70.9	0.78	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1400	70.0	0.63	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1510	75.6	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1480	74.2	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1320	66.2	1.04	1.094
13C-OCDD		4000	2180	54.5	0.88	1.178
13C-2,3,7,8-TCDF		2000	1480	73.8	0.78	0.966
13C-1,2,3,7,8-PECDF		2000	1370	68.7	1.56	1.282
13C-2,3,4,7,8-PECDF		2000	1380	68.9	1.56	1.348
13C-1,2,3,4,7,8-HXCDF		2000	1540	76.8	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1530	76.3	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1450	72.4	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1500	74.8	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1390	69.3	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1320	66.2	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	164	81.9		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 17:07:49; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9590-1_Form2_SJ637351.html; Workgroup: WG21245; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN001
Sample Collection:
05-Dec-2006 09:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	AQUEOUS	**Lab Sample I.D.:**	L9590-1
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.831 L
Extraction Date:	01-Feb-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 22:46:26	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_024 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_024 S: 5
Concentration Units:	pg/L	**Cal. Ver. Data Filename:**	DB73_024 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.821		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 17:12:41; Application: XMLTransformer-1.7.30; Report Filename: 1613_DIOXINS_1613DB225_L9590-1_Form1A_SJ637383.html; Workgroup: WG21245; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN001

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	05-Dec-2006 09:45	**Contract No.:**	2607
Project No.	DANDI 1283	**Matrix:**	AQUEOUS
Lab Sample I.D.:	L9590-1	**Sample Size:**	0.831 L
GC Column ID(s):	DB225 DB5	**Concentration Units:**	pg/L
Sample Data Filenames:	**DB73_024 S: 6** **DX72_065 S: 8**		

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.602	1	0.00e+00	3.01e-01	
1,2,3,7,8-PECDD	ND		0.602	1	0.00e+00	3.01e-01	
1,2,3,4,7,8-HXCDD	ND		0.602	0.1	0.00e+00	3.01e-02	
1,2,3,6,7,8-HXCDD	ND		0.602	0.1	0.00e+00	3.01e-02	
1,2,3,7,8,9-HXCDD	ND		0.602	0.1	0.00e+00	3.01e-02	
1,2,3,4,6,7,8-HPCDD	ND		0.602	0.01	0.00e+00	3.01e-03	
OCDD		14.3	0.602	0.0001	1.43e-03	1.43e-03	
2,3,7,8-TCDF	ND		0.821	0.1	0.00e+00	4.11e-02	
1,2,3,7,8-PECDF	ND		0.602	0.05	0.00e+00	1.51e-02	
2,3,4,7,8-PECDF		0.611	0.602	0.5	3.06e-01	3.06e-01	
1,2,3,4,7,8-HXCDF	ND		0.602	0.1	0.00e+00	3.01e-02	
1,2,3,6,7,8-HXCDF	ND		0.602	0.1	0.00e+00	3.01e-02	
1,2,3,7,8,9-HXCDF	ND		0.602	0.1	0.00e+00	3.01e-02	
2,3,4,6,7,8-HXCDF	ND		0.602	0.1	0.00e+00	3.01e-02	
1,2,3,4,6,7,8-HPCDF		1.05	0.602	0.01	1.05e-02	1.05e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.602	0.01	0.00e+00	3.01e-03	
OCDF	ND		0.602	0.0001	0.00e+00	3.01e-05	
			TOTAL TEQ		0.317	1.19	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.602	1	0.00e+00	3.01e-01	
1,2,3,7,8-PECDD	ND		0.602	1	0.00e+00	3.01e-01	
1,2,3,4,7,8-HXCDD	ND		0.602	0.1	0.00e+00	3.01e-02	
1,2,3,6,7,8-HXCDD	ND		0.602	0.1	0.00e+00	3.01e-02	
1,2,3,7,8,9-HXCDD	ND		0.602	0.1	0.00e+00	3.01e-02	
1,2,3,4,6,7,8-HPCDD	ND		0.602	0.01	0.00e+00	3.01e-03	
OCDD		14.3	0.602	0.0003	4.29e-03	4.29e-03	
2,3,7,8-TCDF	ND		0.821	0.1	0.00e+00	4.11e-02	
1,2,3,7,8-PECDF	ND		0.602	0.03	0.00e+00	9.03e-03	
2,3,4,7,8-PECDF		0.611	0.602	0.3	1.83e-01	1.83e-01	
1,2,3,4,7,8-HXCDF	ND		0.602	0.1	0.00e+00	3.01e-02	
1,2,3,6,7,8-HXCDF	ND		0.602	0.1	0.00e+00	3.01e-02	
1,2,3,7,8,9-HXCDF	ND		0.602	0.1	0.00e+00	3.01e-02	
2,3,4,6,7,8-HXCDF	ND		0.602	0.1	0.00e+00	3.01e-02	
1,2,3,4,6,7,8-HPCDF		1.05	0.602	0.01	1.05e-02	1.05e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.602	0.01	0.00e+00	3.01e-03	
OCDF	ND		0.602	0.0003	0.00e+00	9.03e-05	
			TOTAL TEQ		0.198	1.07	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 18-Feb-2007 13:06:25; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9590-1_TEQ_SJ637383.html; Workgroup: WG21245; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	AQUEOUS	**Lab Sample I.D.:**	L9590-8
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.935 L
Extraction Date:	01-Feb-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	15-Feb-2007 **Time:** 03:09:53	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_065 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_065 S: 6
Concentration Units:	pg/L	**Cal. Ver. Data Filename:**	DX72_065 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		167	0.535	0.75	1.001
1,2,3,7,8-PECDD [3]	NDR	1.70	0.535	0.46	1.001
1,2,3,4,7,8-HXCDD		0.536	0.535	1.25	1.000
1,2,3,6,7,8-HXCDD	NDR	2.78	0.535	1.81	1.000
1,2,3,7,8,9-HXCDD		2.36	0.535	1.30	1.010
1,2,3,4,6,7,8-HPCDD		16.4	0.535	0.99	1.000
OCDD		34.3	0.535	0.94	1.000
2,3,7,8-TCDF		4.98	0.535	0.80	1.003
1,2,3,7,8-PECDF	ND		0.535		
2,3,4,7,8-PECDF	ND		0.535		
1,2,3,4,7,8-HXCDF	ND		0.535		
1,2,3,6,7,8-HXCDF	ND		0.535		
1,2,3,7,8,9-HXCDF	ND		0.535		
2,3,4,6,7,8-HXCDF	ND		0.535		
1,2,3,4,6,7,8-HPCDF		1.31	0.535	1.02	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.535		
OCDF		1.64	0.535	1.02	1.002
TOTAL TETRA-DIOXINS		176	0.535		
TOTAL PENTA-DIOXINS		9.40	0.535		
TOTAL HEXA-DIOXINS		11.4	0.535		
TOTAL HEPTA-DIOXINS		16.4	0.535		
TOTAL TETRA-FURANS		17.1	0.535		
TOTAL PENTA-FURANS		13.7	0.535		
TOTAL HEXA-FURANS		1.78	0.535		
TOTAL HEPTA-FURANS		1.31	0.535		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 17:07:49; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9590-8_Form1A_SJ637352.html; Workgroup: WG21245; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	AQUEOUS	**Lab Sample I.D.:**	L9590-8
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.935 L
Extraction Date:	01-Feb-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	15-Feb-2007 **Time:** 03:09:53	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_065 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_065 S: 6
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_065 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1320	65.9	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1330	66.3	0.62	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1400	69.9	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1360	68.2	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1160	57.8	1.04	1.094
13C-OCDD		4000	1810	45.3	0.89	1.178
13C-2,3,7,8-TCDF		2000	1370	68.5	0.78	0.966
13C-1,2,3,7,8-PECDF		2000	1310	65.3	1.56	1.282
13C-2,3,4,7,8-PECDF		2000	1310	65.4	1.55	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1420	70.9	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1430	71.3	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1350	67.3	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1380	69.1	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1250	62.5	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1160	58.0	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	145	72.7		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 17:07:49; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_L9590-8_Form2_SJ637352.html; Workgroup: WG21245; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	AQUEOUS	**Lab Sample I.D.:**	L9590-8
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.935 L
Extraction Date:	01-Feb-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 23:22:02	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_024 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_024 S: 5
Concentration Units:	pg/L	**Cal. Ver. Data Filename:**	DB73_024 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.924		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 17:12:41; Application: XMLTransformer-1.7.30; Report Filename: 1613_DIOXINS_1613DB225_L9590-8_Form1A_SJ637384.html; Workgroup: WG21245; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
06VN075

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 08:20
Matrix:	AQUEOUS	**Project No.**	DANDI 1283
Sample Size:	0.935 L	**Lab Sample I.D.:**	L9590-8
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/L	**Sample Data Filenames:**	**DB73_024 S: 7** **DX72_065 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		167	0.535	1	1.67e+02	1.67e+02	
1,2,3,7,8-PECDD	ND		0.535	1	0.00e+00	2.68e-01	
1,2,3,4,7,8-HXCDD		0.536	0.535	0.1	5.36e-02	5.36e-02	
1,2,3,6,7,8-HXCDD	ND		0.535	0.1	0.00e+00	2.68e-02	
1,2,3,7,8,9-HXCDD		2.36	0.535	0.1	2.36e-01	2.36e-01	
1,2,3,4,6,7,8-HPCDD		16.4	0.535	0.01	1.64e-01	1.64e-01	
OCDD		34.3	0.535	0.0001	3.43e-03	3.43e-03	
2,3,7,8-TCDF	ND		0.924	0.1	0.00e+00	4.62e-02	
1,2,3,7,8-PECDF	ND		0.535	0.05	0.00e+00	1.34e-02	
2,3,4,7,8-PECDF	ND		0.535	0.5	0.00e+00	1.34e-01	
1,2,3,4,7,8-HXCDF	ND		0.535	0.1	0.00e+00	2.68e-02	
1,2,3,6,7,8-HXCDF	ND		0.535	0.1	0.00e+00	2.68e-02	
1,2,3,7,8,9-HXCDF	ND		0.535	0.1	0.00e+00	2.68e-02	
2,3,4,6,7,8-HXCDF	ND		0.535	0.1	0.00e+00	2.68e-02	
1,2,3,4,6,7,8-HPCDF		1.31	0.535	0.01	1.31e-02	1.31e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.535	0.01	0.00e+00	2.68e-03	
OCDF		1.64	0.535	0.0001	1.64e-04	1.64e-04	
			TOTAL TEQ		167	168	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		167	0.535	1	1.67e+02	1.67e+02	
1,2,3,7,8-PECDD	ND		0.535	1	0.00e+00	2.68e-01	
1,2,3,4,7,8-HXCDD		0.536	0.535	0.1	5.36e-02	5.36e-02	
1,2,3,6,7,8-HXCDD	ND		0.535	0.1	0.00e+00	2.68e-02	
1,2,3,7,8,9-HXCDD		2.36	0.535	0.1	2.36e-01	2.36e-01	
1,2,3,4,6,7,8-HPCDD		16.4	0.535	0.01	1.64e-01	1.64e-01	
OCDD		34.3	0.535	0.0003	1.03e-02	1.03e-02	
2,3,7,8-TCDF	ND		0.924	0.1	0.00e+00	4.62e-02	
1,2,3,7,8-PECDF	ND		0.535	0.03	0.00e+00	8.03e-03	
2,3,4,7,8-PECDF	ND		0.535	0.3	0.00e+00	8.03e-02	
1,2,3,4,7,8-HXCDF	ND		0.535	0.1	0.00e+00	2.68e-02	
1,2,3,6,7,8-HXCDF	ND		0.535	0.1	0.00e+00	2.68e-02	
1,2,3,7,8,9-HXCDF	ND		0.535	0.1	0.00e+00	2.68e-02	
2,3,4,6,7,8-HXCDF	ND		0.535	0.1	0.00e+00	2.68e-02	
1,2,3,4,6,7,8-HPCDF		1.31	0.535	0.01	1.31e-02	1.31e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.535	0.01	0.00e+00	2.68e-03	
OCDF		1.64	0.535	0.0003	4.92e-04	4.92e-04	
			TOTAL TEQ		167	168	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 18-Feb-2007 13:06:25; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_L9590-8_TEQ_SJ637384.html; Workgroup: WG21245; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	AQUEOUS	**Lab Sample I.D.:**	WG21245-101 :2607
Sample Receipt Date:	N/A	**Sample Size:**	1.00 L
Extraction Date:	01-Feb-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	15-Feb-2007 **Time:** 00:26:13	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_065 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_065 S: 6
Concentration Units:	pg/L	**Cal. Ver. Data Filename:**	DX72_065 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	NDR	1.32	0.500	0.53	1.000
1,2,3,7,8-PECDD [3]	ND		0.500		
1,2,3,4,7,8-HXCDD		0.519	0.500	1.39	1.000
1,2,3,6,7,8-HXCDD	NDR	0.511	0.500	1.71	1.000
1,2,3,7,8,9-HXCDD	ND		0.500		
1,2,3,4,6,7,8-HPCDD		2.16	0.500	1.14	1.000
OCDD		10.4	0.500	0.87	1.000
2,3,7,8-TCDF		0.614	0.500	0.84	1.002
1,2,3,7,8-PECDF		0.695	0.500	1.51	1.000
2,3,4,7,8-PECDF		0.821	0.500	1.58	1.000
1,2,3,4,7,8-HXCDF		0.638	0.500	1.29	1.000
1,2,3,6,7,8-HXCDF	ND		0.500		
1,2,3,7,8,9-HXCDF	ND		0.500		
2,3,4,6,7,8-HXCDF	ND		0.500		
1,2,3,4,6,7,8-HPCDF		0.712	0.500	0.98	1.000
1,2,3,4,7,8,9-HPCDF		0.569	0.500	1.14	1.000
OCDF		1.10	0.500	0.95	1.002
TOTAL TETRA-DIOXINS	ND		0.500		
TOTAL PENTA-DIOXINS	ND		0.500		
TOTAL HEXA-DIOXINS		0.519	0.500		
TOTAL HEPTA-DIOXINS		4.08	0.500		
TOTAL TETRA-FURANS		0.614	0.500		
TOTAL PENTA-FURANS		2.05	0.500		
TOTAL HEXA-FURANS		0.638	0.500		
TOTAL HEPTA-FURANS		1.28	0.500		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 17:07:49; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_WG21245-101_Form1A_SJ637350.html; Workgroup: WG21245; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	AQUEOUS	**Lab Sample I.D.:**	WG21245-101 :2607
Sample Receipt Date:	N/A	**Sample Size:**	1.00 L
Extraction Date:	01-Feb-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	15-Feb-2007 **Time:** 00:26:13	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_065 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_065 S: 6
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_065 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1290	64.5	0.78	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1360	68.0	0.62	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1380	69.1	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1380	68.8	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1160	58.1	1.06	1.094
13C-OCDD		4000	1810	45.2	0.88	1.178
13C-2,3,7,8-TCDF		2000	1330	66.5	0.79	0.965
13C-1,2,3,7,8-PECDF		2000	1240	62.2	1.54	1.282
13C-2,3,4,7,8-PECDF		2000	1310	65.7	1.55	1.348
13C-1,2,3,4,7,8-HXCDF		2000	1390	69.4	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1370	68.6	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1340	67.1	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1390	69.6	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1260	62.9	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1210	60.6	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	136	67.9		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 17:07:49; Application: XMLTransformer-1.7.30; Report Filename: 1613_DIOXINS_1613DB5_WG21245-101_Form2_SJ637350.html; Workgroup: WG21245; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	AQUEOUS	**Lab Sample I.D.:**	WG21245-101 :2607
Sample Receipt Date:	N/A	**Sample Size:**	1.00 L
Extraction Date:	01-Feb-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 22:10:51	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_024 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_024 S: 5
Concentration Units:	pg/L	**Cal. Ver. Data Filename:**	DB73_024 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.909		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 17:12:41; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB225_WG21245-101_Form1A_SJ637382.html; Workgroup: WG21245; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	AQUEOUS	**Project No.**	N/A
Sample Size:	1.00 L	**Lab Sample I.D.:**	WG21245-101 :2607
Concentration Units:	pg/L	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_024 S: 5** **DX72_065 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.500	1	0.00e+00	2.50e-01	
1,2,3,7,8-PECDD	ND		0.500	1	0.00e+00	2.50e-01	
1,2,3,4,7,8-HXCDD		0.519	0.500	0.1	5.19e-02	5.19e-02	
1,2,3,6,7,8-HXCDD	ND		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,7,8,9-HXCDD	ND		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,4,6,7,8-HPCDD		2.16	0.500	0.01	2.16e-02	2.16e-02	
OCDD		10.4	0.500	0.0001	1.04e-03	1.04e-03	
2,3,7,8-TCDF	ND		0.909	0.1	0.00e+00	4.55e-02	
1,2,3,7,8-PECDF		0.695	0.500	0.05	3.48e-02	3.48e-02	
2,3,4,7,8-PECDF		0.821	0.500	0.5	4.11e-01	4.11e-01	
1,2,3,4,7,8-HXCDF		0.638	0.500	0.1	6.38e-02	6.38e-02	
1,2,3,6,7,8-HXCDF	ND		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,7,8,9-HXCDF	ND		0.500	0.1	0.00e+00	2.50e-02	
2,3,4,6,7,8-HXCDF	ND		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,4,6,7,8-HPCDF		0.712	0.500	0.01	7.12e-03	7.12e-03	
1,2,3,4,7,8,9-HPCDF		0.569	0.500	0.01	5.69e-03	5.69e-03	
OCDF		1.10	0.500	0.0001	1.10e-04	1.10e-04	
			TOTAL TEQ		0.597	1.27	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.500	1	0.00e+00	2.50e-01	
1,2,3,7,8-PECDD	ND		0.500	1	0.00e+00	2.50e-01	
1,2,3,4,7,8-HXCDD		0.519	0.500	0.1	5.19e-02	5.19e-02	
1,2,3,6,7,8-HXCDD	ND		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,7,8,9-HXCDD	ND		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,4,6,7,8-HPCDD		2.16	0.500	0.01	2.16e-02	2.16e-02	
OCDD		10.4	0.500	0.0003	3.12e-03	3.12e-03	
2,3,7,8-TCDF	ND		0.909	0.1	0.00e+00	4.55e-02	
1,2,3,7,8-PECDF		0.695	0.500	0.03	2.09e-02	2.09e-02	
2,3,4,7,8-PECDF		0.821	0.500	0.3	2.46e-01	2.46e-01	
1,2,3,4,7,8-HXCDF		0.638	0.500	0.1	6.38e-02	6.38e-02	
1,2,3,6,7,8-HXCDF	ND		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,7,8,9-HXCDF	ND		0.500	0.1	0.00e+00	2.50e-02	
2,3,4,6,7,8-HXCDF	ND		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,4,6,7,8-HPCDF		0.712	0.500	0.01	7.12e-03	7.12e-03	
1,2,3,4,7,8,9-HPCDF		0.569	0.500	0.01	5.69e-03	5.69e-03	
OCDF		1.10	0.500	0.0003	3.30e-04	3.30e-04	
			TOTAL TEQ		0.421	1.09	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 18-Feb-2007 13:06:25; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21245-101_TEQ_SJ637382.html; Workgroup: WG21245; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	DX72_065 S: 2
Matrix:	AQUEOUS	**Lab Sample I.D.:**	WG21245-102 :2607
Extraction Date:	01-Feb-2007	**Analysis Date:**	14-Feb-2007 **Time:** 20:48:02

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.76	10.0	10.4	6.70 - 15.8	104
1,2,3,7,8-PECDD [4]		0.63	50.0	53.4	35.0 - 71.0	107
1,2,3,4,7,8-HXCDD		1.25	50.0	50.0	35.0 - 82.0	100
1,2,3,6,7,8-HXCDD		1.24	50.0	50.6	38.0 - 67.0	101
1,2,3,7,8,9-HXCDD		1.24	50.0	49.5	32.0 - 81.0	99.0
1,2,3,4,6,7,8-HPCDD		1.06	50.0	51.7	35.0 - 70.0	103
OCDD		0.90	100	105	78.0 - 144	105
2,3,7,8-TCDF		0.77	10.0	10.3	7.50 - 15.8	103
1,2,3,7,8-PECDF		1.52	50.0	50.3	40.0 - 67.0	101
2,3,4,7,8-PECDF		1.56	50.0	52.5	34.0 - 80.0	105
1,2,3,4,7,8-HXCDF		1.25	50.0	50.9	36.0 - 67.0	102
1,2,3,6,7,8-HXCDF		1.23	50.0	51.7	42.0 - 65.0	103
1,2,3,7,8,9-HXCDF		1.26	50.0	51.5	39.0 - 65.0	103
2,3,4,6,7,8-HXCDF		1.23	50.0	50.5	35.0 - 78.0	101
1,2,3,4,6,7,8-HPCDF		1.03	50.0	50.9	41.0 - 61.0	102
1,2,3,4,7,8,9-HPCDF		1.03	50.0	51.1	39.0 - 69.0	102
OCDF		0.91	100	108	63.0 - 170	108

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 20-Feb-2007 17:07:49; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_WG21245-102_Form8A_SJ637347.html; Workgroup: WG21245; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_065 S: 2**
Matrix:	AQUEOUS	**Lab Sample I.D.:**	WG21245-102 :2607
Extraction Date:	01-Feb-2007	**Analysis Date:**	14-Feb-2007 **Time:** 20:48:02

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.77	100	71.4	20.0-175	71.4
13C-1,2,3,7,8-PECDD [4]		0.62	100	73.5	21.0-227	73.5
13C-1,2,3,4,7,8-HXCDD		1.24	100	71.4	21.0-193	71.4
13C-1,2,3,6,7,8-HXCDD		1.25	100	71.1	25.0-163	71.1
13C-1,2,3,4,6,7,8-HPCDD		1.04	100	58.0	26.0-166	58.0
13C-OCDD		0.88	200	104	26.0-397	52.1
13C-2,3,7,8-TCDF		0.77	100	76.0	22.0-152	76.0
13C-1,2,3,7,8-PECDF		1.56	100	69.5	21.0-192	69.5
13C-2,3,4,7,8-PECDF		1.58	100	70.7	13.0-328	70.7
13C-1,2,3,4,7,8-HXCDF		0.53	100	74.8	19.0-202	74.8
13C-1,2,3,6,7,8-HXCDF		0.52	100	73.8	21.0-159	73.8
13C-1,2,3,7,8,9-HXCDF		0.52	100	71.2	17.0-205	71.2
13C-2,3,4,6,7,8-HXCDF		0.53	100	73.2	22.0-176	73.2
13C-1,2,3,4,6,7,8-HPCDF		0.46	100	66.1	21.0-158	66.1
13C-1,2,3,4,7,8,9-HPCDF		0.47	100	61.8	20.0-186	61.8
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	8.29	3.10-19.1	82.9

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 20-Feb-2007 17:07:49; Application: XMLTransformer-1.7.30; Report Filename: 1613_DIOXINS_1613DB5_WG21245-102_Form8B_SJ637347.html; Workgroup: WG21245; Design ID: 559]

A2.5
QA/QC:
Laboratory Batch Sheets, Blanks, Spiked Matrices

BATCH SUMMARY

Batch ID:	WG21005	***Date:***	09-Feb-2007
Analysis Type:	Dioxin	***Matrix Type:***	Sediment

BATCH MAKEUP

Contract: 2607

Samples:
L9585-1
L9585-3
L9585-4
L9585-6
L9585-10
L9585-13
L9585-14
L9585-15
L9585-18
L9585-21
L9585-23
L9585-24
L9585-27
L9585-29
L9585-36

Blank: WG21005-101

Reference or Spike: WG21005-102

Duplicate: WG21005-103

Comments:

1. Data are not blank corrected.
2. A Relative Percent Difference (RPD) value of above 40% was observed for some analytes between the duplicate samples. This variability between the samples may relate to the sample homogeneity. Although the samples were thoroughly homogenized prior to subsampling for analysis, differences in sample composition may have been present due to the nature of the sample.

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 1A

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21005-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	13-Jan-2007
Analysis Date:	21-Jan-2007 **Time:** 11:57:33	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_032 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_032 S: 5
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DX72_032 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0500		
1,2,3,7,8-PECDD [3]	ND		0.0500		
1,2,3,4,7,8-HXCDD	ND		0.0500		
1,2,3,6,7,8-HXCDD	ND		0.0500		
1,2,3,7,8,9-HXCDD	ND		0.0500		
1,2,3,4,6,7,8-HPCDD	NDR	0.083	0.0500	0.74	1.000
OCDD		0.306	0.0500	0.99	1.000
2,3,7,8-TCDF	ND		0.0500		
1,2,3,7,8-PECDF	ND		0.0500		
2,3,4,7,8-PECDF	ND		0.0500		
1,2,3,4,7,8-HXCDF	ND		0.0500		
1,2,3,6,7,8-HXCDF	ND		0.0500		
1,2,3,7,8,9-HXCDF	ND		0.0500		
2,3,4,6,7,8-HXCDF	ND		0.0500		
1,2,3,4,6,7,8-HPCDF	ND		0.0500		
1,2,3,4,7,8,9-HPCDF	ND		0.0500		
OCDF	NDR	0.073	0.0500	0.69	1.002
TOTAL TETRA-DIOXINS	ND		0.0500		
TOTAL PENTA-DIOXINS	ND		0.0500		
TOTAL HEXA-DIOXINS	ND		0.0500		
TOTAL HEPTA-DIOXINS	ND		0.0500		
TOTAL TETRA-FURANS	ND		0.0500		
TOTAL PENTA-FURANS	ND		0.0500		
TOTAL HEXA-FURANS	ND		0.0500		
TOTAL HEPTA-FURANS	ND		0.0500		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21005-101_Form1A_SJ630056.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21005-101
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	21-Jan-2007 **Time:** 11:57:33	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_032 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_032 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_032 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1530	76.5	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	2130	106	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		2000	1570	78.5	1.27	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1630	81.5	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1640	82.2	1.07	1.095
13C-OCDD		4000	2830	70.9	0.90	1.179
13C-2,3,7,8-TCDF		2000	1400	70.2	0.79	0.967
13C-1,2,3,7,8-PECDF		2000	1890	94.7	1.56	1.283
13C-2,3,4,7,8-PECDF		2000	1970	98.3	1.57	1.352
13C-1,2,3,4,7,8-HXCDF		2000	1610	80.4	0.52	0.953
13C-1,2,3,6,7,8-HXCDF		2000	1650	82.6	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1680	84.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1620	81.1	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1680	84.1	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1670	83.6	0.45	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	147	73.3		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21005-101_Form2_SJ630056.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21005-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	25-Jan-2007 **Time:** 10:55:09	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_015 S: 4**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_015 S: 4
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DB73_015 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.0500		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Feb-2007 14:43:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB225_WG21005-101_Form1A_SJ630216.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	N/A
Sample Size:	10.0 g	**Lab Sample I.D.:**	WG21005-101
Concentration Units:	pg/g	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_015 S: 4** **DX72_032 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDD		0.306	0.0500	0.0001	3.06e-05	3.06e-05	
2,3,7,8-TCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF	ND		0.0500	0.5	0.00e+00	1.25e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0500	0.0001	0.00e+00	2.50e-06	
			TOTAL TEQ		0.0000306	0.0845	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDD		0.306	0.0500	0.0003	9.18e-05	9.18e-05	
2,3,7,8-TCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,4,7,8-PECDF	ND		0.0500	0.3	0.00e+00	7.50e-03	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0500	0.0003	0.00e+00	7.50e-06	
			TOTAL TEQ		0.0000918	0.0791	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Feb-2007 14:48:54; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21005-101_TEQ_SJ630056.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_032 S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21005-102
Extraction Date:	12-Jan-2007	**Analysis Date:**	21-Jan-2007 **Time:** 09:13:45

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.77	10.0	9.70	6.70 - 15.8	97.0
1,2,3,7,8-PECDD [4]		0.62	50.0	49.3	35.0 - 71.0	98.5
1,2,3,4,7,8-HXCDD		1.26	50.0	48.3	35.0 - 82.0	96.6
1,2,3,6,7,8-HXCDD		1.25	50.0	49.4	38.0 - 67.0	98.7
1,2,3,7,8,9-HXCDD		1.22	50.0	49.2	32.0 - 81.0	98.3
1,2,3,4,6,7,8-HPCDD		1.05	50.0	48.3	35.0 - 70.0	96.5
OCDD		0.90	100	99.1	78.0 - 144	99.1
2,3,7,8-TCDF		0.80	10.0	9.73	7.50 - 15.8	97.3
1,2,3,7,8-PECDF		1.56	50.0	46.6	40.0 - 67.0	93.1
2,3,4,7,8-PECDF		1.53	50.0	48.2	34.0 - 80.0	96.4
1,2,3,4,7,8-HXCDF		1.26	50.0	48.4	36.0 - 67.0	96.7
1,2,3,6,7,8-HXCDF		1.24	50.0	49.3	42.0 - 65.0	98.6
1,2,3,7,8,9-HXCDF		1.25	50.0	48.3	39.0 - 65.0	96.6
2,3,4,6,7,8-HXCDF		1.24	50.0	48.8	35.0 - 78.0	97.7
1,2,3,4,6,7,8-HPCDF		1.04	50.0	51.8	41.0 - 61.0	104
1,2,3,4,7,8,9-HPCDF		1.06	50.0	49.6	39.0 - 69.0	99.1
OCDF		0.91	100	107	63.0 - 170	107

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21005-102_Form8A_SJ630053.html; Workgroup: WG21005; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8B
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_032 S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21005-102
Extraction Date:	12-Jan-2007	**Analysis Date:**	21-Jan-2007 **Time:** 09:13:45

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.79	100	80.3	20.0-175	80.3
13C-1,2,3,7,8-PECDD [4]		0.64	100	113	21.0-227	113
13C-1,2,3,4,7,8-HXCDD		1.28	100	83.3	21.0-193	83.3
13C-1,2,3,6,7,8-HXCDD		1.25	100	85.5	25.0-163	85.5
13C-1,2,3,4,6,7,8-HPCDD		1.05	100	88.7	26.0-166	88.7
13C-OCDD		0.89	200	154	26.0-397	77.2
13C-2,3,7,8-TCDF		0.80	100	78.1	22.0-152	78.1
13C-1,2,3,7,8-PECDF		1.55	100	101	21.0-192	101
13C-2,3,4,7,8-PECDF		1.58	100	104	13.0-328	104
13C-1,2,3,4,7,8-HXCDF		0.52	100	84.2	19.0-202	84.2
13C-1,2,3,6,7,8-HXCDF		0.53	100	87.0	21.0-159	87.0
13C-1,2,3,7,8,9-HXCDF		0.53	100	89.1	17.0-205	89.1
13C-2,3,4,6,7,8-HXCDF		0.52	100	84.5	22.0-176	84.5
13C-1,2,3,4,6,7,8-HPCDF		0.46	100	89.3	21.0-158	89.3
13C-1,2,3,4,7,8,9-HPCDF		0.45	100	90.7	20.0-186	90.7
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	8.12	3.10-19.1	81.2

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 09-Feb-2007 14:35:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21005-102_Form8B_SJ630053.html; Workgroup: WG21005; Design ID: 559]

BATCH SUMMARY

Batch ID:	WG21083	***Date:***	07-Mar-2007
Analysis Type:	DX	***Matrix Type:***	Solid

BATCH MAKEUP

Contract: 2607

Samples:
L9585-42
L9585-43
L9585-45
L9585-47
L9585-48
L9585-70
L9585-77
L9585-84
L9585-85
L9585-87
L9585-88
L9585-89
L9585-90
L9585-92
L9585-93

Blank: WG21083-101

Reference or Spike: WG21083-102

Duplicate: WG21083-103

Comments:

1. Data are not blank corrected.

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 1A

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21083-101 i
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 11:00:02	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S: 4**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DX72_089 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0500		
1,2,3,7,8-PECDD [3]	ND		0.0500		
1,2,3,4,7,8-HXCDD	ND		0.0500		
1,2,3,6,7,8-HXCDD	ND		0.0500		
1,2,3,7,8,9-HXCDD	ND		0.0500		
1,2,3,4,6,7,8-HPCDD		0.211	0.0500	1.10	1.000
OCDD		1.61	0.0500	0.87	1.000
2,3,7,8-TCDF	ND		0.0500		
1,2,3,7,8-PECDF	ND		0.0500		
2,3,4,7,8-PECDF	NDR	0.059	0.0500	0.99	1.001
1,2,3,4,7,8-HXCDF	ND		0.0500		
1,2,3,6,7,8-HXCDF	ND		0.0500		
1,2,3,7,8,9-HXCDF	ND		0.0500		
2,3,4,6,7,8-HXCDF	ND		0.0500		
1,2,3,4,6,7,8-HPCDF	NDR	0.067	0.0500	1.34	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.0500		
OCDF		0.182	0.0500	0.88	1.001
TOTAL TETRA-DIOXINS	ND		0.0500		
TOTAL PENTA-DIOXINS	ND		0.0500		
TOTAL HEXA-DIOXINS	ND		0.0500		
TOTAL HEPTA-DIOXINS		0.466	0.0500		
TOTAL TETRA-FURANS	ND		0.0500		
TOTAL PENTA-FURANS	ND		0.0500		
TOTAL HEXA-FURANS		0.068	0.0500		
TOTAL HEPTA-FURANS		0.145	0.0500		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21083-101 i
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	03-Mar-2007 **Time:** 11:00:02	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_089 S:** 4
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_089 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_089 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1480	74.1	0.78	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1600	79.9	0.62	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1890	94.7	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1930	96.5	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1500	75.0	1.05	1.095
13C-OCDD		4000	2380	59.4	0.90	1.179
13C-2,3,7,8-TCDF		2000	1510	75.4	0.78	0.966
13C-1,2,3,7,8-PECDF		2000	1540	77.1	1.56	1.282
13C-2,3,4,7,8-PECDF		2000	1590	79.3	1.57	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1800	90.2	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1880	94.1	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1620	81.0	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1770	88.7	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1590	79.4	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1480	74.1	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	152	76.1		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB5_WG21083-101_Form2_SJ645341.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21083-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	13-Feb-2007 **Time:** 21:29:52	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_026 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_026 S: 5
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DB73_026 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.0555		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 07-Mar-2007 15:48:00; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB225_WG21083-101_Form1A_SJ643393.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	N/A
Sample Size:	10.0 g	**Lab Sample I.D.:**	WG21083-101
Concentration Units:	pg/g	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_026 S: 5** **DX72_089 S: 4**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD		0.211	0.0500	0.01	2.11e-03	2.11e-03	
OCDD		1.61	0.0500	0.0001	1.61e-04	1.61e-04	
2,3,7,8-TCDF	ND		0.0555	0.1	0.00e+00	2.78e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF	ND		0.0500	0.5	0.00e+00	1.25e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF		0.182	0.0500	0.0001	1.82e-05	1.82e-05	
			TOTAL TEQ		0.00229	0.0868	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD		0.211	0.0500	0.01	2.11e-03	2.11e-03	
OCDD		1.61	0.0500	0.0003	4.83e-04	4.83e-04	
2,3,7,8-TCDF	ND		0.0555	0.1	0.00e+00	2.78e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,4,7,8-PECDF	ND		0.0500	0.3	0.00e+00	7.50e-03	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF		0.182	0.0500	0.0003	5.46e-05	5.46e-05	
			TOTAL TEQ		0.00265	0.0817	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 07-Mar-2007 15:50:19; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21083-101_TEQ_SJ643393.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8A
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX7B_044B S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21083-102
Extraction Date:	17-Jan-2007	**Analysis Date:**	21-Feb-2007 **Time:** 15:02:46

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.80	10.0	9.83	6.70 - 15.8	98.3
1,2,3,7,8-PECDD [4]		0.65	50.0	53.2	35.0 - 71.0	106
1,2,3,4,7,8-HXCDD		1.26	50.0	47.2	35.0 - 82.0	94.3
1,2,3,6,7,8-HXCDD		1.24	50.0	46.2	38.0 - 67.0	92.4
1,2,3,7,8,9-HXCDD		1.26	50.0	45.6	32.0 - 81.0	91.3
1,2,3,4,6,7,8-HPCDD		1.04	50.0	48.2	35.0 - 70.0	96.4
OCDD		0.89	100	96.2	78.0 - 144	96.2
2,3,7,8-TCDF		0.79	10.0	10.1	7.50 - 15.8	101
1,2,3,7,8-PECDF		1.53	50.0	45.4	40.0 - 67.0	90.8
2,3,4,7,8-PECDF		1.55	50.0	46.8	34.0 - 80.0	93.7
1,2,3,4,7,8-HXCDF		1.21	50.0	44.6	36.0 - 67.0	89.2
1,2,3,6,7,8-HXCDF		1.22	50.0	46.2	42.0 - 65.0	92.4
1,2,3,7,8,9-HXCDF		1.24	50.0	46.6	39.0 - 65.0	93.3
2,3,4,6,7,8-HXCDF		1.22	50.0	45.5	35.0 - 78.0	90.9
1,2,3,4,6,7,8-HPCDF		1.03	50.0	47.6	41.0 - 61.0	95.2
1,2,3,4,7,8,9-HPCDF		1.01	50.0	45.4	39.0 - 69.0	90.8
OCDF		0.91	100	88.6	63.0 - 170	88.6

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32; Report Filename: 1613_DIOXINS_1613DB5_WG21083-102_Form8A_SJ642107.html; Workgroup: WG21083; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX7B_044B S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21083-102
Extraction Date:	17-Jan-2007	**Analysis Date:**	21-Feb-2007 **Time:** 15:02:46

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.81	100	64.6	20.0-175	64.6
13C-1,2,3,7,8-PECDD [4]		0.67	100	56.8	21.0-227	56.8
13C-1,2,3,4,7,8-HXCDD		1.23	100	83.4	21.0-193	83.4
13C-1,2,3,6,7,8-HXCDD		1.21	100	77.9	25.0-163	77.9
13C-1,2,3,4,6,7,8-HPCDD		1.01	100	69.6	26.0-166	69.6
13C-OCDD		0.88	200	97.8	26.0-397	48.9
13C-2,3,7,8-TCDF		0.74	100	63.0	22.0-152	63.0
13C-1,2,3,7,8-PECDF		1.57	100	66.0	21.0-192	66.0
13C-2,3,4,7,8-PECDF		1.60	100	62.8	13.0-328	62.8
13C-1,2,3,4,7,8-HXCDF		0.52	100	89.7	19.0-202	89.7
13C-1,2,3,6,7,8-HXCDF		0.53	100	86.3	21.0-159	86.3
13C-1,2,3,7,8,9-HXCDF		0.54	100	66.3	17.0-205	66.3
13C-2,3,4,6,7,8-HXCDF		0.53	100	82.9	22.0-176	82.9
13C-1,2,3,4,6,7,8-HPCDF		0.41	100	82.2	21.0-158	82.2
13C-1,2,3,4,7,8,9-HPCDF		0.44	100	65.3	20.0-186	65.3
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	5.65	3.10-19.1	56.5

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 07-Mar-2007 15:42:30; Application: XMLTransformer-1.7.32;
Report Filename: 1613_DIOXINS_1613DB5_WG21083-102_Form8B_SJ642107.html; Workgroup: WG21083; Design ID: 559]

BATCH SUMMARY

Seals

Batch ID:	WG21086	***Date:***	09-Mar-2007
Analysis Type:	DX	***Matrix Type:***	Solid

BATCH MAKEUP

Contract: 2607

Samples:
725 Seals
L9585-40
700 Soil
L9585-60 Soil
L9585-72 Soil
L9585-91 Soil
L9585-94 Soil

Blank: WG21086-101
WG21086-102

Reference or Spike: WG21086-103
WG21086-104

Duplicate:

Comments:

1. Data are not blank corrected.

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21086-101
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	16-Dec-2006
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	23-Feb-2007 **Time:** 01:29:50	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7B_047 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7B_047 S: 6,7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_047 S: 1
Concentration Units:	pg/g		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0591		
1,2,3,7,8-PECDD [3]	ND		0.0658		
1,2,3,4,7,8-HXCDD	ND		0.0660		
1,2,3,6,7,8-HXCDD	NDR	0.113	0.0660	1.00	1.000
1,2,3,7,8,9-HXCDD	NDR	0.069	0.0660	0.93	1.010
1,2,3,4,6,7,8-HPCDD		0.414	0.103	0.98	1.000
OCDD	NDR	0.471	0.0811	1.11	1.000
2,3,7,8-TCDF	ND		0.0500		
1,2,3,7,8-PECDF	ND		0.0500		
2,3,4,7,8-PECDF	ND		0.0500		
1,2,3,4,7,8-HXCDF	ND		0.0500		
1,2,3,6,7,8-HXCDF	ND		0.0500		
1,2,3,7,8,9-HXCDF	ND		0.0500		
2,3,4,6,7,8-HXCDF	NDR	0.057	0.0500	1.50	1.000
1,2,3,4,6,7,8-HPCDF	ND		0.0780		
1,2,3,4,7,8,9-HPCDF	ND		0.0780		
OCDF	ND		0.0661		
TOTAL TETRA-DIOXINS	ND		0.0591		
TOTAL PENTA-DIOXINS	ND		0.0658		
TOTAL HEXA-DIOXINS	ND		0.0660		
TOTAL HEPTA-DIOXINS		0.654	0.103		
TOTAL TETRA-FURANS	ND		0.0500		
TOTAL PENTA-FURANS	ND		0.0500		
TOTAL HEXA-FURANS	ND		0.0500		
TOTAL HEPTA-FURANS	ND		0.0780		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Mar-2007 10:04:48; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_WG21086-101_Form1A_SJ643823.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 01:29:50	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_047 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_047 S: 6,7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_047 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1330	66.6	0.82	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1570	78.6	0.65	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1820	91.2	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1840	91.9	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1640	82.2	0.98	1.094
13C-OCDD		4000	2530	63.2	0.89	1.178
13C-2,3,7,8-TCDF		2000	1470	73.6	0.76	0.966
13C-1,2,3,7,8-PECDF		2000	1680	84.0	1.55	1.282
13C-2,3,4,7,8-PECDF		2000	1610	80.5	1.56	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1890	94.5	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1900	95.1	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1850	92.3	0.53	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1920	95.9	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1740	87.0	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1640	81.8	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	139	69.5		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Mar-2007 10:04:48; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB5_WG21086-101_Form2_SJ643823.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 09:49:39	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_027 S: 5,6
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DB73_027 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.153		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Mar-2007 10:11:46; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB225_WG21086-101_Form1A_SJ643828.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	N/A
Sample Size:	10.0 g	**Lab Sample I.D.:**	WG21086-101
Concentration Units:	pg/g	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_027 S: 5** **DX7B_047 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0591	1	0.00e+00	2.96e-02	
1,2,3,7,8-PECDD	ND		0.0658	1	0.00e+00	3.29e-02	
1,2,3,4,7,8-HXCDD	ND		0.0660	0.1	0.00e+00	3.30e-03	
1,2,3,6,7,8-HXCDD	ND		0.0660	0.1	0.00e+00	3.30e-03	
1,2,3,7,8,9-HXCDD	ND		0.0660	0.1	0.00e+00	3.30e-03	
1,2,3,4,6,7,8-HPCDD		0.414	0.103	0.01	4.14e-03	4.14e-03	
OCDD	ND		0.0811	0.0001	0.00e+00	4.06e-06	
2,3,7,8-TCDF	ND		0.153	0.1	0.00e+00	7.65e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF	ND		0.0500	0.5	0.00e+00	1.25e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0780	0.01	0.00e+00	3.90e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0780	0.01	0.00e+00	3.90e-04	
OCDF	ND		0.0661	0.0001	0.00e+00	3.31e-06	
			TOTAL TEQ		0.00414	0.109	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0591	1	0.00e+00	2.96e-02	
1,2,3,7,8-PECDD	ND		0.0658	1	0.00e+00	3.29e-02	
1,2,3,4,7,8-HXCDD	ND		0.0660	0.1	0.00e+00	3.30e-03	
1,2,3,6,7,8-HXCDD	ND		0.0660	0.1	0.00e+00	3.30e-03	
1,2,3,7,8,9-HXCDD	ND		0.0660	0.1	0.00e+00	3.30e-03	
1,2,3,4,6,7,8-HPCDD		0.414	0.103	0.01	4.14e-03	4.14e-03	
OCDD	ND		0.0811	0.0003	0.00e+00	1.22e-05	
2,3,7,8-TCDF	ND		0.153	0.1	0.00e+00	7.65e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,4,7,8-PECDF	ND		0.0500	0.3	0.00e+00	7.50e-03	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0780	0.01	0.00e+00	3.90e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0780	0.01	0.00e+00	3.90e-04	
OCDF	ND		0.0661	0.0003	0.00e+00	9.92e-06	
			TOTAL TEQ		0.00414	0.103	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Mar-2007 10:17:14; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21086-101_TEQ_SJ643828.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-102
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 02:24:49	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_047 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_047 S: 6,7
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DX7B_047 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		4.55		
1,2,3,7,8-PECDD [3]	ND		8.10		
1,2,3,4,7,8-HXCDD	ND		5.93		
1,2,3,6,7,8-HXCDD	ND		5.93		
1,2,3,7,8,9-HXCDD	ND		5.93		
1,2,3,4,6,7,8-HPCDD	ND		10.9		
OCDD	NDR	16.4	8.50	0.71	1.000
2,3,7,8-TCDF	ND		2.75		
1,2,3,7,8-PECDF	ND		6.78		
2,3,4,7,8-PECDF	ND		6.78		
1,2,3,4,7,8-HXCDF	ND		5.00		
1,2,3,6,7,8-HXCDF	ND		5.00		
1,2,3,7,8,9-HXCDF	ND		5.00		
2,3,4,6,7,8-HXCDF	ND		5.00		
1,2,3,4,6,7,8-HPCDF	ND		7.37		
1,2,3,4,7,8,9-HPCDF	ND		7.37		
OCDF	ND		8.12		
TOTAL TETRA-DIOXINS	ND		4.55		
TOTAL PENTA-DIOXINS	ND		8.10		
TOTAL HEXA-DIOXINS	ND		5.93		
TOTAL HEPTA-DIOXINS	ND		10.9		
TOTAL TETRA-FURANS	ND		2.75		
TOTAL PENTA-FURANS	ND		6.78		
TOTAL HEXA-FURANS	ND		5.00		
TOTAL HEPTA-FURANS	ND		7.37		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-102
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 02:24:49	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_047 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_047 S: 6,7
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_047 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	5560	55.6	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		10000	5630	56.3	0.65	1.380
13C-1,2,3,4,7,8-HXCDD		10000	6280	62.8	1.18	0.987
13C-1,2,3,6,7,8-HXCDD		10000	5350	53.5	1.30	0.991
13C-1,2,3,4,6,7,8-HPCDD		10000	5630	56.3	0.97	1.095
13C-OCDD		20000	8270	41.3	0.91	1.178
13C-2,3,7,8-TCDF		10000	6190	61.9	0.76	0.966
13C-1,2,3,7,8-PECDF		10000	6180	61.8	1.53	1.282
13C-2,3,4,7,8-PECDF		10000	6030	60.3	1.55	1.349
13C-1,2,3,4,7,8-HXCDF		10000	6820	68.2	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		10000	6750	67.5	0.54	0.959
13C-1,2,3,7,8,9-HXCDF		10000	6380	63.8	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		10000	6510	65.1	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	5760	57.6	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	5350	53.5	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	526	52.6		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 09-Mar-2007 10:04:48; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB5_WG21086-102_Form2_SJ643824.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-102
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	14-Feb-2007 **Time:** 10:25:14	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_027 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_027 S: 5,6
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DB73_027 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		7.82		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 09-Mar-2007 10:11:46; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB225_WG21086-102_Form1A_SJ643829.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	N/A
Sample Size:	5.00 g	**Lab Sample I.D.:**	WG21086-102
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g	**Sample Data Filenames:**	**DB73_027 S: 6** **DX7B_047 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		4.55	1	0.00e+00	2.28e+00	
1,2,3,7,8-PECDD	ND		8.10	1	0.00e+00	4.05e+00	
1,2,3,4,7,8-HXCDD	ND		5.93	0.1	0.00e+00	2.97e-01	
1,2,3,6,7,8-HXCDD	ND		5.93	0.1	0.00e+00	2.97e-01	
1,2,3,7,8,9-HXCDD	ND		5.93	0.1	0.00e+00	2.97e-01	
1,2,3,4,6,7,8-HPCDD	ND		10.9	0.01	0.00e+00	5.45e-02	
OCDD	ND		8.50	0.0001	0.00e+00	4.25e-04	
2,3,7,8-TCDF	ND		7.82	0.1	0.00e+00	3.91e-01	
1,2,3,7,8-PECDF	ND		6.78	0.05	0.00e+00	1.70e-01	
2,3,4,7,8-PECDF	ND		6.78	0.5	0.00e+00	1.70e+00	
1,2,3,4,7,8-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,6,7,8-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,7,8,9-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
2,3,4,6,7,8-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,4,6,7,8-HPCDF	ND		7.37	0.01	0.00e+00	3.69e-02	
1,2,3,4,7,8,9-HPCDF	ND		7.37	0.01	0.00e+00	3.69e-02	
OCDF	ND		8.12	0.0001	0.00e+00	4.06e-04	
			TOTAL TEQ		0	10.6	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		4.55	1	0.00e+00	2.28e+00	
1,2,3,7,8-PECDD	ND		8.10	1	0.00e+00	4.05e+00	
1,2,3,4,7,8-HXCDD	ND		5.93	0.1	0.00e+00	2.97e-01	
1,2,3,6,7,8-HXCDD	ND		5.93	0.1	0.00e+00	2.97e-01	
1,2,3,7,8,9-HXCDD	ND		5.93	0.1	0.00e+00	2.97e-01	
1,2,3,4,6,7,8-HPCDD	ND		10.9	0.01	0.00e+00	5.45e-02	
OCDD	ND		8.50	0.0003	0.00e+00	1.28e-03	
2,3,7,8-TCDF	ND		7.82	0.1	0.00e+00	3.91e-01	
1,2,3,7,8-PECDF	ND		6.78	0.03	0.00e+00	1.02e-01	
2,3,4,7,8-PECDF	ND		6.78	0.3	0.00e+00	1.02e+00	
1,2,3,4,7,8-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,6,7,8-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,7,8,9-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
2,3,4,6,7,8-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,4,6,7,8-HPCDF	ND		7.37	0.01	0.00e+00	3.69e-02	
1,2,3,4,7,8,9-HPCDF	ND		7.37	0.01	0.00e+00	3.69e-02	
OCDF	ND		8.12	0.0003	0.00e+00	1.22e-03	
			TOTAL TEQ		0	9.85	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 09-Mar-2007 10:17:14; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21086-102_TEQ_SJ643829.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX7B_047 S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-103
Extraction Date:	25-Jan-2007	**Analysis Date:**	22-Feb-2007 **Time:** 21:49:24

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.81	10.0	11.1	6.70 - 15.8	111
1,2,3,7,8-PECDD [4]		0.65	50.0	54.2	35.0 - 71.0	108
1,2,3,4,7,8-HXCDD		1.25	50.0	50.6	35.0 - 82.0	101
1,2,3,6,7,8-HXCDD		1.27	50.0	50.5	38.0 - 67.0	101
1,2,3,7,8,9-HXCDD		1.28	50.0	53.6	32.0 - 81.0	107
1,2,3,4,6,7,8-HPCDD		1.04	50.0	50.5	35.0 - 70.0	101
OCDD		0.89	100	99.3	78.0 - 144	99.3
2,3,7,8-TCDF		0.80	10.0	10.5	7.50 - 15.8	105
1,2,3,7,8-PECDF		1.53	50.0	49.4	40.0 - 67.0	98.9
2,3,4,7,8-PECDF		1.54	50.0	50.3	34.0 - 80.0	101
1,2,3,4,7,8-HXCDF		1.22	50.0	47.6	36.0 - 67.0	95.2
1,2,3,6,7,8-HXCDF		1.24	50.0	49.9	42.0 - 65.0	99.8
1,2,3,7,8,9-HXCDF		1.22	50.0	49.3	39.0 - 65.0	98.6
2,3,4,6,7,8-HXCDF		1.22	50.0	49.1	35.0 - 78.0	98.3
1,2,3,4,6,7,8-HPCDF		1.05	50.0	54.1	41.0 - 61.0	108
1,2,3,4,7,8,9-HPCDF		1.06	50.0	49.8	39.0 - 69.0	99.6
OCDF		0.91	100	100	63.0 - 170	100

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 09-Mar-2007 10:04:48; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB5_WG21086-103_Form8A_SJ643819.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8B
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX7B_047 S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-103
Extraction Date:	25-Jan-2007	**Analysis Date:**	22-Feb-2007 **Time:** 21:49:24

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.82	100	55.8	20.0-175	55.8
13C-1,2,3,7,8-PECDD [4]		0.65	100	63.0	21.0-227	63.0
13C-1,2,3,4,7,8-HXCDD		1.26	100	72.6	21.0-193	72.6
13C-1,2,3,6,7,8-HXCDD		1.23	100	72.0	25.0-163	72.0
13C-1,2,3,4,6,7,8-HPCDD		1.00	100	73.8	26.0-166	73.8
13C-OCDD		0.90	200	119	26.0-397	59.7
13C-2,3,7,8-TCDF		0.75	100	53.8	22.0-152	53.8
13C-1,2,3,7,8-PECDF		1.59	100	71.4	21.0-192	71.4
13C-2,3,4,7,8-PECDF		1.56	100	65.3	13.0-328	65.3
13C-1,2,3,4,7,8-HXCDF		0.53	100	77.2	19.0-202	77.2
13C-1,2,3,6,7,8-HXCDF		0.53	100	76.3	21.0-159	76.3
13C-1,2,3,7,8,9-HXCDF		0.52	100	75.1	17.0-205	75.1
13C-2,3,4,6,7,8-HXCDF		0.54	100	76.5	22.0-176	76.5
13C-1,2,3,4,6,7,8-HPCDF		0.46	100	72.1	21.0-158	72.1
13C-1,2,3,4,7,8,9-HPCDF		0.46	100	71.9	20.0-186	71.9
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	6.42	3.10-19.1	64.2

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 8A
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX7B_047 S: 3**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-104
Extraction Date:	25-Jan-2007	**Analysis Date:**	22-Feb-2007 **Time:** 22:44:33

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.80	50.0	52.4	33.5 - 79.0	105
1,2,3,7,8-PECDD [4]		0.64	250	247	175 - 355	98.8
1,2,3,4,7,8-HXCDD		1.30	250	247	175 - 410	98.9
1,2,3,6,7,8-HXCDD		1.27	250	235	190 - 335	94.1
1,2,3,7,8,9-HXCDD		1.24	250	250	160 - 405	100
1,2,3,4,6,7,8-HPCDD		1.07	250	250	175 - 350	99.9
OCDD		0.90	500	463	390 - 720	92.7
2,3,7,8-TCDF		0.75	50.0	50.9	37.5 - 79.0	102
1,2,3,7,8-PECDF		1.55	250	240	200 - 335	95.9
2,3,4,7,8-PECDF		1.55	250	246	170 - 400	98.2
1,2,3,4,7,8-HXCDF		1.25	250	239	180 - 335	95.5
1,2,3,6,7,8-HXCDF		1.19	250	239	210 - 325	95.5
1,2,3,7,8,9-HXCDF		1.18	250	235	195 - 325	93.8
2,3,4,6,7,8-HXCDF		1.26	250	237	175 - 390	94.6
1,2,3,4,6,7,8-HPCDF		1.06	250	240	205 - 305	96.0
1,2,3,4,7,8,9-HPCDF		1.05	250	235	195 - 345	93.9
OCDF		0.94	500	480	315 - 850	96.0

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 09-Mar-2007 10:04:48; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_WG21086-104_Form8A_SJ643820.html; Workgroup: WG21086; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	DX7B_047 S: 3
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-104
Extraction Date:	25-Jan-2007	**Analysis Date:**	22-Feb-2007 **Time:** 22:44:33

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.83	500	420	100-875	84.0
13C-1,2,3,7,8-PECDD [4]		0.63	500	432	105-1140	86.4
13C-1,2,3,4,7,8-HXCDD		1.14	500	459	105-965	91.7
13C-1,2,3,6,7,8-HXCDD		1.20	500	456	125-815	91.2
13C-1,2,3,4,6,7,8-HPCDD		0.96	500	445	130-830	89.0
13C-OCDD		0.90	1000	708	130-1990	70.8
13C-2,3,7,8-TCDF		0.76	500	467	110-760	93.3
13C-1,2,3,7,8-PECDF		1.57	500	469	105-960	93.9
13C-2,3,4,7,8-PECDF		1.60	500	457	65.0-1640	91.4
13C-1,2,3,4,7,8-HXCDF		0.51	500	480	95.0-1010	95.9
13C-1,2,3,6,7,8-HXCDF		0.53	500	484	105-795	96.9
13C-1,2,3,7,8,9-HXCDF		0.52	500	476	85.0-1030	95.2
13C-2,3,4,6,7,8-HXCDF		0.53	500	486	110-880	97.1
13C-1,2,3,4,6,7,8-HPCDF		0.48	500	466	105-790	93.2
13C-1,2,3,4,7,8,9-HPCDF		0.44	500	448	100-930	89.7
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			50.0	42.3	15.5-95.5	84.5

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

BATCH SUMMARY

Batch ID:	WG21085	***Date:***	12-Mar-2007
Analysis Type:	Dioxin	***Matrix Type:***	Solid

BATCH MAKEUP

Contract: 2607

Samples:
L9585-67 Soil 700
L9585-69 Sed's 725
L9585-71 soil
L9585-73 soil
L9585-74 soil
L9585-75 soil
L9585-78 Sed
L9585-80 soil
L9585-81 soil
L9585-82 soil

Blank: WG21085-101

Reference or Spike: WG21085-102

Duplicate: WG21085-103

Comments:

1. Data are not blank corrected.

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	N/A
Sample Size:	5.00 g	**Lab Sample I.D.:**	WG21085-101
Concentration Units:	pg/g	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_029A S: 5** **DX7B_048 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		2.62	1	0.00e+00	1.31e+00	
1,2,3,7,8-PECDD	ND		4.84	1	0.00e+00	2.42e+00	
1,2,3,4,7,8-HXCDD	ND		5.08	0.1	0.00e+00	2.54e-01	
1,2,3,6,7,8-HXCDD	ND		5.08	0.1	0.00e+00	2.54e-01	
1,2,3,7,8,9-HXCDD	ND		5.08	0.1	0.00e+00	2.54e-01	
1,2,3,4,6,7,8-HPCDD	ND		7.92	0.01	0.00e+00	3.96e-02	
OCDD		20.2	5.50	0.0001	2.02e-03	2.02e-03	
2,3,7,8-TCDF	ND		5.97	0.1	0.00e+00	2.99e-01	
1,2,3,7,8-PECDF	ND		3.56	0.05	0.00e+00	8.90e-02	
2,3,4,7,8-PECDF	ND		3.56	0.5	0.00e+00	8.90e-01	
1,2,3,4,7,8-HXCDF	ND		4.94	0.1	0.00e+00	2.47e-01	
1,2,3,6,7,8-HXCDF	ND		4.94	0.1	0.00e+00	2.47e-01	
1,2,3,7,8,9-HXCDF	ND		4.94	0.1	0.00e+00	2.47e-01	
2,3,4,6,7,8-HXCDF	ND		4.94	0.1	0.00e+00	2.47e-01	
1,2,3,4,6,7,8-HPCDF	ND		6.63	0.01	0.00e+00	3.32e-02	
1,2,3,4,7,8,9-HPCDF	ND		6.63	0.01	0.00e+00	3.32e-02	
OCDF	ND		5.47	0.0001	0.00e+00	2.74e-04	
			TOTAL TEQ		0.00202	6.87	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		2.62	1	0.00e+00	1.31e+00	
1,2,3,7,8-PECDD	ND		4.84	1	0.00e+00	2.42e+00	
1,2,3,4,7,8-HXCDD	ND		5.08	0.1	0.00e+00	2.54e-01	
1,2,3,6,7,8-HXCDD	ND		5.08	0.1	0.00e+00	2.54e-01	
1,2,3,7,8,9-HXCDD	ND		5.08	0.1	0.00e+00	2.54e-01	
1,2,3,4,6,7,8-HPCDD	ND		7.92	0.01	0.00e+00	3.96e-02	
OCDD		20.2	5.50	0.0003	6.06e-03	6.06e-03	
2,3,7,8-TCDF	ND		5.97	0.1	0.00e+00	2.99e-01	
1,2,3,7,8-PECDF	ND		3.56	0.03	0.00e+00	5.34e-02	
2,3,4,7,8-PECDF	ND		3.56	0.3	0.00e+00	5.34e-01	
1,2,3,4,7,8-HXCDF	ND		4.94	0.1	0.00e+00	2.47e-01	
1,2,3,6,7,8-HXCDF	ND		4.94	0.1	0.00e+00	2.47e-01	
1,2,3,7,8,9-HXCDF	ND		4.94	0.1	0.00e+00	2.47e-01	
2,3,4,6,7,8-HXCDF	ND		4.94	0.1	0.00e+00	2.47e-01	
1,2,3,4,6,7,8-HPCDF	ND		6.63	0.01	0.00e+00	3.32e-02	
1,2,3,4,7,8,9-HPCDF	ND		6.63	0.01	0.00e+00	3.32e-02	
OCDF	ND		5.47	0.0003	0.00e+00	8.21e-04	
			TOTAL TEQ		0.00606	6.48	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 12-Mar-2007 14:01:52; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21085-101_TEQ_SJ643465.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21085-101
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 12:35:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_048 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DX7B_048 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		2.62		
1,2,3,7,8-PECDD [3]	ND		4.84		
1,2,3,4,7,8-HXCDD	ND		5.08		
1,2,3,6,7,8-HXCDD	ND		5.08		
1,2,3,7,8,9-HXCDD	ND		5.08		
1,2,3,4,6,7,8-HPCDD	ND		7.92		
OCDD		20.2	5.50	0.80	1.000
2,3,7,8-TCDF	ND		1.83		
1,2,3,7,8-PECDF	ND		3.56		
2,3,4,7,8-PECDF	ND		3.56		
1,2,3,4,7,8-HXCDF	ND		4.94		
1,2,3,6,7,8-HXCDF	ND		4.94		
1,2,3,7,8,9-HXCDF	ND		4.94		
2,3,4,6,7,8-HXCDF	ND		4.94		
1,2,3,4,6,7,8-HPCDF	ND		6.63		
1,2,3,4,7,8,9-HPCDF	ND		6.63		
OCDF	ND		5.47		
TOTAL TETRA-DIOXINS	ND		2.62		
TOTAL PENTA-DIOXINS	ND		4.84		
TOTAL HEXA-DIOXINS	ND		5.08		
TOTAL HEPTA-DIOXINS	ND		7.92		
TOTAL TETRA-FURANS	ND		1.83		
TOTAL PENTA-FURANS	ND		3.56		
TOTAL HEXA-FURANS	ND		4.94		
TOTAL HEPTA-FURANS	ND		6.63		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_WG21085-101_Form1A_SJ643769.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21085-101
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	23-Feb-2007 **Time:** 12:35:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_048 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_048 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX7B_048 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	8340	83.4	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		10000	7640	76.4	0.64	1.381
13C-1,2,3,4,7,8-HXCDD		10000	7830	78.3	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8290	82.9	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7500	75.0	1.00	1.095
13C-OCDD		20000	11400	56.9	0.88	1.178
13C-2,3,7,8-TCDF		10000	8740	87.4	0.77	0.966
13C-1,2,3,7,8-PECDF		10000	8890	88.9	1.53	1.283
13C-2,3,4,7,8-PECDF		10000	8420	84.2	1.58	1.349
13C-1,2,3,4,7,8-HXCDF		10000	9030	90.3	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9020	90.2	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8320	83.2	0.56	1.005
13C-2,3,4,6,7,8-HXCDF		10000	8530	85.3	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	7850	78.5	0.49	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7520	75.2	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	817	81.7		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB5_WG21085-101_Form2_SJ643769.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21085-101
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 13:10:04	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_029A S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_029A S: 5
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DB73_029A S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		5.97		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 12-Mar-2007 13:59:57; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB225_WG21085-101_Form1A_SJ643465.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607 **OPR Data Filename:** DX7B_048 S: 2

Matrix: SOLID **Lab Sample I.D.:** WG21085-102

Extraction Date: 25-Jan-2007 **Analysis Date:** 23-Feb-2007 **Time:** 09:49:45

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.83	50.0	55.4	33.5 - 79.0	111
1,2,3,7,8-PECDD [4]		0.64	250	255	175 - 355	102
1,2,3,4,7,8-HXCDD		1.22	250	239	175 - 410	95.7
1,2,3,6,7,8-HXCDD		1.27	250	248	190 - 335	99.1
1,2,3,7,8,9-HXCDD		1.31	250	258	160 - 405	103
1,2,3,4,6,7,8-HPCDD		1.05	250	255	175 - 350	102
OCDD		0.85	500	489	390 - 720	97.9
2,3,7,8-TCDF		0.79	50.0	50.2	37.5 - 79.0	100
1,2,3,7,8-PECDF		1.58	250	225	200 - 335	90.0
2,3,4,7,8-PECDF		1.53	250	241	170 - 400	96.3
1,2,3,4,7,8-HXCDF		1.24	250	235	180 - 335	94.0
1,2,3,6,7,8-HXCDF		1.22	250	238	210 - 325	95.1
1,2,3,7,8,9-HXCDF		1.24	250	249	195 - 325	99.7
2,3,4,6,7,8-HXCDF		1.22	250	250	175 - 390	100
1,2,3,4,6,7,8-HPCDF		1.02	250	245	205 - 305	97.9
1,2,3,4,7,8,9-HPCDF		1.00	250	244	195 - 345	97.5
OCDF		0.91	500	487	315 - 850	97.3

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33; Report Filename: 1613_DIOXINS_1613DB5_WG21085-102_Form8A_SJ643766.html; Workgroup: WG21085; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX7B_048 S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21085-102
Extraction Date:	25-Jan-2007	**Analysis Date:**	23-Feb-2007 **Time:** 09:49:45

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.80	500	427	100-875	85.4
13C-1,2,3,7,8-PECDD [4]		0.64	500	418	105-1140	83.6
13C-1,2,3,4,7,8-HXCDD		1.25	500	439	105-965	87.8
13C-1,2,3,6,7,8-HXCDD		1.22	500	428	125-815	85.6
13C-1,2,3,4,6,7,8-HPCDD		1.03	500	430	130-830	86.1
13C-OCDD		0.96	1000	682	130-1990	68.2
13C-2,3,7,8-TCDF		0.76	500	485	110-760	97.0
13C-1,2,3,7,8-PECDF		1.57	500	474	105-960	94.9
13C-2,3,4,7,8-PECDF		1.57	500	454	65.0-1640	90.9
13C-1,2,3,4,7,8-HXCDF		0.53	500	495	95.0-1010	99.0
13C-1,2,3,6,7,8-HXCDF		0.55	500	487	105-795	97.4
13C-1,2,3,7,8,9-HXCDF		0.54	500	455	85.0-1030	91.0
13C-2,3,4,6,7,8-HXCDF		0.55	500	493	110-880	98.6
13C-1,2,3,4,6,7,8-HPCDF		0.45	500	452	105-790	90.4
13C-1,2,3,4,7,8,9-HPCDF		0.47	500	438	100-930	87.7
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			50.0	46.7	15.5-95.5	93.5

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 12-Mar-2007 13:58:11; Application: XMLTransformer-1.7.33;
Report Filename: 1613_DIOXINS_1613DB5_WG21085-102_Form8B_SJ643766.html; Workgroup: WG21085; Design ID: 559]

BATCH SUMMARY

Batch ID:	WG21084	***Date:***	19-Mar-2007
Analysis Type:	DIOXINS	***Matrix Type:***	SOLIDS

BATCH MAKEUP

Contract: 2607

Samples:
L9585-30
L9585-31
L9585-32
L9585-33
L9585-52
L9585-53
~~L9585-55~~
L9585-58
L9585-59
L9585-61
L9585-62
L9585-63
L9585-64
L9585-65
L9585-66

Blank: WG21084-101

Reference or Spike: WG21084-103

Duplicate:

Comments:

1. Data are not blank corrected.

2. Samples 06VN032 & 06VN066 (AXYS IDs: L9585-32 & -63, respectively) were instrumentally reanalyzed due to the possibility of carryover. Data is reported from the reanalysis as indicated by the suffix 'i' added to the Axys ID.

3. The area response for 2,3,7,8-TCDD in samples 06VN058, 06VN059, 06VN068 & 06VN069 (AXYS IDs: L9585-58, -59, -65 & -66, respectively) was outside the demonstrated linear range of the instrument. These samples were diluted and reanalyzed. Samples 06VN058 & 06VN059 (AXYS IDs: L9585-58 & -59) required a further dilution and respike of labeled standards. The data is reported from the diluted analysis as indicated by the suffix 'W' and 'NK' added to the Axys IDs.

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21084-101
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	24-Jan-2007	**Initial Calibration Date:**	16-Dec-2006
Analysis Date:	24-Feb-2007 **Time:** 18:10:16	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX7B_050D S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX7B_050D S: 5
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DX7B_050D S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		11.5	2.00	0.70	1.001
1,2,3,7,8-PECDD [3]	ND		3.06		
1,2,3,4,7,8-HXCDD	ND		3.21		
1,2,3,6,7,8-HXCDD	ND		3.21		
1,2,3,7,8,9-HXCDD	ND		3.21		
1,2,3,4,6,7,8-HPCDD	ND		3.34		
OCDD		7.08	3.24	0.79	1.000
2,3,7,8-TCDF	ND		1.28		
1,2,3,7,8-PECDF	ND		2.68		
2,3,4,7,8-PECDF	ND		2.68		
1,2,3,4,7,8-HXCDF	ND		2.23		
1,2,3,6,7,8-HXCDF	ND		2.23		
1,2,3,7,8,9-HXCDF	ND		2.23		
2,3,4,6,7,8-HXCDF	ND		2.23		
1,2,3,4,6,7,8-HPCDF	ND		3.01		
1,2,3,4,7,8,9-HPCDF	ND		3.01		
OCDF	ND		2.72		
TOTAL TETRA-DIOXINS		11.5	2.00		
TOTAL PENTA-DIOXINS	ND		3.06		
TOTAL HEXA-DIOXINS	ND		3.21		
TOTAL HEPTA-DIOXINS	ND		3.34		
TOTAL TETRA-FURANS	ND		1.28		
TOTAL PENTA-FURANS	ND		2.68		
TOTAL HEXA-FURANS	ND		2.23		
TOTAL HEPTA-FURANS	ND		3.01		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_WG21084-101_Form1A_SJ649963.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21084-101
Matrix:	SOLID	**Sample Size:**	5.00 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	16-Dec-2006
Extraction Date:	24-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	24-Feb-2007 **Time:** 18:10:16	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**DX7B_050D S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7B_050D S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_050D S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		10000	9200	92.0	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		10000	9870	98.7	0.65	1.382
13C-1,2,3,4,7,8-HXCDD		10000	9110	91.1	1.18	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9110	91.1	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8360	83.6	0.98	1.095
13C-OCDD		20000	14000	70.1	0.92	1.178
13C-2,3,7,8-TCDF		10000	10600	106	0.73	0.966
13C-1,2,3,7,8-PECDF		10000	10700	107	1.55	1.283
13C-2,3,4,7,8-PECDF		10000	10300	103	1.57	1.350
13C-1,2,3,4,7,8-HXCDF		10000	10300	103	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		10000	10300	103	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9950	99.5	0.55	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9770	97.7	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	8350	83.5	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8820	88.2	0.43	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		1000	874	87.4		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_WG21084-101_Form2_SJ649963.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	N/A
Sample Size:	5.00 g	**Lab Sample I.D.:**	WG21084-101
Concentration Units:	pg/g	**GC Column ID:**	DB5
		Sample Data Filename:	**DX7B_050D S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		11.5	2.00	1	1.15e+01	1.15e+01	
1,2,3,7,8-PECDD	ND		3.06	1	0.00e+00	1.53e+00	
1,2,3,4,7,8-HXCDD	ND		3.21	0.1	0.00e+00	1.61e-01	
1,2,3,6,7,8-HXCDD	ND		3.21	0.1	0.00e+00	1.61e-01	
1,2,3,7,8,9-HXCDD	ND		3.21	0.1	0.00e+00	1.61e-01	
1,2,3,4,6,7,8-HPCDD	ND		3.34	0.01	0.00e+00	1.67e-02	
OCDD		7.08	3.24	0.0001	7.08e-04	7.08e-04	
2,3,7,8-TCDF	ND		1.28	0.1	0.00e+00	6.40e-02	
1,2,3,7,8-PECDF	ND		2.68	0.05	0.00e+00	6.70e-02	
2,3,4,7,8-PECDF	ND		2.68	0.5	0.00e+00	6.70e-01	
1,2,3,4,7,8-HXCDF	ND		2.23	0.1	0.00e+00	1.12e-01	
1,2,3,6,7,8-HXCDF	ND		2.23	0.1	0.00e+00	1.12e-01	
1,2,3,7,8,9-HXCDF	ND		2.23	0.1	0.00e+00	1.12e-01	
2,3,4,6,7,8-HXCDF	ND		2.23	0.1	0.00e+00	1.12e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.01	0.01	0.00e+00	1.51e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.01	0.01	0.00e+00	1.51e-02	
OCDF	ND		2.72	0.0001	0.00e+00	1.36e-04	
			TOTAL TEQ		11.5	14.8	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		11.5	2.00	1	1.15e+01	1.15e+01	
1,2,3,7,8-PECDD	ND		3.06	1	0.00e+00	1.53e+00	
1,2,3,4,7,8-HXCDD	ND		3.21	0.1	0.00e+00	1.61e-01	
1,2,3,6,7,8-HXCDD	ND		3.21	0.1	0.00e+00	1.61e-01	
1,2,3,7,8,9-HXCDD	ND		3.21	0.1	0.00e+00	1.61e-01	
1,2,3,4,6,7,8-HPCDD	ND		3.34	0.01	0.00e+00	1.67e-02	
OCDD		7.08	3.24	0.0003	2.12e-03	2.12e-03	
2,3,7,8-TCDF	ND		1.28	0.1	0.00e+00	6.40e-02	
1,2,3,7,8-PECDF	ND		2.68	0.03	0.00e+00	4.02e-02	
2,3,4,7,8-PECDF	ND		2.68	0.3	0.00e+00	4.02e-01	
1,2,3,4,7,8-HXCDF	ND		2.23	0.1	0.00e+00	1.12e-01	
1,2,3,6,7,8-HXCDF	ND		2.23	0.1	0.00e+00	1.12e-01	
1,2,3,7,8,9-HXCDF	ND		2.23	0.1	0.00e+00	1.12e-01	
2,3,4,6,7,8-HXCDF	ND		2.23	0.1	0.00e+00	1.12e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.01	0.01	0.00e+00	1.51e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.01	0.01	0.00e+00	1.51e-02	
OCDF	ND		2.72	0.0003	0.00e+00	4.08e-04	
			TOTAL TEQ		11.5	14.5	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 19-Mar-2007 15:18:15; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21084-101_TEQ_SJ649963.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8A
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX7B_051 S: 5**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21084-103
Extraction Date:	24-Jan-2007	**Analysis Date:**	24-Feb-2007 **Time:** 23:49:16

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.80	50.0	52.8	33.5 - 79.0	106
1,2,3,7,8-PECDD [4]		0.66	250	249	175 - 355	99.5
1,2,3,4,7,8-HXCDD		1.27	250	256	175 - 410	102
1,2,3,6,7,8-HXCDD		1.32	250	248	190 - 335	99.1
1,2,3,7,8,9-HXCDD		1.27	250	250	160 - 405	99.8
1,2,3,4,6,7,8-HPCDD		1.06	250	248	175 - 350	99.4
OCDD		0.88	500	485	390 - 720	97.1
2,3,7,8-TCDF		0.82	50.0	52.9	37.5 - 79.0	106
1,2,3,7,8-PECDF		1.53	250	244	200 - 335	97.5
2,3,4,7,8-PECDF		1.52	250	247	170 - 400	98.8
1,2,3,4,7,8-HXCDF		1.21	250	235	180 - 335	94.2
1,2,3,6,7,8-HXCDF		1.25	250	234	210 - 325	93.6
1,2,3,7,8,9-HXCDF		1.25	250	233	195 - 325	93.0
2,3,4,6,7,8-HXCDF		1.21	250	231	175 - 390	92.3
1,2,3,4,6,7,8-HPCDF		1.03	250	250	205 - 305	99.8
1,2,3,4,7,8,9-HPCDF		1.04	250	242	195 - 345	96.7
OCDF		0.90	500	486	315 - 850	97.1

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 19-Mar-2007 14:53:41; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_WG21084-103_Form8A_SJ649468.html; Workgroup: WG21084; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX7B_051 S: 5**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21084-103
Extraction Date:	24-Jan-2007	**Analysis Date:**	24-Feb-2007 **Time:** 23:49:16

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.78	500	456	100-875	91.1
13C-1,2,3,7,8-PECDD [4]		0.64	500	445	105-1140	88.9
13C-1,2,3,4,7,8-HXCDD		1.36	500	439	105-965	87.8
13C-1,2,3,6,7,8-HXCDD		1.25	500	451	125-815	90.1
13C-1,2,3,4,6,7,8-HPCDD		0.98	500	388	130-830	77.7
13C-OCDD		0.92	1000	690	130-1990	69.0
13C-2,3,7,8-TCDF		0.75	500	477	110-760	95.3
13C-1,2,3,7,8-PECDF		1.54	500	477	105-960	95.5
13C-2,3,4,7,8-PECDF		1.54	500	446	65.0-1640	89.3
13C-1,2,3,4,7,8-HXCDF		0.53	500	484	95.0-1010	96.9
13C-1,2,3,6,7,8-HXCDF		0.53	500	495	105-795	99.1
13C-1,2,3,7,8,9-HXCDF		0.55	500	477	85.0-1030	95.5
13C-2,3,4,6,7,8-HXCDF		0.54	500	482	110-880	96.4
13C-1,2,3,4,6,7,8-HPCDF		0.44	500	430	105-790	85.9
13C-1,2,3,4,7,8,9-HPCDF		0.45	500	412	100-930	82.4
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			50.0	47.8	15.5-95.5	95.7

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

BATCH SUMMARY

Batch ID:	WG21407	***Date:***	20-Mar-2007
Analysis Type:	Dioxins	***Matrix Type:***	Solid

BATCH MAKEUP

Contract: 2607 ***Samples:*** L9585-55
L9585-115
L9585-116
L9585-117

Blank: WG21407-101

Reference or Spike: WG21407-102

Duplicate:

Comments:

1. Data are not blank corrected.

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21407-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	10-Mar-2007 **Time:** 11:29:58	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_102 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DX72_102 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0500		
1,2,3,7,8-PECDD [3]	NDR	0.050	0.0500	0.32	1.001
1,2,3,4,7,8-HXCDD	ND		0.0500		
1,2,3,6,7,8-HXCDD	ND		0.0500		
1,2,3,7,8,9-HXCDD		0.052	0.0500	1.18	1.010
1,2,3,4,6,7,8-HPCDD		0.097	0.0500	1.03	1.000
OCDD		0.188	0.0500	0.99	1.000
2,3,7,8-TCDF	ND		0.0500		
1,2,3,7,8-PECDF		0.054	0.0500	1.34	1.001
2,3,4,7,8-PECDF		0.076	0.0500	1.74	1.001
1,2,3,4,7,8-HXCDF	ND		0.0500		
1,2,3,6,7,8-HXCDF	ND		0.0500		
1,2,3,7,8,9-HXCDF		0.057	0.0500	1.06	1.000
2,3,4,6,7,8-HXCDF		0.085	0.0500	1.22	1.001
1,2,3,4,6,7,8-HPCDF	NDR	0.051	0.0500	0.81	1.000
1,2,3,4,7,8,9-HPCDF		0.070	0.0500	1.15	1.001
OCDF		0.099	0.0500	1.01	1.002
TOTAL TETRA-DIOXINS	ND		0.0500		
TOTAL PENTA-DIOXINS	ND		0.0500		
TOTAL HEXA-DIOXINS		0.052	0.0500		
TOTAL HEPTA-DIOXINS		0.097	0.0500		
TOTAL TETRA-FURANS	ND		0.0500		
TOTAL PENTA-FURANS		0.130	0.0500		
TOTAL HEXA-FURANS		0.142	0.0500		
TOTAL HEPTA-FURANS		0.070	0.0500		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21407-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	10-Mar-2007 **Time:** 11:29:58	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_102 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_102 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_102 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1310	65.6	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1790	89.6	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1750	87.5	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1840	92.2	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1670	83.3	1.07	1.094
13C-OCDD		4000	2560	63.9	0.90	1.178
13C-2,3,7,8-TCDF		2000	1350	67.3	0.77	0.966
13C-1,2,3,7,8-PECDF		2000	1710	85.4	1.57	1.283
13C-2,3,4,7,8-PECDF		2000	1810	90.6	1.58	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1830	91.3	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1890	94.5	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1760	88.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1840	92.0	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1870	93.6	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1770	88.3	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	137	68.3		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Mar-2007 13:45:42; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_WG21407-101_Form2_SJ650652.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21407-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	09-Mar-2007 **Time:** 22:52:25	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_050 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_050 S: 5
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DB73_050 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.0640		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Mar-2007 13:49:08; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB225_WG21407-101_Form1A_SJ648881.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	N/A
Sample Size:	10.0 g	**Lab Sample I.D.:**	WG21407-101
Concentration Units:	pg/g	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_050 S: 5** **DX72_102 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD		0.052	0.0500	0.1	5.20e-03	5.20e-03	
1,2,3,4,6,7,8-HPCDD		0.097	0.0500	0.01	9.70e-04	9.70e-04	
OCDD		0.188	0.0500	0.0001	1.88e-05	1.88e-05	
2,3,7,8-TCDF	ND		0.0640	0.1	0.00e+00	3.20e-03	
1,2,3,7,8-PECDF		0.054	0.0500	0.05	2.70e-03	2.70e-03	
2,3,4,7,8-PECDF		0.076	0.0500	0.5	3.80e-02	3.80e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF		0.057	0.0500	0.1	5.70e-03	5.70e-03	
2,3,4,6,7,8-HXCDF		0.085	0.0500	0.1	8.50e-03	8.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF		0.070	0.0500	0.01	7.00e-04	7.00e-04	
OCDF		0.099	0.0500	0.0001	9.90e-06	9.90e-06	
			TOTAL TEQ		0.0618	0.125	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD		0.052	0.0500	0.1	5.20e-03	5.20e-03	
1,2,3,4,6,7,8-HPCDD		0.097	0.0500	0.01	9.70e-04	9.70e-04	
OCDD		0.188	0.0500	0.0003	5.64e-05	5.64e-05	
2,3,7,8-TCDF	ND		0.0640	0.1	0.00e+00	3.20e-03	
1,2,3,7,8-PECDF		0.054	0.0500	0.03	1.62e-03	1.62e-03	
2,3,4,7,8-PECDF		0.076	0.0500	0.3	2.28e-02	2.28e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF		0.057	0.0500	0.1	5.70e-03	5.70e-03	
2,3,4,6,7,8-HXCDF		0.085	0.0500	0.1	8.50e-03	8.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF		0.070	0.0500	0.01	7.00e-04	7.00e-04	
OCDF		0.099	0.0500	0.0003	2.97e-05	2.97e-05	
			TOTAL TEQ		0.0456	0.109	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Mar-2007 13:51:00; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21407-101_TEQ_SJ648881.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607 **OPR Data Filename:** DX72_102 S: 2

Matrix: SOLID **Lab Sample I.D.:** WG21407-102

Extraction Date: 06-Mar-2007 **Analysis Date:** 10-Mar-2007 **Time:** 08:46:36

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.78	10.0	11.4	6.70 - 15.8	114
1,2,3,7,8-PECDD [4]		0.63	50.0	55.5	35.0 - 71.0	111
1,2,3,4,7,8-HXCDD		1.31	50.0	53.8	35.0 - 82.0	108
1,2,3,6,7,8-HXCDD		1.21	50.0	51.7	38.0 - 67.0	103
1,2,3,7,8,9-HXCDD		1.25	50.0	50.3	32.0 - 81.0	101
1,2,3,4,6,7,8-HPCDD		1.06	50.0	54.1	35.0 - 70.0	108
OCDD		0.90	100	109	78.0 - 144	109
2,3,7,8-TCDF		0.83	10.0	11.6	7.50 - 15.8	116
1,2,3,7,8-PECDF		1.56	50.0	56.5	40.0 - 67.0	113
2,3,4,7,8-PECDF		1.57	50.0	57.3	34.0 - 80.0	115
1,2,3,4,7,8-HXCDF		1.25	50.0	55.4	36.0 - 67.0	111
1,2,3,6,7,8-HXCDF		1.25	50.0	54.7	42.0 - 65.0	109
1,2,3,7,8,9-HXCDF		1.25	50.0	56.4	39.0 - 65.0	113
2,3,4,6,7,8-HXCDF		1.25	50.0	55.6	35.0 - 78.0	111
1,2,3,4,6,7,8-HPCDF		1.04	50.0	58.2	41.0 - 61.0	116
1,2,3,4,7,8,9-HPCDF		1.05	50.0	56.2	39.0 - 69.0	112
OCDF		0.92	100	119	63.0 - 170	119

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 20-Mar-2007 13:45:42; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_WG21407-102_Form8A_SJ650649.html; Workgroup: WG21407; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_102 S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21407-102
Extraction Date:	06-Mar-2007	**Analysis Date:**	10-Mar-2007 **Time:** 08:46:36

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.79	100	65.4	20.0-175	65.4
13C-1,2,3,7,8-PECDD [4]		0.64	100	83.1	21.0-227	83.1
13C-1,2,3,4,7,8-HXCDD		1.26	100	83.5	21.0-193	83.5
13C-1,2,3,6,7,8-HXCDD		1.25	100	87.4	25.0-163	87.4
13C-1,2,3,4,6,7,8-HPCDD		1.06	100	78.9	26.0-166	78.9
13C-OCDD		0.91	200	118	26.0-397	58.8
13C-2,3,7,8-TCDF		0.77	100	68.3	22.0-152	68.3
13C-1,2,3,7,8-PECDF		1.57	100	81.7	21.0-192	81.7
13C-2,3,4,7,8-PECDF		1.57	100	85.8	13.0-328	85.8
13C-1,2,3,4,7,8-HXCDF		0.53	100	87.2	19.0-202	87.2
13C-1,2,3,6,7,8-HXCDF		0.53	100	89.9	21.0-159	89.9
13C-1,2,3,7,8,9-HXCDF		0.53	100	84.1	17.0-205	84.1
13C-2,3,4,6,7,8-HXCDF		0.52	100	87.0	22.0-176	87.0
13C-1,2,3,4,6,7,8-HPCDF		0.45	100	86.6	21.0-158	86.6
13C-1,2,3,4,7,8,9-HPCDF		0.46	100	82.7	20.0-186	82.7
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	6.99	3.10-19.1	69.9

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 20-Mar-2007 13:45:42; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_WG21407-102_Form8B_SJ650649.html; Workgroup: WG21407; Design ID: 559]

BATCH SUMMARY

Batch ID:	WG21382	***Date:***	20-Mar-2007
Analysis Type:	DIOXINS	***Matrix Type:***	SOLID

BATCH MAKEUP

Contract: 2607 ***Samples:*** L9585-118
L9585-119
L9585-120
L9585-125

Blank: WG21382-101

Reference or Spike: WG21382-102

Duplicate:

Comments:

1. Data are not blank corrected.

2. All samples were concentrated and reanalyzed due to the data from the initial analysis being too low. The data is reported from the concentrated reanalysis as indicated by the suffix 'M' added to the AXYS ID.

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21382-101 :5PT
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	15-Feb-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	11-Mar-2007 **Time:** 23:11:38	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_105 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_105 S: 5
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DX72_105 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0500		
1,2,3,7,8-PECDD [3]	ND		0.0500		
1,2,3,4,7,8-HXCDD	ND		0.0500		
1,2,3,6,7,8-HXCDD	ND		0.0500		
1,2,3,7,8,9-HXCDD	ND		0.0500		
1,2,3,4,6,7,8-HPCDD	ND		0.0500		
OCDD		0.322	0.0500	0.92	1.000
2,3,7,8-TCDF	ND		0.0500		
1,2,3,7,8-PECDF	ND		0.0500		
2,3,4,7,8-PECDF		0.052	0.0500	1.55	1.000
1,2,3,4,7,8-HXCDF	ND		0.0500		
1,2,3,6,7,8-HXCDF	ND		0.0500		
1,2,3,7,8,9-HXCDF	ND		0.0500		
2,3,4,6,7,8-HXCDF	ND		0.0500		
1,2,3,4,6,7,8-HPCDF	ND		0.0500		
1,2,3,4,7,8,9-HPCDF	ND		0.0500		
OCDF	ND		0.0500		
TOTAL TETRA-DIOXINS	ND		0.0500		
TOTAL PENTA-DIOXINS	ND		0.0500		
TOTAL HEXA-DIOXINS	ND		0.0500		
TOTAL HEPTA-DIOXINS		0.057	0.0500		
TOTAL TETRA-FURANS	ND		0.0500		
TOTAL PENTA-FURANS		0.052	0.0500		
TOTAL HEXA-FURANS	ND		0.0500		
TOTAL HEPTA-FURANS	ND		0.0500		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Mar-2007 10:03:40; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_WG21382-101_Form1A_SJ649573.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21382-101 :5PT
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	15-Feb-2007	**Initial Calibration Date:**	10-Mar-2007
Analysis Date:	11-Mar-2007 **Time:** 23:11:38	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_105 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_105 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_105 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1260	62.8	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1330	66.3	0.63	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1500	75.2	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1490	74.4	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1480	74.0	1.04	1.095
13C-OCDD		4000	2600	64.9	0.91	1.178
13C-2,3,7,8-TCDF		2000	1260	63.0	0.79	0.966
13C-1,2,3,7,8-PECDF		2000	1220	61.2	1.58	1.283
13C-2,3,4,7,8-PECDF		2000	1250	62.4	1.56	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1590	79.4	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1610	80.3	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1490	74.6	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1560	77.8	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1460	73.0	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1400	70.2	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	134	67.1		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Mar-2007 10:03:40; Application: XMLTransformer-1.7.35; Report Filename: 1613_DIOXINS_1613DB5_WG21382-101_Form2_SJ649573.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	N/A
Sample Size:	10.0 g	**Lab Sample I.D.:**	WG21382-101 :5PT
Concentration Units:	pg/g	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_105 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDD		0.322	0.0500	0.0001	3.22e-05	3.22e-05	
2,3,7,8-TCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF		0.052	0.0500	0.5	2.60e-02	2.60e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0500	0.0001	0.00e+00	2.50e-06	
			TOTAL TEQ		0.0260	0.0980	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDD		0.322	0.0500	0.0003	9.66e-05	9.66e-05	
2,3,7,8-TCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,4,7,8-PECDF		0.052	0.0500	0.3	1.56e-02	1.56e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0500	0.0003	0.00e+00	7.50e-06	
			TOTAL TEQ		0.0157	0.0872	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Mar-2007 09:49:01; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21382-101_TEQ_SJ649573.html; Workgroup: WG21382; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_105 S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21382-102 :5PT
Extraction Date:	15-Feb-2007	**Analysis Date:**	11-Mar-2007 **Time:** 20:28:14

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.79	10.0	10.3	6.70 - 15.8	103
1,2,3,7,8-PECDD [4]		0.63	50.0	50.6	35.0 - 71.0	101
1,2,3,4,7,8-HXCDD		1.26	50.0	51.9	35.0 - 82.0	104
1,2,3,6,7,8-HXCDD		1.26	50.0	52.6	38.0 - 67.0	105
1,2,3,7,8,9-HXCDD		1.26	50.0	53.4	32.0 - 81.0	107
1,2,3,4,6,7,8-HPCDD		1.04	50.0	49.7	35.0 - 70.0	99.4
OCDD		0.89	100	101	78.0 - 144	101
2,3,7,8-TCDF		0.79	10.0	10.2	7.50 - 15.8	102
1,2,3,7,8-PECDF		1.55	50.0	50.7	40.0 - 67.0	101
2,3,4,7,8-PECDF		1.57	50.0	50.9	34.0 - 80.0	102
1,2,3,4,7,8-HXCDF		1.28	50.0	50.7	36.0 - 67.0	101
1,2,3,6,7,8-HXCDF		1.23	50.0	50.6	42.0 - 65.0	101
1,2,3,7,8,9-HXCDF		1.26	50.0	51.1	39.0 - 65.0	102
2,3,4,6,7,8-HXCDF		1.26	50.0	50.0	35.0 - 78.0	99.9
1,2,3,4,6,7,8-HPCDF		1.03	50.0	52.3	41.0 - 61.0	105
1,2,3,4,7,8,9-HPCDF		1.04	50.0	50.4	39.0 - 69.0	101
OCDF		0.91	100	101	63.0 - 170	101

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_105 S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21382-102 :5PT
Extraction Date:	15-Feb-2007	**Analysis Date:**	11-Mar-2007 **Time:** 20:28:14

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.78	100	64.3	20.0-175	64.3
13C-1,2,3,7,8-PECDD [4]		0.63	100	68.2	21.0-227	68.2
13C-1,2,3,4,7,8-HXCDD		1.28	100	69.7	21.0-193	69.7
13C-1,2,3,6,7,8-HXCDD		1.27	100	71.1	25.0-163	71.1
13C-1,2,3,4,6,7,8-HPCDD		1.07	100	69.1	26.0-166	69.1
13C-OCDD		0.90	200	125	26.0-397	62.6
13C-2,3,7,8-TCDF		0.80	100	64.7	22.0-152	64.7
13C-1,2,3,7,8-PECDF		1.57	100	63.4	21.0-192	63.4
13C-2,3,4,7,8-PECDF		1.57	100	63.1	13.0-328	63.1
13C-1,2,3,4,7,8-HXCDF		0.52	100	73.5	19.0-202	73.5
13C-1,2,3,6,7,8-HXCDF		0.53	100	75.5	21.0-159	75.5
13C-1,2,3,7,8,9-HXCDF		0.53	100	72.1	17.0-205	72.1
13C-2,3,4,6,7,8-HXCDF		0.53	100	73.0	22.0-176	73.0
13C-1,2,3,4,6,7,8-HPCDF		0.46	100	69.8	21.0-158	69.8
13C-1,2,3,4,7,8,9-HPCDF		0.46	100	67.6	20.0-186	67.6
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	7.55	3.10-19.1	75.5

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 20-Mar-2007 09:42:39; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_WG21382-102_Form8B_SJ649568.html; Workgroup: WG21382; Design ID: 559]

BATCH SUMMARY

Batch ID:	WG21089	***Date:***	18-Feb-2007
Analysis Type:	Dioxins	***Matrix Type:***	Tissue

BATCH MAKEUP

Contract:	2607	***Samples:***	L9586-21 L9586-22
Blank:	WG21089-101		
Reference or Spike:	WG21089-102		
Duplicate:			

Comments:

1. Data are not blank corrected.

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL	**Lab Sample I.D.:**	WG21089-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	19-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	15-Feb-2007 **Time:** 01:20:47	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_065 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_065 S: 7
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DX72_065 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0500		
1,2,3,7,8-PECDD [3]	ND		0.0500		
1,2,3,4,7,8-HXCDD	ND		0.0500		
1,2,3,6,7,8-HXCDD	ND		0.0500		
1,2,3,7,8,9-HXCDD	ND		0.0500		
1,2,3,4,6,7,8-HPCDD	NDR	0.072	0.0500	1.31	1.001
OCDD		0.181	0.0500	0.86	1.000
2,3,7,8-TCDF	ND		0.0500		
1,2,3,7,8-PECDF	ND		0.0500		
2,3,4,7,8-PECDF	NDR	0.052	0.0500	1.20	1.000
1,2,3,4,7,8-HXCDF	ND		0.0500		
1,2,3,6,7,8-HXCDF	ND		0.0500		
1,2,3,7,8,9-HXCDF	ND		0.0500		
2,3,4,6,7,8-HXCDF	ND		0.0500		
1,2,3,4,6,7,8-HPCDF	ND		0.0500		
1,2,3,4,7,8,9-HPCDF	ND		0.0500		
OCDF	ND		0.0500		
TOTAL TETRA-DIOXINS	ND		0.0500		
TOTAL PENTA-DIOXINS	ND		0.0500		
TOTAL HEXA-DIOXINS	ND		0.0500		
TOTAL HEPTA-DIOXINS	ND		0.0500		
TOTAL TETRA-FURANS	ND		0.0500		
TOTAL PENTA-FURANS	ND		0.0500		
TOTAL HEXA-FURANS	ND		0.0500		
TOTAL HEPTA-FURANS	ND		0.0500		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 18-Feb-2007 11:59:26; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21089-101_Form1A_SJ637366.html; Workgroup: WG21089; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21089-101
Matrix:	CORN OIL	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	14-Feb-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 01:20:47	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_065 S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_065 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_065 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1510	75.6	0.77	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1660	82.9	0.63	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1790	89.5	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1800	90.2	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1590	79.4	1.05	1.094
13C-OCDD		4000	2520	63.0	0.89	1.178
13C-2,3,7,8-TCDF		2000	1570	78.4	0.78	0.966
13C-1,2,3,7,8-PECDF		2000	1610	80.4	1.56	1.282
13C-2,3,4,7,8-PECDF		2000	1620	81.1	1.60	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1800	89.9	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1790	89.3	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1710	85.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1750	87.3	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1620	80.8	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1620	81.0	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	156	78.1		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 18-Feb-2007 11:59:26; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21089-101_Form2_SJ637366.html; Workgroup: WG21089; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21089-101
Matrix:	CORN OIL	**Sample Size:**	1.00 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	08-Jan-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2007 **Time:** 13:03:19	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_022 S: 5**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_022 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_022 S: 2
Concentration Units:	pg/g		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.961		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 18-Feb-2007 11:59:01; Application: XMLTransformer-1.7.29; Report Filename: 1613_DIOXINS_1613DB225_WG21089-101_Form1A_SJ637374.html; Workgroup: WG21089; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
Lab Blank

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL	**Project No.**	N/A
Sample Size:	10.0 g	**Lab Sample I.D.:**	WG21089-101
Concentration Units:	pg/g	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_022 S: 5** **DX72_065 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDD		0.181	0.0500	0.0001	1.81e-05	1.81e-05	
2,3,7,8-TCDF	ND		0.961	0.1	0.00e+00	4.81e-02	
1,2,3,7,8-PECDF	ND		0.0500	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF	ND		0.0500	0.5	0.00e+00	1.25e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0500	0.0001	0.00e+00	2.50e-06	
			TOTAL TEQ		0.0000181	0.130	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDD		0.181	0.0500	0.0003	5.43e-05	5.43e-05	
2,3,7,8-TCDF	ND		0.961	0.1	0.00e+00	4.81e-02	
1,2,3,7,8-PECDF	ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,4,7,8-PECDF	ND		0.0500	0.3	0.00e+00	7.50e-03	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0500	0.0003	0.00e+00	7.50e-06	
			TOTAL TEQ		0.0000543	0.125	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 18-Feb-2007 12:00:30; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21089-101_TEQ_SJ637374.html; Workgroup: WG21089; Design ID: 559]

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	DX72_065 S: 3
Matrix:	CORN OIL	**Lab Sample I.D.:**	WG21089-102
Extraction Date:	19-Jan-2007	**Analysis Date:**	14-Feb-2007 **Time:** 21:42:35

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.76	10.0	10.3	6.70 - 15.8	103
1,2,3,7,8-PECDD [4]		0.62	50.0	51.6	35.0 - 71.0	103
1,2,3,4,7,8-HXCDD		1.26	50.0	49.7	35.0 - 82.0	99.4
1,2,3,6,7,8-HXCDD		1.26	50.0	50.2	38.0 - 67.0	100
1,2,3,7,8,9-HXCDD		1.26	50.0	48.8	32.0 - 81.0	97.6
1,2,3,4,6,7,8-HPCDD		1.04	50.0	50.4	35.0 - 70.0	101
OCDD		0.91	100	106	78.0 - 144	106
2,3,7,8-TCDF		0.76	10.0	10.1	7.50 - 15.8	101
1,2,3,7,8-PECDF		1.54	50.0	50.3	40.0 - 67.0	101
2,3,4,7,8-PECDF		1.53	50.0	50.9	34.0 - 80.0	102
1,2,3,4,7,8-HXCDF		1.25	50.0	50.1	36.0 - 67.0	100
1,2,3,6,7,8-HXCDF		1.23	50.0	51.0	42.0 - 65.0	102
1,2,3,7,8,9-HXCDF		1.25	50.0	51.1	39.0 - 65.0	102
2,3,4,6,7,8-HXCDF		1.24	50.0	51.0	35.0 - 78.0	102
1,2,3,4,6,7,8-HPCDF		1.03	50.0	51.7	41.0 - 61.0	103
1,2,3,4,7,8,9-HPCDF		1.03	50.0	51.5	39.0 - 69.0	103
OCDF		0.90	100	106	63.0 - 170	106

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 18-Feb-2007 11:59:26; Application: XMLTransformer-1.7.29; Report Filename: 1613_DIOXINS_1613DB5_WG21089-102_Form8A_SJ637363.html; Workgroup: WG21089; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607 **OPR Data Filename:** DX72_065 S: 3

Matrix: CORN OIL **Lab Sample I.D.:** WG21089-102

Extraction Date: 19-Jan-2007 **Analysis Date:** 14-Feb-2007 **Time:** 21:42:35

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.78	100	82.8	20.0-175	82.8
13C-1,2,3,7,8-PECDD [4]		0.62	100	87.5	21.0-227	87.5
13C-1,2,3,4,7,8-HXCDD		1.25	100	91.5	21.0-193	91.5
13C-1,2,3,6,7,8-HXCDD		1.23	100	90.2	25.0-163	90.2
13C-1,2,3,4,6,7,8-HPCDD		1.04	100	81.2	26.0-166	81.2
13C-OCDD		0.88	200	129	26.0-397	64.6
13C-2,3,7,8-TCDF		0.77	100	86.7	22.0-152	86.7
13C-1,2,3,7,8-PECDF		1.56	100	87.4	21.0-192	87.4
13C-2,3,4,7,8-PECDF		1.57	100	85.5	13.0-328	85.5
13C-1,2,3,4,7,8-HXCDF		0.52	100	93.0	19.0-202	93.0
13C-1,2,3,6,7,8-HXCDF		0.52	100	92.3	21.0-159	92.3
13C-1,2,3,7,8,9-HXCDF		0.53	100	86.2	17.0-205	86.2
13C-2,3,4,6,7,8-HXCDF		0.53	100	88.8	22.0-176	88.8
13C-1,2,3,4,6,7,8-HPCDF		0.47	100	82.9	21.0-158	82.9
13C-1,2,3,4,7,8,9-HPCDF		0.47	100	79.9	20.0-186	79.9
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	8.34	3.10-19.1	83.4

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 18-Feb-2007 11:59:26; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21089-102_Form8B_SJ637363.html; Workgroup: WG21089; Design ID: 559]

BATCH SUMMARY

Batch ID:	WG21088	***Date:***	05-Mar-2007
Analysis Type:	DX	***Matrix Type:***	Tissue

BATCH MAKEUP

Contract: 2607

Samples:
L9586-1
L9586-5
L9586-11
L9586-12
L9586-13
L9586-15
L9586-16
L9586-17
L9586-26
L9586-30
L9586-31
L9586-32

Blank: WG21088-101

Reference or Spike: WG21088-102

Duplicate: WG21088-103

Comments:

1. Data are not blank corrected.

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS REPORT
RELATIVE PERCENT DIFFERENCE

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No. DANDI 1283

Contract No.: 2607

Client ID: 06VN233

Concentration Units: pg/g (wet weight basis)

COMPOUND	L9586-32 (A)		WG21088-103		MEAN	RELATIVE PERCENT DIFFERENCE
	LAB FLAG [1]	CONC. FOUND	LAB FLAG [1]	CONC. FOUND		
2,3,7,8-TCDD		0.898		0.929	0.914	3.39
1,2,3,7,8-PECDD	ND		ND			
1,2,3,4,7,8-HXCDD	ND		ND			
1,2,3,6,7,8-HXCDD	ND		ND			
1,2,3,7,8,9-HXCDD	ND		ND			
1,2,3,4,6,7,8-HPCDD		0.072		0.080	0.076	10.5
OCDD		0.167		0.200	0.184	18.0
2,3,7,8-TCDF	NDR	0.285		0.346		
1,2,3,7,8-PECDF	ND		ND			
2,3,4,7,8-PECDF		0.067	NDR	0.065		
1,2,3,4,7,8-HXCDF	ND		ND			
1,2,3,6,7,8-HXCDF	ND		ND			
1,2,3,7,8,9-HXCDF	ND		ND			
2,3,4,6,7,8-HXCDF	ND		ND			
1,2,3,4,6,7,8-HPCDF	ND		ND			
1,2,3,4,7,8,9-HPCDF	ND		ND			
OCDF	ND		ND			

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: RPD.xsl; Created: 05-Mar-2007 11:26:45; Application: XMLTransformer-1.7.31;
Report Filename: RPD_DIOXINS_1613-RPD_WG21088-103_L9586-32_.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL	**Lab Sample I.D.:**	WG21088-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	17-Feb-2007 **Time:** 10:50:58	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_068 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DX72_068 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	NDR	0.063	0.0500	0.33	1.002
1,2,3,7,8-PECDD [3]	ND		0.0500		
1,2,3,4,7,8-HXCDD	ND		0.0500		
1,2,3,6,7,8-HXCDD	ND		0.0500		
1,2,3,7,8,9-HXCDD	ND		0.0500		
1,2,3,4,6,7,8-HPCDD		0.085	0.0500	1.14	1.000
OCDD		0.281	0.0500	0.93	1.000
2,3,7,8-TCDF	ND		0.0500		
1,2,3,7,8-PECDF	ND		0.0500		
2,3,4,7,8-PECDF		0.061	0.0500	1.53	1.001
1,2,3,4,7,8-HXCDF	ND		0.0500		
1,2,3,6,7,8-HXCDF	ND		0.0500		
1,2,3,7,8,9-HXCDF	ND		0.0500		
2,3,4,6,7,8-HXCDF	ND		0.0500		
1,2,3,4,6,7,8-HPCDF		0.050	0.0500	1.18	1.001
1,2,3,4,7,8,9-HPCDF	ND		0.0500		
OCDF	NDR	0.055	0.0500	1.55	1.002
TOTAL TETRA-DIOXINS	ND		0.0500		
TOTAL PENTA-DIOXINS	ND		0.0500		
TOTAL HEXA-DIOXINS	ND		0.0500		
TOTAL HEPTA-DIOXINS		0.085	0.0500		
TOTAL TETRA-FURANS	ND		0.0500		
TOTAL PENTA-FURANS		0.061	0.0500		
TOTAL HEXA-FURANS	ND		0.0500		
TOTAL HEPTA-FURANS		0.050	0.0500		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL	**Lab Sample I.D.:**	WG21088-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	14-Feb-2007
Analysis Date:	17-Feb-2007 **Time:** 10:50:58	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX72_068 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_068 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_068 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1750	87.5	0.78	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1710	85.6	0.63	1.380
13C-1,2,3,4,7,8-HXCDD		2000	2030	102	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		2000	2130	107	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1680	84.2	1.04	1.094
13C-OCDD		4000	2740	68.5	0.90	1.179
13C-2,3,7,8-TCDF		2000	1980	99.0	0.79	0.965
13C-1,2,3,7,8-PECDF		2000	1840	92.0	1.59	1.282
13C-2,3,4,7,8-PECDF		2000	1810	90.6	1.56	1.349
13C-1,2,3,4,7,8-HXCDF		2000	2330	117	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2360	118	0.53	0.959
13C-1,2,3,7,8,9-HXCDF		2000	2150	108	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		2000	2220	111	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1970	98.7	0.47	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1790	89.3	0.47	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	183	91.6		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Mar-2007 11:23:39; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_WG21088-101_Form2_SJ638724.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL	**Lab Sample I.D.:**	WG21088-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	18-Jan-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 10:50:30	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_023A S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_023A S: 5
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DB73_023A S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.100		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Mar-2007 11:25:46; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613DB225_WG21088-101_Form1A_SJ640243.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL	**Project No.**	N/A
Sample Size:	10.0 g	**Lab Sample I.D.:**	WG21088-101
Concentration Units:	pg/g	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB73_023A S: 5** **DX72_068 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD		0.085	0.0500	0.01	8.50e-04	8.50e-04	
OCDD		0.281	0.0500	0.0001	2.81e-05	2.81e-05	
2,3,7,8-TCDF	ND		0.100	0.1	0.00e+00	5.00e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF		0.061	0.0500	0.5	3.05e-02	3.05e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF		0.050	0.0500	0.01	5.00e-04	5.00e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0500	0.0001	0.00e+00	2.50e-06	
			TOTAL TEQ		0.0319	0.106	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD		0.085	0.0500	0.01	8.50e-04	8.50e-04	
OCDD		0.281	0.0500	0.0003	8.43e-05	8.43e-05	
2,3,7,8-TCDF	ND		0.100	0.1	0.00e+00	5.00e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,4,7,8-PECDF		0.061	0.0500	0.3	1.83e-02	1.83e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF		0.050	0.0500	0.01	5.00e-04	5.00e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0500	0.0003	0.00e+00	7.50e-06	
			TOTAL TEQ		0.0197	0.0932	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Mar-2007 11:27:27; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21088-101_TEQ_SJ640243.html; Workgroup: WG21088; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_068 S: 2**
Matrix:	TISSUE	**Lab Sample I.D.:**	WG21088-102
Extraction Date:	18-Jan-2007	**Analysis Date:**	17-Feb-2007 **Time:** 08:06:40

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.79	10.0	11.0	6.70 - 15.8	110
1,2,3,7,8-PECDD [4]		0.63	50.0	55.0	35.0 - 71.0	110
1,2,3,4,7,8-HXCDD		1.27	50.0	52.5	35.0 - 82.0	105
1,2,3,6,7,8-HXCDD		1.26	50.0	53.6	38.0 - 67.0	107
1,2,3,7,8,9-HXCDD		1.30	50.0	50.6	32.0 - 81.0	101
1,2,3,4,6,7,8-HPCDD		1.05	50.0	53.6	35.0 - 70.0	107
OCDD		0.88	100	108	78.0 - 144	108
2,3,7,8-TCDF		0.78	10.0	11.3	7.50 - 15.8	113
1,2,3,7,8-PECDF		1.55	50.0	52.9	40.0 - 67.0	106
2,3,4,7,8-PECDF		1.56	50.0	54.0	34.0 - 80.0	108
1,2,3,4,7,8-HXCDF		1.24	50.0	53.4	36.0 - 67.0	107
1,2,3,6,7,8-HXCDF		1.24	50.0	53.8	42.0 - 65.0	108
1,2,3,7,8,9-HXCDF		1.25	50.0	54.4	39.0 - 65.0	109
2,3,4,6,7,8-HXCDF		1.24	50.0	54.0	35.0 - 78.0	108
1,2,3,4,6,7,8-HPCDF		1.05	50.0	53.4	41.0 - 61.0	107
1,2,3,4,7,8,9-HPCDF		1.04	50.0	53.5	39.0 - 69.0	107
OCDF		0.92	100	118	63.0 - 170	118

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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AXYS METHOD MLA-017 Rev 12

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_068 S: 2**
Matrix:	TISSUE	**Lab Sample I.D.:**	WG21088-102
Extraction Date:	18-Jan-2007	**Analysis Date:**	17-Feb-2007 **Time:** 08:06:40

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.79	100	67.1	20.0-175	67.1
13C-1,2,3,7,8-PECDD [4]		0.63	100	64.9	21.0-227	64.9
13C-1,2,3,4,7,8-HXCDD		1.26	100	81.5	21.0-193	81.5
13C-1,2,3,6,7,8-HXCDD		1.24	100	79.6	25.0-163	79.6
13C-1,2,3,4,6,7,8-HPCDD		1.04	100	68.1	26.0-166	68.1
13C-OCDD		0.90	200	109	26.0-397	54.5
13C-2,3,7,8-TCDF		0.79	100	72.3	22.0-152	72.3
13C-1,2,3,7,8-PECDF		1.56	100	71.8	21.0-192	71.8
13C-2,3,4,7,8-PECDF		1.58	100	71.0	13.0-328	71.0
13C-1,2,3,4,7,8-HXCDF		0.53	100	92.9	19.0-202	92.9
13C-1,2,3,6,7,8-HXCDF		0.53	100	92.4	21.0-159	92.4
13C-1,2,3,7,8,9-HXCDF		0.54	100	84.9	17.0-205	84.9
13C-2,3,4,6,7,8-HXCDF		0.54	100	87.2	22.0-176	87.2
13C-1,2,3,4,6,7,8-HPCDF		0.47	100	77.9	21.0-158	77.9
13C-1,2,3,4,7,8,9-HPCDF		0.47	100	74.0	20.0-186	74.0
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	7.34	3.10-19.1	73.4

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

BATCH SUMMARY

Batch ID:	WG21139	***Date:***	01-Mar-2007
Analysis Type:	DX	***Matrix Type:***	blood

BATCH MAKEUP

Contract: 2607	***Samples:***	***Blank:***	WG21139-101
	L9584-9 L9584-12 L9584-14 L9584-16 L9584-17 L9584-20 L9584-21 L9584-23 L9584-25 L9584-29 L9584-30 L9584-33 L9584-34 L9584-37	***Reference or Spike:***	WG21139-102
		Duplicate:	

Comments:

1. Data are not blank corrected.
2. All samples are repeat analyses from a previous batch as indicated by an R following the AXYS ID.
3. Eight samples were given additional clean-up to remove interferences as indicated by an L following the AXYS ID.
4. The OPR (AXYS ID: WG21139-102) was diluted to remove interferences as indicated by a W following the AXYS ID.
5. A disturbance of the mass ion used to monitor instrument performance (lock-mass) was observed in sample 06VNB005 (AXYS ID: L9584-23) at the retention time corresponding to 1,2,3,7,8 -PeCDD. This disturbance has been taken into account in the quantification of this compound because it has an exact labeled surrogate that will be similarily affected by the disturbance. Data is deemed unaffected and has been reported. The compound, corresponding surrogate and total have flagged with a '**G**'.

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21139-101
Matrix:	SERUM	**Sample Size:**	60.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	22-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 **Time:** 01:20:40	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_048 S:** 7
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_048 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_048 S: 2
Concentration Units:	pg/g		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0030		
1,2,3,7,8-PECDD [3]	ND		0.0030		
1,2,3,4,7,8-HXCDD	ND		0.0030		
1,2,3,6,7,8-HXCDD	ND		0.0030		
1,2,3,7,8,9-HXCDD	ND		0.0030		
1,2,3,4,6,7,8-HPCDD		0.009	0.0030	1.01	1.000
OCDD		0.040	0.0030	0.87	1.000
2,3,7,8-TCDF	ND		0.0030		
1,2,3,7,8-PECDF	NDR	0.003	0.0030	2.03	1.001
2,3,4,7,8-PECDF		0.004	0.0030	1.75	1.000
1,2,3,4,7,8-HXCDF		0.003	0.0030	1.17	1.000
1,2,3,6,7,8-HXCDF	ND		0.0030		
1,2,3,7,8,9-HXCDF	ND		0.0030		
2,3,4,6,7,8-HXCDF	ND		0.0030		
1,2,3,4,6,7,8-HPCDF		0.004	0.0030	1.01	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.003	0.0030	1.25	1.000
OCDF		0.009	0.0030	0.85	1.002
TOTAL TETRA-DIOXINS	ND		0.0030		
TOTAL PENTA-DIOXINS	ND		0.0030		
TOTAL HEXA-DIOXINS	ND		0.0030		
TOTAL HEPTA-DIOXINS		0.014	0.0030		
TOTAL TETRA-FURANS	ND		0.0030		
TOTAL PENTA-FURANS		0.004	0.0030		
TOTAL HEXA-FURANS	ND		0.0030		
TOTAL HEPTA-FURANS		0.004	0.0030		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_WG21139-101_Form1A_SJ640604.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Lab Sample I.D.:	WG21139-101		
Matrix:	SERUM	**Sample Size:**	60.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	22-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	01-Feb-2007 **Time:** 01:20:40	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_048 S: 7**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_048 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_048 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	660	66.0	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	863	86.3	0.64	1.381
13C-1,2,3,4,7,8-HXCDD		1000	749	74.9	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	741	74.1	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	740	74.0	1.05	1.095
13C-OCDD		2000	1390	69.5	0.90	1.179
13C-2,3,7,8-TCDF		1000	619	61.9	0.80	0.966
13C-1,2,3,7,8-PECDF		1000	730	73.0	1.58	1.283
13C-2,3,4,7,8-PECDF		1000	735	73.5	1.57	1.351
13C-1,2,3,4,7,8-HXCDF		1000	721	72.1	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	700	70.0	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	689	68.9	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		1000	690	69.0	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	669	66.9	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		1000	688	68.8	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_WG21139-101_Form2_SJ640604.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	SERUM	**Project No.**	N/A
Sample Size:	60.0 g	**Lab Sample I.D.:**	WG21139-101
Concentration Units:	pg/g	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_048 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,7,8-PECDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,4,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8,9-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDD		0.009	0.0030	0.01	9.00e-05	9.00e-05	
OCDD		0.040	0.0030	0.0001	4.00e-06	4.00e-06	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF	ND		0.0030	0.05	0.00e+00	7.50e-05	
2,3,4,7,8-PECDF		0.004	0.0030	0.5	2.00e-03	2.00e-03	
1,2,3,4,7,8-HXCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDF		0.004	0.0030	0.01	4.00e-05	4.00e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0030	0.01	0.00e+00	1.50e-05	
OCDF		0.009	0.0030	0.0001	9.00e-07	9.00e-07	
			TOTAL TEQ		0.00243	0.00657	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,7,8-PECDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,4,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8,9-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDD		0.009	0.0030	0.01	9.00e-05	9.00e-05	
OCDD		0.040	0.0030	0.0003	1.20e-05	1.20e-05	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF	ND		0.0030	0.03	0.00e+00	4.50e-05	
2,3,4,7,8-PECDF		0.004	0.0030	0.3	1.20e-03	1.20e-03	
1,2,3,4,7,8-HXCDF		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDF		0.004	0.0030	0.01	4.00e-05	4.00e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0030	0.01	0.00e+00	1.50e-05	
OCDF		0.009	0.0030	0.0003	2.70e-06	2.70e-06	
			TOTAL TEQ		0.00164	0.00575	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 01-Mar-2007 12:04:44; Application: XMLTransformer-1.7.31;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21139-101_TEQ_SJ640604.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_062 S: 3**
Matrix:	SERUM	**Lab Sample I.D.:**	WG21139-102 W
Extraction Date:	22-Jan-2007	**Analysis Date:**	13-Feb-2007 **Time:** 09:00:54

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD	D	0.73	1.00	1.07	0.670 - 1.58	107
1,2,3,7,8-PECDD [4]	D	0.63	5.00	5.76	3.50 - 7.10	115
1,2,3,4,7,8-HXCDD	D	1.30	5.00	5.56	3.50 - 8.20	111
1,2,3,6,7,8-HXCDD	D	1.29	5.00	5.51	3.80 - 6.70	110
1,2,3,7,8,9-HXCDD	D	1.28	5.00	5.67	3.20 - 8.10	113
1,2,3,4,6,7,8-HPCDD	D	1.07	5.00	5.58	3.50 - 7.00	112
OCDD	D	0.91	10.0	11.2	7.80 - 14.4	112
2,3,7,8-TCDF	D	0.81	1.00	1.10	0.750 - 1.58	110
1,2,3,7,8-PECDF	D	1.50	5.00	5.29	4.00 - 6.70	106
2,3,4,7,8-PECDF	D	1.57	5.00	5.34	3.40 - 8.00	107
1,2,3,4,7,8-HXCDF	D	1.22	5.00	5.50	3.60 - 6.70	110
1,2,3,6,7,8-HXCDF	D	1.25	5.00	5.32	4.20 - 6.50	106
1,2,3,7,8,9-HXCDF	D	1.24	5.00	5.33	3.90 - 6.50	107
2,3,4,6,7,8-HXCDF	D	1.22	5.00	5.33	3.50 - 7.80	107
1,2,3,4,6,7,8-HPCDF	D	1.04	5.00	5.34	4.10 - 6.10	107
1,2,3,4,7,8,9-HPCDF	D	1.03	5.00	5.51	3.90 - 6.90	110
OCDF	D	0.89	10.0	10.7	6.30 - 17.0	107

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_WG21139-102_Form8A_SJ640589.html; Workgroup: WG21139; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607 **OPR Data Filename:** DX72_062 S: 3

Matrix: SERUM **Lab Sample I.D.:** WG21139-102 W

Extraction Date: 22-Jan-2007 **Analysis Date:** 13-Feb-2007 **Time:** 09:00:54

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD	D	0.77	50.0	40.1	10.0-87.5	80.1
13C-1,2,3,7,8-PECDD [4]	D	0.64	50.0	41.8	10.5-114	83.5
13C-1,2,3,4,7,8-HXCDD	D	1.25	50.0	39.1	10.5-96.5	78.2
13C-1,2,3,6,7,8-HXCDD	D	1.20	50.0	39.7	12.5-81.5	79.4
13C-1,2,3,4,6,7,8-HPCDD	D	1.07	50.0	47.6	13.0-83.0	95.1
13C-OCDD	D	0.89	100	82.7	13.0-199	82.7
13C-2,3,7,8-TCDF	D	0.78	50.0	41.1	11.0-76.0	82.2
13C-1,2,3,7,8-PECDF	D	1.56	50.0	40.5	10.5-96.0	81.1
13C-2,3,4,7,8-PECDF	D	1.52	50.0	40.4	6.50-164	80.8
13C-1,2,3,4,7,8-HXCDF	D	0.53	50.0	41.5	9.50-101	83.0
13C-1,2,3,6,7,8-HXCDF	D	0.53	50.0	41.7	10.5-79.5	83.5
13C-1,2,3,7,8,9-HXCDF	D	0.53	50.0	39.4	8.50-103	78.8
13C-2,3,4,6,7,8-HXCDF	D	0.54	50.0	40.6	11.0-88.0	81.2
13C-1,2,3,4,6,7,8-HPCDF	D	0.44	50.0	43.3	10.5-79.0	86.6
13C-1,2,3,4,7,8,9-HPCDF	D	0.45	50.0	44.9	10.0-93.0	89.9

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 01-Mar-2007 11:45:37; Application: XMLTransformer-1.7.31; Report Filename: 1613_DIOXINS_1613DB5_WG21139-102_Form8B_SJ640589.html; Workgroup: WG21139; Design ID: 559]

BATCH SUMMARY

Batch ID:	WG21001	***Date:***	06-Feb-2007
Analysis Type:	Dioxins	***Matrix Type:***	WHOLE BLOOD

BATCH MAKEUP

Contract:	2607	***Blank:***	WG21001-101
Samples:	L9584-2 L9584-18 L9584-19	***Reference or Spike:***	WG21001-102
		Duplicate:	

Comments:

1. Data are not blank corrected.
2. Nine other samples originally from this batch are being re-extracted in another batch; the data for those samples will be reported when they become available
.

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21001-101 :2607
Matrix:	CORN OIL & WATER	**Sample Size:**	20.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	10-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Jan-2007 **Time:** 14:07:20	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_030 S: 8**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_030 S: 8
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_030 S: 2
Concentration Units:	pg/g		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0100		
1,2,3,7,8-PECDD [3]	ND		0.0100		
1,2,3,4,7,8-HXCDD	ND		0.0100		
1,2,3,6,7,8-HXCDD	ND		0.0100		
1,2,3,7,8,9-HXCDD	ND		0.0100		
1,2,3,4,6,7,8-HPCDD	NDR	0.036	0.0100	0.82	1.000
OCDD		0.231	0.0100	0.97	1.000
2,3,7,8-TCDF	ND		0.0100		
1,2,3,7,8-PECDF	ND		0.0100		
2,3,4,7,8-PECDF	ND		0.0100		
1,2,3,4,7,8-HXCDF	ND		0.0100		
1,2,3,6,7,8-HXCDF	ND		0.0100		
1,2,3,7,8,9-HXCDF	ND		0.0100		
2,3,4,6,7,8-HXCDF	ND		0.0100		
1,2,3,4,6,7,8-HPCDF	NDR	0.015	0.0100	1.88	1.001
1,2,3,4,7,8,9-HPCDF	ND		0.0100		
OCDF		0.025	0.0100	0.88	1.002
TOTAL TETRA-DIOXINS	ND		0.0100		
TOTAL PENTA-DIOXINS	ND		0.0100		
TOTAL HEXA-DIOXINS	ND		0.0100		
TOTAL HEPTA-DIOXINS		0.049	0.0100		
TOTAL TETRA-FURANS	ND		0.0100		
TOTAL PENTA-FURANS	ND		0.0100		
TOTAL HEXA-FURANS	ND		0.0100		
TOTAL HEPTA-FURANS		0.025	0.0100		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 06-Feb-2007 11:31:10; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21001-101_Form1A_SJ631329.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL & WATER	**Lab Sample I.D.:**	WG21001-101 :2607
Sample Receipt Date:	N/A	**Sample Size:**	20.0 g
Extraction Date:	10-Jan-2007	**Initial Calibration Date:**	13-Jan-2007
Analysis Date:	20-Jan-2007 **Time:** 14:07:20	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_030 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_030 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_030 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	444	44.4	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		1000	592	59.2	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		1000	449	44.9	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		1000	430	43.0	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	458	45.8	1.05	1.095
13C-OCDD		2000	769	38.5	0.91	1.180
13C-2,3,7,8-TCDF		1000	443	44.3	0.79	0.966
13C-1,2,3,7,8-PECDF		1000	527	52.7	1.58	1.283
13C-2,3,4,7,8-PECDF		1000	543	54.3	1.57	1.352
13C-1,2,3,4,7,8-HXCDF		1000	447	44.7	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		1000	444	44.4	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	480	48.0	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	450	45.0	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	468	46.8	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	491	49.1	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 06-Feb-2007 11:31:10; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21001-101_Form2_SJ631329.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

CLIENT SAMPLE NO.
Lab Blank

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL & WATER	**Project No.**	N/A
Sample Size:	20.0 g	**Lab Sample I.D.:**	WG21001-101 :2607
Concentration Units:	pg/g	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_030 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0100	1	0.00e+00	5.00e-03	
1,2,3,7,8-PECDD	ND		0.0100	1	0.00e+00	5.00e-03	
1,2,3,4,7,8-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,6,7,8-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8,9-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDD	ND		0.0100	0.01	0.00e+00	5.00e-05	
OCDD		0.231	0.0100	0.0001	2.31e-05	2.31e-05	
2,3,7,8-TCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8-PECDF	ND		0.0100	0.05	0.00e+00	2.50e-04	
2,3,4,7,8-PECDF	ND		0.0100	0.5	0.00e+00	2.50e-03	
1,2,3,4,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,6,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8,9-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDF	ND		0.0100	0.01	0.00e+00	5.00e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0100	0.01	0.00e+00	5.00e-05	
OCDF		0.025	0.0100	0.0001	2.50e-06	2.50e-06	
			TOTAL TEQ		0.0000256	0.0169	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0100	1	0.00e+00	5.00e-03	
1,2,3,7,8-PECDD	ND		0.0100	1	0.00e+00	5.00e-03	
1,2,3,4,7,8-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,6,7,8-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8,9-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDD	ND		0.0100	0.01	0.00e+00	5.00e-05	
OCDD		0.231	0.0100	0.0003	6.93e-05	6.93e-05	
2,3,7,8-TCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8-PECDF	ND		0.0100	0.03	0.00e+00	1.50e-04	
2,3,4,7,8-PECDF	ND		0.0100	0.3	0.00e+00	1.50e-03	
1,2,3,4,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,6,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8,9-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
2,3,4,6,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDF	ND		0.0100	0.01	0.00e+00	5.00e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0100	0.01	0.00e+00	5.00e-05	
OCDF		0.025	0.0100	0.0003	7.50e-06	7.50e-06	
			TOTAL TEQ		0.0000768	0.0159	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 06-Feb-2007 11:32:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21001-101_TEQ_SJ631329.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8A
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607 **OPR Data Filename:** DX72_030 S: 3

Matrix: SERUM **Lab Sample I.D.:** WG21001-102 :2607

Extraction Date: 10-Jan-2007 **Analysis Date:** 20-Jan-2007 **Time:** 09:34:24

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.79	1.00	0.990	0.670 - 1.58	99.0
1,2,3,7,8-PECDD [4]		0.63	5.00	4.96	3.50 - 7.10	99.2
1,2,3,4,7,8-HXCDD		1.32	5.00	4.96	3.50 - 8.20	99.2
1,2,3,6,7,8-HXCDD		1.22	5.00	4.89	3.80 - 6.70	97.8
1,2,3,7,8,9-HXCDD		1.27	5.00	4.93	3.20 - 8.10	98.5
1,2,3,4,6,7,8-HPCDD		1.06	5.00	4.97	3.50 - 7.00	99.4
OCDD		0.89	10.0	10.4	7.80 - 14.4	104
2,3,7,8-TCDF		0.78	1.00	0.997	0.750 - 1.58	99.7
1,2,3,7,8-PECDF		1.58	5.00	4.87	4.00 - 6.70	97.5
2,3,4,7,8-PECDF		1.59	5.00	4.97	3.40 - 8.00	99.3
1,2,3,4,7,8-HXCDF		1.27	5.00	4.98	3.60 - 6.70	99.6
1,2,3,6,7,8-HXCDF		1.23	5.00	5.01	4.20 - 6.50	100
1,2,3,7,8,9-HXCDF		1.26	5.00	4.87	3.90 - 6.50	97.3
2,3,4,6,7,8-HXCDF		1.25	5.00	4.94	3.50 - 7.80	98.8
1,2,3,4,6,7,8-HPCDF		1.04	5.00	5.07	4.10 - 6.10	101
1,2,3,4,7,8,9-HPCDF		1.04	5.00	4.98	3.90 - 6.90	99.5
OCDF		0.91	10.0	10.7	6.30 - 17.0	107

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Brian Watson QA/QC Chemist

Form 8B
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_030 S: 3**
Matrix:	SERUM	**Lab Sample I.D.:**	WG21001-102 :2607
Extraction Date:	10-Jan-2007	**Analysis Date:**	20-Jan-2007 **Time:** 09:34:24

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.79	50.0	39.5	10.0-87.5	79.0
13C-1,2,3,7,8-PECDD [4]		0.63	50.0	55.4	10.5-114	111
13C-1,2,3,4,7,8-HXCDD		1.27	50.0	41.5	10.5-96.5	83.0
13C-1,2,3,6,7,8-HXCDD		1.25	50.0	42.8	12.5-81.5	85.7
13C-1,2,3,4,6,7,8-HPCDD		1.05	50.0	39.8	13.0-83.0	79.6
13C-OCDD		0.90	100	66.5	13.0-199	66.5
13C-2,3,7,8-TCDF		0.79	50.0	38.8	11.0-76.0	77.6
13C-1,2,3,7,8-PECDF		1.57	50.0	47.2	10.5-96.0	94.5
13C-2,3,4,7,8-PECDF		1.57	50.0	49.1	6.50-164	98.2
13C-1,2,3,4,7,8-HXCDF		0.53	50.0	42.3	9.50-101	84.7
13C-1,2,3,6,7,8-HXCDF		0.53	50.0	43.2	10.5-79.5	86.4
13C-1,2,3,7,8,9-HXCDF		0.53	50.0	45.4	8.50-103	90.7
13C-2,3,4,6,7,8-HXCDF		0.53	50.0	43.2	11.0-88.0	86.3
13C-1,2,3,4,6,7,8-HPCDF		0.46	50.0	42.0	10.5-79.0	84.0
13C-1,2,3,4,7,8,9-HPCDF		0.46	50.0	42.9	10.0-93.0	85.9

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Brian Watson_____ QA/QC Chemist

BATCH SUMMARY

Batch ID:	WG21002	***Date:***	16-Feb-2007
Analysis Type:	Dioxins	***Matrix Type:***	Blood

BATCH MAKEUP

Contract:	2607 ***Samples:*** L9584-36	***Blank:***	WG21002-101
		Reference or Spike:	WG21002-102
		Duplicate:	

Comments:

1. Data are not blank corrected.
2. The sample and QC samples were given additional clean-up to remove interferences; indicated by the 'L' following the AXYS ID.

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21002-101 L
Matrix:	CORN OIL	**Sample Size:**	20.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	12-Feb-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 02:38:56	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_061 S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_061 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_061 S: 2
Concentration Units:	pg/g		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0102		
1,2,3,7,8-PECDD [3]	NDR	0.012	0.0100	1.06	1.001
1,2,3,4,7,8-HXCDD	ND		0.0100		
1,2,3,6,7,8-HXCDD	ND		0.0101		
1,2,3,7,8,9-HXCDD	ND		0.0100		
1,2,3,4,6,7,8-HPCDD		0.055	0.0164	1.04	1.000
OCDD		0.194	0.0108	0.85	1.000
2,3,7,8-TCDF	ND		0.0103		
1,2,3,7,8-PECDF	ND		0.0111		
2,3,4,7,8-PECDF		0.025	0.0105	1.35	1.000
1,2,3,4,7,8-HXCDF		0.011	0.0100	1.17	1.000
1,2,3,6,7,8-HXCDF	ND		0.0100		
1,2,3,7,8,9-HXCDF	ND		0.0100		
2,3,4,6,7,8-HXCDF		0.010	0.0100	1.14	1.000
1,2,3,4,6,7,8-HPCDF	ND		0.0100		
1,2,3,4,7,8,9-HPCDF	ND		0.0121		
OCDF	NDR	0.034	0.0163	1.21	1.002
TOTAL TETRA-DIOXINS	ND		0.0102		
TOTAL PENTA-DIOXINS	ND		0.0100		
TOTAL HEXA-DIOXINS	ND		0.0100		
TOTAL HEPTA-DIOXINS		0.055	0.0164		
TOTAL TETRA-FURANS	ND		0.0103		
TOTAL PENTA-FURANS		0.025	0.0108		
TOTAL HEXA-FURANS		0.021	0.0100		
TOTAL HEPTA-FURANS		0.012	0.0109		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 12:41:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21002-101_Form1A_SJ637319.html; Workgroup: WG21002; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21002-101 L
Matrix:	CORN OIL	**Sample Size:**	20.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	12-Feb-2007
Extraction Date:	12-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 02:38:56	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_061 S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_061 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_061 S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1210	60.7	0.78	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1510	75.3	0.62	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1490	74.7	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1520	76.2	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1690	84.6	1.03	1.095
13C-OCDD		4000	2680	67.1	0.88	1.179
13C-2,3,7,8-TCDF		2000	1290	64.7	0.77	0.965
13C-1,2,3,7,8-PECDF		2000	1440	71.9	1.55	1.283
13C-2,3,4,7,8-PECDF		2000	1440	72.0	1.54	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1570	78.5	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1580	78.8	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1400	69.9	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1510	75.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1570	78.7	0.45	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1610	80.6	0.45	1.104

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 12:41:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21002-101_Form2_SJ637319.html; Workgroup: WG21002; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL	**Project No.**	N/A
Sample Size:	20.0 g	**Lab Sample I.D.:**	WG21002-101 L
Concentration Units:	pg/g	**GC Column ID:**	DB5
		Sample Data Filename:	DX72_061 S: 9

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0102	1	0.00e+00	5.10e-03	
1,2,3,7,8-PECDD	ND		0.0100	1	0.00e+00	5.00e-03	
1,2,3,4,7,8-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,6,7,8-HXCDD	ND		0.0101	0.1	0.00e+00	5.05e-04	
1,2,3,7,8,9-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDD		0.055	0.0164	0.01	5.50e-04	5.50e-04	
OCDD		0.194	0.0108	0.0001	1.94e-05	1.94e-05	
2,3,7,8-TCDF	ND		0.0103	0.1	0.00e+00	5.15e-04	
1,2,3,7,8-PECDF	ND		0.0111	0.05	0.00e+00	2.78e-04	
2,3,4,7,8-PECDF		0.025	0.0105	0.5	1.25e-02	1.25e-02	
1,2,3,4,7,8-HXCDF		0.011	0.0100	0.1	1.10e-03	1.10e-03	
1,2,3,6,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8,9-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
2,3,4,6,7,8-HXCDF		0.010	0.0100	0.1	1.00e-03	1.00e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0100	0.01	0.00e+00	5.00e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0121	0.01	0.00e+00	6.05e-05	
OCDF	ND		0.0163	0.0001	0.00e+00	8.15e-07	
			TOTAL TEQ		0.0152	0.0287	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0102	1	0.00e+00	5.10e-03	
1,2,3,7,8-PECDD	ND		0.0100	1	0.00e+00	5.00e-03	
1,2,3,4,7,8-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,6,7,8-HXCDD	ND		0.0101	0.1	0.00e+00	5.05e-04	
1,2,3,7,8,9-HXCDD	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,4,6,7,8-HPCDD		0.055	0.0164	0.01	5.50e-04	5.50e-04	
OCDD		0.194	0.0108	0.0003	5.82e-05	5.82e-05	
2,3,7,8-TCDF	ND		0.0103	0.1	0.00e+00	5.15e-04	
1,2,3,7,8-PECDF	ND		0.0111	0.03	0.00e+00	1.67e-04	
2,3,4,7,8-PECDF		0.025	0.0105	0.3	7.50e-03	7.50e-03	
1,2,3,4,7,8-HXCDF		0.011	0.0100	0.1	1.10e-03	1.10e-03	
1,2,3,6,7,8-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
1,2,3,7,8,9-HXCDF	ND		0.0100	0.1	0.00e+00	5.00e-04	
2,3,4,6,7,8-HXCDF		0.010	0.0100	0.1	1.00e-03	1.00e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0100	0.01	0.00e+00	5.00e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0121	0.01	0.00e+00	6.05e-05	
OCDF	ND		0.0163	0.0003	0.00e+00	2.45e-06	
			TOTAL TEQ		0.0102	0.0236	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 12:42:38; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21002-101_TEQ_SJ637319.html; Workgroup: WG21002; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_061 S: 3**
Matrix:	SERUM	**Lab Sample I.D.:**	WG21002-102 L
Extraction Date:	12-Jan-2007	**Analysis Date:**	12-Feb-2007 **Time:** 21:11:20

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.84	2.00	2.00	1.34 - 3.16	99.9
1,2,3,7,8-PECDD [4]		0.60	10.0	10.1	7.00 - 14.2	101
1,2,3,4,7,8-HXCDD		1.30	10.0	10.4	7.00 - 16.4	104
1,2,3,6,7,8-HXCDD		1.24	10.0	10.3	7.60 - 13.4	103
1,2,3,7,8,9-HXCDD		1.23	10.0	10.1	6.40 - 16.2	101
1,2,3,4,6,7,8-HPCDD		1.06	10.0	10.2	7.00 - 14.0	102
OCDD		0.87	20.0	20.4	15.6 - 28.8	102
2,3,7,8-TCDF		0.73	2.00	2.07	1.50 - 3.16	103
1,2,3,7,8-PECDF		1.56	10.0	9.86	8.00 - 13.4	98.6
2,3,4,7,8-PECDF		1.54	10.0	9.76	6.80 - 16.0	97.6
1,2,3,4,7,8-HXCDF		1.24	10.0	9.60	7.20 - 13.4	96.0
1,2,3,6,7,8-HXCDF		1.23	10.0	9.69	8.40 - 13.0	96.9
1,2,3,7,8,9-HXCDF		1.28	10.0	9.71	7.80 - 13.0	97.1
2,3,4,6,7,8-HXCDF		1.25	10.0	9.73	7.00 - 15.6	97.3
1,2,3,4,6,7,8-HPCDF		1.03	10.0	9.96	8.20 - 12.2	99.6
1,2,3,4,7,8,9-HPCDF		1.06	10.0	9.81	7.80 - 13.8	98.1
OCDF		0.88	20.0	21.4	12.6 - 34.0	107

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 16-Feb-2007 12:41:18; Application: XMLTransformer-1.7.29; Report Filename: 1613_DIOXINS_1613DB5_WG21002-102_Form8A_SJ637317.html; Workgroup: WG21002; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8B
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_061 S: 3**
Matrix:	SERUM	**Lab Sample I.D.:**	WG21002-102 L
Extraction Date:	12-Jan-2007	**Analysis Date:**	12-Feb-2007 **Time:** 21:11:20

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.76	100	69.1	20.0-175	69.1
13C-1,2,3,7,8-PECDD [4]		0.62	100	77.2	21.0-227	77.2
13C-1,2,3,4,7,8-HXCDD		1.26	100	75.8	21.0-193	75.8
13C-1,2,3,6,7,8-HXCDD		1.26	100	77.7	25.0-163	77.7
13C-1,2,3,4,6,7,8-HPCDD		1.03	100	88.8	26.0-166	88.8
13C-OCDD		0.89	200	144	26.0-397	72.1
13C-2,3,7,8-TCDF		0.77	100	73.3	22.0-152	73.3
13C-1,2,3,7,8-PECDF		1.58	100	74.9	21.0-192	74.9
13C-2,3,4,7,8-PECDF		1.56	100	75.3	13.0-328	75.3
13C-1,2,3,4,7,8-HXCDF		0.51	100	81.6	19.0-202	81.6
13C-1,2,3,6,7,8-HXCDF		0.51	100	82.8	21.0-159	82.8
13C-1,2,3,7,8,9-HXCDF		0.53	100	77.2	17.0-205	77.2
13C-2,3,4,6,7,8-HXCDF		0.52	100	78.7	22.0-176	78.7
13C-1,2,3,4,6,7,8-HPCDF		0.45	100	83.8	21.0-158	83.8
13C-1,2,3,4,7,8,9-HPCDF		0.46	100	84.8	20.0-186	84.8

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Cynthia Thomas QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 16-Feb-2007 12:41:18; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21002-102_Form8B_SJ637317.html; Workgroup: WG21002; Design ID: 559]

BATCH SUMMARY

Batch ID: WG21015	***Date:*** 16-Feb-2007
Analysis Type: DIOXINS	***Matrix Type:*** BLOOD

BATCH MAKEUP

Contract: 2607

Samples:
L9584-1
L9584-5
L9584-6
L9584-13
L9584-26
L9584-28
L9584-35
L9584-38
L9584-39
L9584-40
L9584-42
L9584-43
L9584-47
L9584-48
L9584-50
L9584-51
L9584-52
L9584-53
L9584-55

Blank: WG21015-101

Reference or Spike: WG21015-102

Duplicate:

Comments:

1. Data are not blank corrected.

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL / WATER	**Lab Sample I.D.:**	WG21015-101 i:2607
Sample Receipt Date:	N/A	**Sample Size:**	60.0 g
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	30-Jan-2007 **Time:** 13:03:22	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_045B S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DX72_045B S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0030		
1,2,3,7,8-PECDD [3]	ND		0.0030		
1,2,3,4,7,8-HXCDD	ND		0.0030		
1,2,3,6,7,8-HXCDD	ND		0.0030		
1,2,3,7,8,9-HXCDD	ND		0.0030		
1,2,3,4,6,7,8-HPCDD		0.009	0.0030	1.09	1.000
OCDD		0.040	0.0030	0.80	1.000
2,3,7,8-TCDF	ND		0.0030		
1,2,3,7,8-PECDF	ND		0.0030		
2,3,4,7,8-PECDF		0.003	0.0030	1.41	1.000
1,2,3,4,7,8-HXCDF	ND		0.0030		
1,2,3,6,7,8-HXCDF	ND		0.0030		
1,2,3,7,8,9-HXCDF	ND		0.0030		
2,3,4,6,7,8-HXCDF	ND		0.0030		
1,2,3,4,6,7,8-HPCDF	NDR	0.003	0.0030	1.45	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.0030		
OCDF		0.004	0.0030	0.97	1.001
TOTAL TETRA-DIOXINS	ND		0.0030		
TOTAL PENTA-DIOXINS	ND		0.0030		
TOTAL HEXA-DIOXINS	ND		0.0030		
TOTAL HEPTA-DIOXINS		0.017	0.0030		
TOTAL TETRA-FURANS	ND		0.0030		
TOTAL PENTA-FURANS		0.003	0.0030		
TOTAL HEXA-FURANS	ND		0.0030		
TOTAL HEPTA-FURANS	ND		0.0030		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21015-101_Form1A_SJ635891.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21015-101 i:2607
Matrix:	CORN OIL / WATER	**Sample Size:**	60.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	25-Jan-2007
Extraction Date:	17-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	30-Jan-2007 **Time:** 13:03:22	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_045B S: 7**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_045B S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_045B S: 2
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	648	64.8	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	901	90.1	0.64	1.385
13C-1,2,3,4,7,8-HXCDD		1000	762	76.2	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		1000	746	74.6	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	748	74.8	1.05	1.095
13C-OCDD		2000	1310	65.7	0.90	1.180
13C-2,3,7,8-TCDF		1000	610	61.0	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	776	77.6	1.59	1.284
13C-2,3,4,7,8-PECDF		1000	776	77.6	1.57	1.353
13C-1,2,3,4,7,8-HXCDF		1000	775	77.5	0.54	0.954
13C-1,2,3,6,7,8-HXCDF		1000	732	73.2	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		1000	778	77.8	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		1000	757	75.7	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	727	72.7	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	748	74.8	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21015-101_Form2_SJ635891.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL / WATER	**Project No.**	N/A
Sample Size:	60.0 g	**Lab Sample I.D.:**	WG21015-101 i:2607
Concentration Units:	pg/g	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_045B S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,7,8-PECDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,4,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8,9-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDD		0.009	0.0030	0.01	9.00e-05	9.00e-05	
OCDD		0.040	0.0030	0.0001	4.00e-06	4.00e-06	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF	ND		0.0030	0.05	0.00e+00	7.50e-05	
2,3,4,7,8-PECDF		0.003	0.0030	0.5	1.50e-03	1.50e-03	
1,2,3,4,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDF	ND		0.0030	0.01	0.00e+00	1.50e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0030	0.01	0.00e+00	1.50e-05	
OCDF		0.004	0.0030	0.0001	4.00e-07	4.00e-07	
			TOTAL TEQ		0.00159	0.00590	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,7,8-PECDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,4,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8,9-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDD		0.009	0.0030	0.01	9.00e-05	9.00e-05	
OCDD		0.040	0.0030	0.0003	1.20e-05	1.20e-05	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF	ND		0.0030	0.03	0.00e+00	4.50e-05	
2,3,4,7,8-PECDF		0.003	0.0030	0.3	9.00e-04	9.00e-04	
1,2,3,4,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDF	ND		0.0030	0.01	0.00e+00	1.50e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0030	0.01	0.00e+00	1.50e-05	
OCDF		0.004	0.0030	0.0003	1.20e-06	1.20e-06	
			TOTAL TEQ		0.00100	0.00528	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Feb-2007 11:26:06; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21015-101_TEQ_SJ635891.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_045B S: 3**
Matrix:	SERUM	**Lab Sample I.D.:**	WG21015-102 i:2607
Extraction Date:	17-Jan-2007	**Analysis Date:**	30-Jan-2007 **Time:** 09:24:48

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.80	1.00	1.13	0.670 - 1.58	113
1,2,3,7,8-PECDD [4]		0.63	5.00	5.49	3.50 - 7.10	110
1,2,3,4,7,8-HXCDD		1.27	5.00	5.80	3.50 - 8.20	116
1,2,3,6,7,8-HXCDD		1.26	5.00	5.56	3.80 - 6.70	111
1,2,3,7,8,9-HXCDD		1.27	5.00	5.93	3.20 - 8.10	119
1,2,3,4,6,7,8-HPCDD		1.08	5.00	5.52	3.50 - 7.00	110
OCDD		0.90	10.0	11.5	7.80 - 14.4	115
2,3,7,8-TCDF		0.79	1.00	1.13	0.750 - 1.58	113
1,2,3,7,8-PECDF		1.56	5.00	5.50	4.00 - 6.70	110
2,3,4,7,8-PECDF		1.55	5.00	5.45	3.40 - 8.00	109
1,2,3,4,7,8-HXCDF		1.27	5.00	5.47	3.60 - 6.70	109
1,2,3,6,7,8-HXCDF		1.27	5.00	5.44	4.20 - 6.50	109
1,2,3,7,8,9-HXCDF		1.26	5.00	5.48	3.90 - 6.50	110
2,3,4,6,7,8-HXCDF		1.25	5.00	5.43	3.50 - 7.80	109
1,2,3,4,6,7,8-HPCDF		1.05	5.00	5.48	4.10 - 6.10	110
1,2,3,4,7,8,9-HPCDF		1.06	5.00	5.50	3.90 - 6.90	110
OCDF		0.92	10.0	10.7	6.30 - 17.0	107

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29; Report Filename: 1613_DIOXINS_1613DB5_WG21015-102_Form8A_SJ635886.html; Workgroup: WG21015; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_045B S: 3**
Matrix:	SERUM	**Lab Sample I.D.:**	WG21015-102 i:2607
Extraction Date:	17-Jan-2007	**Analysis Date:**	30-Jan-2007 **Time:** 09:24:48

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.80	50.0	36.7	10.0-87.5	73.4
13C-1,2,3,7,8-PECDD [4]		0.64	50.0	43.4	10.5-114	86.7
13C-1,2,3,4,7,8-HXCDD		1.29	50.0	38.7	10.5-96.5	77.4
13C-1,2,3,6,7,8-HXCDD		1.26	50.0	37.7	12.5-81.5	75.4
13C-1,2,3,4,6,7,8-HPCDD		1.06	50.0	38.2	13.0-83.0	76.4
13C-OCDD		0.90	100	66.1	13.0-199	66.1
13C-2,3,7,8-TCDF		0.80	50.0	35.2	11.0-76.0	70.5
13C-1,2,3,7,8-PECDF		1.60	50.0	39.3	10.5-96.0	78.6
13C-2,3,4,7,8-PECDF		1.60	50.0	41.1	6.50-164	82.2
13C-1,2,3,4,7,8-HXCDF		0.53	50.0	39.0	9.50-101	78.0
13C-1,2,3,6,7,8-HXCDF		0.54	50.0	36.9	10.5-79.5	73.8
13C-1,2,3,7,8,9-HXCDF		0.54	50.0	39.4	8.50-103	78.9
13C-2,3,4,6,7,8-HXCDF		0.54	50.0	39.0	11.0-88.0	77.9
13C-1,2,3,4,6,7,8-HPCDF		0.46	50.0	36.4	10.5-79.0	72.7
13C-1,2,3,4,7,8,9-HPCDF		0.46	50.0	38.0	10.0-93.0	76.1

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 16-Feb-2007 11:03:56; Application: XMLTransformer-1.7.29;
Report Filename: 1613_DIOXINS_1613DB5_WG21015-102_Form8B_SJ635886.html; Workgroup: WG21015; Design ID: 559]

BATCH SUMMARY

Batch ID:	WG21016	***Date:***	20-Feb-2007
Analysis Type:	DIOXINS	***Matrix Type:***	BLOOD

BATCH MAKEUP

Contract: 2607

Samples:
L9584-3
L9584-4
L9584-7
L9584-8
L9584-10
L9584-11
L9584-15
L9584-22
L9584-24
L9584-27
L9584-31
L9584-32
L9584-41
L9584-44
L9584-45
L9584-46
L9584-49
L9584-54

Blank: WG21016-101

Reference or Spike: WG21016-102

Duplicate:

Comments:

1. Data are not blank corrected and should be evaluated in conjunction with the procedural blank results.
2. Fronting in chromatography of the analytes were observed in the sample 06VNB021 Composite (AXYS ID L9584-3) and additional chromatography cleanup was conducted on the sample extract. The chromatography was improved and the results were reported (indicated by the suffix 'L' on AXYS ID). Target analytes OCDD, OCDF and the labeled surrogate 13C-OCDD were flagged with 'NQ' (not quantifiable) due to shifting and the data are not available.

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL / WATER	**Lab Sample I.D.:**	WG21016-101
Sample Receipt Date:	N/A	**Sample Size:**	60.0 g
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	26-Jan-2007 **Time:** 14:12:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_042 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DX72_042 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0030		
1,2,3,7,8-PECDD [3]	NDR	0.003	0.0030	0.85	1.001
1,2,3,4,7,8-HXCDD	ND		0.0030		
1,2,3,6,7,8-HXCDD		0.003	0.0030	1.10	1.001
1,2,3,7,8,9-HXCDD	ND		0.0030		
1,2,3,4,6,7,8-HPCDD		0.007	0.0030	1.01	1.000
OCDD		0.015	0.0030	0.90	1.000
2,3,7,8-TCDF	ND		0.0030		
1,2,3,7,8-PECDF	ND		0.0030		
2,3,4,7,8-PECDF		0.004	0.0030	1.56	1.000
1,2,3,4,7,8-HXCDF	ND		0.0030		
1,2,3,6,7,8-HXCDF	ND		0.0030		
1,2,3,7,8,9-HXCDF	ND		0.0030		
2,3,4,6,7,8-HXCDF		0.005	0.0030	1.28	1.000
1,2,3,4,6,7,8-HPCDF	ND		0.0030		
1,2,3,4,7,8,9-HPCDF	ND		0.0030		
OCDF		0.003	0.0030	0.97	1.002
TOTAL TETRA-DIOXINS	ND		0.0030		
TOTAL PENTA-DIOXINS	ND		0.0030		
TOTAL HEXA-DIOXINS	ND		0.0030		
TOTAL HEPTA-DIOXINS		0.007	0.0030		
TOTAL TETRA-FURANS		0.003	0.0030		
TOTAL PENTA-FURANS		0.004	0.0030		
TOTAL HEXA-FURANS		0.005	0.0030		
TOTAL HEPTA-FURANS	ND		0.0030		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30; Report Filename: 1613_DIOXINS_1613DB5_WG21016-101_Form1A_SJ638358.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL / WATER	**Lab Sample I.D.:**	WG21016-101
Sample Receipt Date:	N/A	**Sample Size:**	60.0 g
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	26-Jan-2007 **Time:** 14:12:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_042 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX72_042 S: 2

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		1000	667	66.7	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		1000	875	87.5	0.63	1.384
13C-1,2,3,4,7,8-HXCDD		1000	785	78.5	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		1000	778	77.8	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		1000	740	74.0	1.06	1.095
13C-OCDD		2000	1450	72.6	0.90	1.179
13C-2,3,7,8-TCDF		1000	625	62.5	0.79	0.967
13C-1,2,3,7,8-PECDF		1000	710	71.0	1.59	1.284
13C-2,3,4,7,8-PECDF		1000	689	68.9	1.57	1.353
13C-1,2,3,4,7,8-HXCDF		1000	731	73.1	0.52	0.953
13C-1,2,3,6,7,8-HXCDF		1000	731	73.1	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		1000	701	70.1	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		1000	724	72.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		1000	696	69.6	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		1000	703	70.3	0.46	1.105

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_WG21016-101_Form2_SJ638358.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL / WATER	**Project No.**	N/A
Sample Size:	60.0 g	**Lab Sample I.D.:**	WG21016-101
Concentration Units:	pg/g	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_042 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,7,8-PECDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,4,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDD		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,7,8,9-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDD		0.007	0.0030	0.01	7.00e-05	7.00e-05	
OCDD		0.015	0.0030	0.0001	1.50e-06	1.50e-06	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF	ND		0.0030	0.05	0.00e+00	7.50e-05	
2,3,4,7,8-PECDF		0.004	0.0030	0.5	2.00e-03	2.00e-03	
1,2,3,4,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF		0.005	0.0030	0.1	5.00e-04	5.00e-04	
1,2,3,4,6,7,8-HPCDF	ND		0.0030	0.01	0.00e+00	1.50e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0030	0.01	0.00e+00	1.50e-05	
OCDF		0.003	0.0030	0.0001	3.00e-07	3.00e-07	
			TOTAL TEQ		0.00287	0.00688	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,7,8-PECDD	ND		0.0030	1	0.00e+00	1.50e-03	
1,2,3,4,7,8-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDD		0.003	0.0030	0.1	3.00e-04	3.00e-04	
1,2,3,7,8,9-HXCDD	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,4,6,7,8-HPCDD		0.007	0.0030	0.01	7.00e-05	7.00e-05	
OCDD		0.015	0.0030	0.0003	4.50e-06	4.50e-06	
2,3,7,8-TCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8-PECDF	ND		0.0030	0.03	0.00e+00	4.50e-05	
2,3,4,7,8-PECDF		0.004	0.0030	0.3	1.20e-03	1.20e-03	
1,2,3,4,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,6,7,8-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
1,2,3,7,8,9-HXCDF	ND		0.0030	0.1	0.00e+00	1.50e-04	
2,3,4,6,7,8-HXCDF		0.005	0.0030	0.1	5.00e-04	5.00e-04	
1,2,3,4,6,7,8-HPCDF	ND		0.0030	0.01	0.00e+00	1.50e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0030	0.01	0.00e+00	1.50e-05	
OCDF		0.003	0.0030	0.0003	9.00e-07	9.00e-07	
			TOTAL TEQ		0.00208	0.00605	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Feb-2007 15:53:29; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21016-101_TEQ_SJ638358.html; Workgroup: WG21016; Design ID: 559]

AXYS METHOD MLA-013 Rev 06

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_051 S: 3**
Matrix:	SERUM	**Lab Sample I.D.:**	WG21016-102 W
Extraction Date:	17-Jan-2007	**Analysis Date:**	02-Feb-2007 **Time:** 12:01:34

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD	D	0.76	1.00	0.961	0.670 - 1.58	96.1
1,2,3,7,8-PECDD [4]	D	0.63	5.00	4.86	3.50 - 7.10	97.2
1,2,3,4,7,8-HXCDD	D	1.29	5.00	4.65	3.50 - 8.20	93.0
1,2,3,6,7,8-HXCDD	D	1.27	5.00	4.86	3.80 - 6.70	97.3
1,2,3,7,8,9-HXCDD	D	1.29	5.00	4.67	3.20 - 8.10	93.4
1,2,3,4,6,7,8-HPCDD	D	1.05	5.00	4.84	3.50 - 7.00	96.9
OCDD	D	0.90	10.0	9.94	7.80 - 14.4	99.4
2,3,7,8-TCDF	D	0.79	1.00	0.971	0.750 - 1.58	97.1
1,2,3,7,8-PECDF	D	1.55	5.00	4.63	4.00 - 6.70	92.6
2,3,4,7,8-PECDF	D	1.56	5.00	4.66	3.40 - 8.00	93.2
1,2,3,4,7,8-HXCDF	D	1.23	5.00	4.67	3.60 - 6.70	93.4
1,2,3,6,7,8-HXCDF	D	1.25	5.00	4.78	4.20 - 6.50	95.7
1,2,3,7,8,9-HXCDF	D	1.26	5.00	4.76	3.90 - 6.50	95.1
2,3,4,6,7,8-HXCDF	D	1.21	5.00	4.73	3.50 - 7.80	94.6
1,2,3,4,6,7,8-HPCDF	D	1.06	5.00	4.81	4.10 - 6.10	96.1
1,2,3,4,7,8,9-HPCDF	D	1.04	5.00	4.75	3.90 - 6.90	95.0
OCDF	D	0.92	10.0	8.94	6.30 - 17.0	89.4

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_051 S: 3**
Matrix:	SERUM	**Lab Sample I.D.:**	WG21016-102 W
Extraction Date:	17-Jan-2007	**Analysis Date:**	02-Feb-2007 **Time:** 12:01:34

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD	D	0.80	50.0	45.7	10.0-87.5	91.4
13C-1,2,3,7,8-PECDD [4]	D	0.63	50.0	58.7	10.5-114	117
13C-1,2,3,4,7,8-HXCDD	D	1.25	50.0	52.7	10.5-96.5	105
13C-1,2,3,6,7,8-HXCDD	D	1.25	50.0	47.8	12.5-81.5	95.7
13C-1,2,3,4,6,7,8-HPCDD	D	1.04	50.0	50.1	13.0-83.0	100
13C-OCDD	D	0.91	100	92.0	13.0-199	92.0
13C-2,3,7,8-TCDF	D	0.79	50.0	43.9	11.0-76.0	87.8
13C-1,2,3,7,8-PECDF	D	1.57	50.0	50.9	10.5-96.0	102
13C-2,3,4,7,8-PECDF	D	1.58	50.0	52.6	6.50-164	105
13C-1,2,3,4,7,8-HXCDF	D	0.52	50.0	48.2	9.50-101	96.5
13C-1,2,3,6,7,8-HXCDF	D	0.54	50.0	44.3	10.5-79.5	88.7
13C-1,2,3,7,8,9-HXCDF	D	0.54	50.0	45.9	8.50-103	91.8
13C-2,3,4,6,7,8-HXCDF	D	0.53	50.0	45.9	11.0-88.0	91.8
13C-1,2,3,4,6,7,8-HPCDF	D	0.46	50.0	44.3	10.5-79.0	88.7
13C-1,2,3,4,7,8,9-HPCDF	D	0.46	50.0	46.7	10.0-93.0	93.5

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Henry Huang_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 20-Feb-2007 16:03:08; Application: XMLTransformer-1.7.30;
Report Filename: 1613_DIOXINS_1613DB5_WG21016-102_Form8B_SJ637875.html; Workgroup: WG21016; Design ID: 559]

BATCH SUMMARY

Batch ID: WG21001	***Date:*** 19-Mar-2007
Analysis Type: DIOXINS	***Matrix Type:*** BLOOD

BATCH MAKEUP

Contract: 2607 ***Samples:*** L9584-2 L9584-18 L9584-19	***Blank:*** WG21001-101
	Reference or Spike: WG21001-102
	Duplicate:

Comments:

1. Data are not blank corrected.

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
		Lab Sample I.D.:	WG21001-101 :2607
Matrix:	CORN OIL & WATER	**Sample Size:**	0.0400 g (lipid)
Sample Receipt Date:	N/A	**Initial Calibration Date:**	13-Jan-2007
Extraction Date:	10-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Jan-2007 **Time:** 14:07:20	**GC Column ID:**	DB5
Extract Volume (uL):	10	**Sample Data Filename:**	**DX72_030 S: 8**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DX72_030 S: 8
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_030 S: 2
Concentration Units:	pg/g (lipid weight basis)		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		5.00		
1,2,3,7,8-PECDD [3]	ND		5.00		
1,2,3,4,7,8-HXCDD	ND		5.00		
1,2,3,6,7,8-HXCDD	ND		5.00		
1,2,3,7,8,9-HXCDD	ND		5.00		
1,2,3,4,6,7,8-HPCDD	NDR	18.0	5.00	0.82	1.000
OCDD		116	5.00	0.97	1.000
2,3,7,8-TCDF	ND		5.00		
1,2,3,7,8-PECDF	ND		5.00		
2,3,4,7,8-PECDF	ND		5.00		
1,2,3,4,7,8-HXCDF	ND		5.00		
1,2,3,6,7,8-HXCDF	ND		5.00		
1,2,3,7,8,9-HXCDF	ND		5.00		
2,3,4,6,7,8-HXCDF	ND		5.00		
1,2,3,4,6,7,8-HPCDF	NDR	7.50	5.00	1.88	1.001
1,2,3,4,7,8,9-HPCDF	ND		5.00		
OCDF		12.5	5.00	0.88	1.002
TOTAL TETRA-DIOXINS	ND		5.00		
TOTAL PENTA-DIOXINS	ND		5.00		
TOTAL HEXA-DIOXINS	ND		5.00		
TOTAL HEPTA-DIOXINS		24.5	5.00		
TOTAL TETRA-FURANS	ND		5.00		
TOTAL PENTA-FURANS	ND		5.00		
TOTAL HEXA-FURANS	ND		5.00		
TOTAL HEPTA-FURANS		12.5	5.00		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Mar-2007 17:19:42; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_WG21001-101_Form1A_SJ631329_lipid.html; Workgroup: WG21001; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL & WATER	**Project No.**	N/A
Sample Size:	0.0400 g (lipid)	**Lab Sample I.D.:**	WG21001-101 :2607
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_030 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		5.00	1	0.00e+00	2.50e+00	
1,2,3,7,8-PECDD	ND		5.00	1	0.00e+00	2.50e+00	
1,2,3,4,7,8-HXCDD	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,6,7,8-HXCDD	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,7,8,9-HXCDD	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,4,6,7,8-HPCDD	ND		5.00	0.01	0.00e+00	2.50e-02	
OCDD		116	5.00	0.0001	1.16e-02	1.16e-02	
2,3,7,8-TCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,7,8-PECDF	ND		5.00	0.05	0.00e+00	1.25e-01	
2,3,4,7,8-PECDF	ND		5.00	0.5	0.00e+00	1.25e+00	
1,2,3,4,7,8-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,6,7,8-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,7,8,9-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
2,3,4,6,7,8-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,4,6,7,8-HPCDF	ND		5.00	0.01	0.00e+00	2.50e-02	
1,2,3,4,7,8,9-HPCDF	ND		5.00	0.01	0.00e+00	2.50e-02	
OCDF		12.5	5.00	0.0001	1.25e-03	1.25e-03	
			TOTAL TEQ		0.0129	8.46	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		5.00	1	0.00e+00	2.50e+00	
1,2,3,7,8-PECDD	ND		5.00	1	0.00e+00	2.50e+00	
1,2,3,4,7,8-HXCDD	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,6,7,8-HXCDD	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,7,8,9-HXCDD	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,4,6,7,8-HPCDD	ND		5.00	0.01	0.00e+00	2.50e-02	
OCDD		116	5.00	0.0003	3.48e-02	3.48e-02	
2,3,7,8-TCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,7,8-PECDF	ND		5.00	0.03	0.00e+00	7.50e-02	
2,3,4,7,8-PECDF	ND		5.00	0.3	0.00e+00	7.50e-01	
1,2,3,4,7,8-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,6,7,8-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,7,8,9-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
2,3,4,6,7,8-HXCDF	ND		5.00	0.1	0.00e+00	2.50e-01	
1,2,3,4,6,7,8-HPCDF	ND		5.00	0.01	0.00e+00	2.50e-02	
1,2,3,4,7,8,9-HPCDF	ND		5.00	0.01	0.00e+00	2.50e-02	
OCDF		12.5	5.00	0.0003	3.75e-03	3.75e-03	
			TOTAL TEQ		0.0386	7.94	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 17:16:31; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21001-101_TEQ_SJ631329_lipid.html; Workgroup: WG21001; Design ID: 559]

BATCH SUMMARY

Batch ID:	WG21139	***Date:***	19-Mar-2007
Analysis Type:	DIOXINS	***Matrix Type:***	BLOOD

BATCH MAKEUP

Contract: 2607

Samples:
L9584-9
L9584-12
L9584-14
L9584-16
L9584-17
L9584-20
L9584-21
L9584-23
L9584-25
L9584-29
L9584-30
L9584-33
L9584-34
L9584-37

Blank: WG21139-101

Reference or Spike: WG21139-102

Duplicate:

Comments:

1. Data are not blank corrected.

BATCH SUMMARY

Batch ID:	WG21016	***Date:***	19-Mar-2007
Analysis Type:	DIOXINS	***Matrix Type:***	BLOOD

BATCH MAKEUP

Contract: 2607

Samples:
L9584-3
L9584-4
L9584-7
L9584-8
L9584-10
L9584-11
L9584-15
L9584-22
L9584-24
L9584-27
L9584-31
L9584-32
L9584-41
L9584-44
L9584-45
L9584-46
L9584-49
L9584-54

Blank: WG21016-101

Reference or Spike: WG21016-102

Duplicate:

Comments:

1. Data are not blank corrected.

AXYS METHOD MLA-013 Rev 06

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL / WATER	**Lab Sample I.D.:**	WG21016-101
Sample Receipt Date:	N/A	**Sample Size:**	0.140 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	26-Jan-2007 **Time:** 14:12:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_042 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_042 S: 8
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_042 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		1.29		
1,2,3,7,8-PECDD [3]	NDR	1.29	1.29	0.85	1.001
1,2,3,4,7,8-HXCDD	ND		1.29		
1,2,3,6,7,8-HXCDD		1.29	1.29	1.10	1.001
1,2,3,7,8,9-HXCDD	ND		1.29		
1,2,3,4,6,7,8-HPCDD		3.00	1.29	1.01	1.000
OCDD		6.43	1.29	0.90	1.000
2,3,7,8-TCDF	ND		1.29		
1,2,3,7,8-PECDF	ND		1.29		
2,3,4,7,8-PECDF		1.71	1.29	1.56	1.000
1,2,3,4,7,8-HXCDF	ND		1.29		
1,2,3,6,7,8-HXCDF	ND		1.29		
1,2,3,7,8,9-HXCDF	ND		1.29		
2,3,4,6,7,8-HXCDF		2.14	1.29	1.28	1.000
1,2,3,4,6,7,8-HPCDF	ND		1.29		
1,2,3,4,7,8,9-HPCDF	ND		1.29		
OCDF		1.29	1.29	0.97	1.002
TOTAL TETRA-DIOXINS	ND		1.29		
TOTAL PENTA-DIOXINS	ND		1.29		
TOTAL HEXA-DIOXINS	ND		1.29		
TOTAL HEPTA-DIOXINS		3.00	1.29		
TOTAL TETRA-FURANS		1.29	1.29		
TOTAL PENTA-FURANS		1.71	1.29		
TOTAL HEXA-FURANS		2.14	1.29		
TOTAL HEPTA-FURANS	ND		1.29		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 09:13:50; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_WG21016-101_Form1A_SJ638358_lipid.html; Workgroup: WG21016; Design ID: 621]

AXYS METHOD MLA-013 Rev 06

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL / WATER	**Project No.**	N/A
Sample Size:	0.140 g (lipid)	**Lab Sample I.D.:**	WG21016-101
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_042 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		1.29	1	0.00e+00	6.45e-01	
1,2,3,7,8-PECDD	ND		1.29	1	0.00e+00	6.45e-01	
1,2,3,4,7,8-HXCDD	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,6,7,8-HXCDD		1.29	1.29	0.1	1.29e-01	1.29e-01	
1,2,3,7,8,9-HXCDD	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,4,6,7,8-HPCDD		3.00	1.29	0.01	3.00e-02	3.00e-02	
OCDD		6.43	1.29	0.0001	6.43e-04	6.43e-04	
2,3,7,8-TCDF	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,7,8-PECDF	ND		1.29	0.05	0.00e+00	3.23e-02	
2,3,4,7,8-PECDF		1.71	1.29	0.5	8.55e-01	8.55e-01	
1,2,3,4,7,8-HXCDF	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,6,7,8-HXCDF	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,7,8,9-HXCDF	ND		1.29	0.1	0.00e+00	6.45e-02	
2,3,4,6,7,8-HXCDF		2.14	1.29	0.1	2.14e-01	2.14e-01	
1,2,3,4,6,7,8-HPCDF	ND		1.29	0.01	0.00e+00	6.45e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.29	0.01	0.00e+00	6.45e-03	
OCDF		1.29	1.29	0.0001	1.29e-04	1.29e-04	
			TOTAL TEQ		1.23	2.95	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		1.29	1	0.00e+00	6.45e-01	
1,2,3,7,8-PECDD	ND		1.29	1	0.00e+00	6.45e-01	
1,2,3,4,7,8-HXCDD	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,6,7,8-HXCDD		1.29	1.29	0.1	1.29e-01	1.29e-01	
1,2,3,7,8,9-HXCDD	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,4,6,7,8-HPCDD		3.00	1.29	0.01	3.00e-02	3.00e-02	
OCDD		6.43	1.29	0.0003	1.93e-03	1.93e-03	
2,3,7,8-TCDF	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,7,8-PECDF	ND		1.29	0.03	0.00e+00	1.94e-02	
2,3,4,7,8-PECDF		1.71	1.29	0.3	5.13e-01	5.13e-01	
1,2,3,4,7,8-HXCDF	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,6,7,8-HXCDF	ND		1.29	0.1	0.00e+00	6.45e-02	
1,2,3,7,8,9-HXCDF	ND		1.29	0.1	0.00e+00	6.45e-02	
2,3,4,6,7,8-HXCDF		2.14	1.29	0.1	2.14e-01	2.14e-01	
1,2,3,4,6,7,8-HPCDF	ND		1.29	0.01	0.00e+00	6.45e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.29	0.01	0.00e+00	6.45e-03	
OCDF		1.29	1.29	0.0003	3.87e-04	3.87e-04	
			TOTAL TEQ		0.888	2.60	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 18:45:54; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21016-101_TEQ_SJ638358_lipid.html; Workgroup: WG21016; Design ID: 621]

BATCH SUMMARY

Batch ID:	WG21002	***Date:***	19-Mar-2007
Analysis Type:	DIOXINS	***Matrix Type:***	BLOOD

BATCH MAKEUP

Contract: 2607 ***Samples:*** L9584-36

Blank: WG21002-101

Reference or Spike: WG21002-102

Duplicate:

Comments:

1. Data are not blank corrected.

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL	**Lab Sample I.D.:**	WG21002-101 L
Sample Receipt Date:	N/A	**Sample Size:**	0.0300 g (lipid)
Extraction Date:	12-Jan-2007	**Initial Calibration Date:**	12-Feb-2007
Analysis Date:	13-Feb-2007 **Time:** 02:38:56	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_061 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_061 S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_061 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		6.80		
1,2,3,7,8-PECDD [3]	NDR	8.00	6.67	1.06	1.001
1,2,3,4,7,8-HXCDD	ND		6.67		
1,2,3,6,7,8-HXCDD	ND		6.73		
1,2,3,7,8,9-HXCDD	ND		6.67		
1,2,3,4,6,7,8-HPCDD		36.7	10.9	1.04	1.000
OCDD		129	7.20	0.85	1.000
2,3,7,8-TCDF	ND		6.87		
1,2,3,7,8-PECDF	ND		7.40		
2,3,4,7,8-PECDF		16.7	7.00	1.35	1.000
1,2,3,4,7,8-HXCDF		7.33	6.67	1.17	1.000
1,2,3,6,7,8-HXCDF	ND		6.67		
1,2,3,7,8,9-HXCDF	ND		6.67		
2,3,4,6,7,8-HXCDF		6.67	6.67	1.14	1.000
1,2,3,4,6,7,8-HPCDF	ND		6.67		
1,2,3,4,7,8,9-HPCDF	ND		8.07		
OCDF	NDR	22.7	10.9	1.21	1.002
TOTAL TETRA-DIOXINS	ND		6.80		
TOTAL PENTA-DIOXINS	ND		6.67		
TOTAL HEXA-DIOXINS	ND		6.67		
TOTAL HEPTA-DIOXINS		36.7	10.9		
TOTAL TETRA-FURANS	ND		6.87		
TOTAL PENTA-FURANS		16.7	7.20		
TOTAL HEXA-FURANS		14.0	6.67		
TOTAL HEPTA-FURANS		8.00	7.27		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 16-Mar-2007 17:26:33; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_WG21002-101_Form1A_SJ637319_lipid.html; Workgroup: WG21002; Design ID: 559]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL	**Project No.**	N/A
Sample Size:	0.0300 g (lipid)	**Lab Sample I.D.:**	WG21002-101 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_061 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		6.80	1	0.00e+00	3.40e+00	
1,2,3,7,8-PECDD	ND		6.67	1	0.00e+00	3.34e+00	
1,2,3,4,7,8-HXCDD	ND		6.67	0.1	0.00e+00	3.34e-01	
1,2,3,6,7,8-HXCDD	ND		6.73	0.1	0.00e+00	3.37e-01	
1,2,3,7,8,9-HXCDD	ND		6.67	0.1	0.00e+00	3.34e-01	
1,2,3,4,6,7,8-HPCDD		36.7	10.9	0.01	3.67e-01	3.67e-01	
OCDD		129	7.20	0.0001	1.29e-02	1.29e-02	
2,3,7,8-TCDF	ND		6.87	0.1	0.00e+00	3.44e-01	
1,2,3,7,8-PECDF	ND		7.40	0.05	0.00e+00	1.85e-01	
2,3,4,7,8-PECDF		16.7	7.00	0.5	8.35e+00	8.35e+00	
1,2,3,4,7,8-HXCDF		7.33	6.67	0.1	7.33e-01	7.33e-01	
1,2,3,6,7,8-HXCDF	ND		6.67	0.1	0.00e+00	3.34e-01	
1,2,3,7,8,9-HXCDF	ND		6.67	0.1	0.00e+00	3.34e-01	
2,3,4,6,7,8-HXCDF		6.67	6.67	0.1	6.67e-01	6.67e-01	
1,2,3,4,6,7,8-HPCDF	ND		6.67	0.01	0.00e+00	3.34e-02	
1,2,3,4,7,8,9-HPCDF	ND		8.07	0.01	0.00e+00	4.04e-02	
OCDF	ND		10.9	0.0001	0.00e+00	5.45e-04	
			TOTAL TEQ		10.1	19.1	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		6.80	1	0.00e+00	3.40e+00	
1,2,3,7,8-PECDD	ND		6.67	1	0.00e+00	3.34e+00	
1,2,3,4,7,8-HXCDD	ND		6.67	0.1	0.00e+00	3.34e-01	
1,2,3,6,7,8-HXCDD	ND		6.73	0.1	0.00e+00	3.37e-01	
1,2,3,7,8,9-HXCDD	ND		6.67	0.1	0.00e+00	3.34e-01	
1,2,3,4,6,7,8-HPCDD		36.7	10.9	0.01	3.67e-01	3.67e-01	
OCDD		129	7.20	0.0003	3.87e-02	3.87e-02	
2,3,7,8-TCDF	ND		6.87	0.1	0.00e+00	3.44e-01	
1,2,3,7,8-PECDF	ND		7.40	0.03	0.00e+00	1.11e-01	
2,3,4,7,8-PECDF		16.7	7.00	0.3	5.01e+00	5.01e+00	
1,2,3,4,7,8-HXCDF		7.33	6.67	0.1	7.33e-01	7.33e-01	
1,2,3,6,7,8-HXCDF	ND		6.67	0.1	0.00e+00	3.34e-01	
1,2,3,7,8,9-HXCDF	ND		6.67	0.1	0.00e+00	3.34e-01	
2,3,4,6,7,8-HXCDF		6.67	6.67	0.1	6.67e-01	6.67e-01	
1,2,3,4,6,7,8-HPCDF	ND		6.67	0.01	0.00e+00	3.34e-02	
1,2,3,4,7,8,9-HPCDF	ND		8.07	0.01	0.00e+00	4.04e-02	
OCDF	ND		10.9	0.0003	0.00e+00	1.64e-03	
			TOTAL TEQ		6.82	15.8	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 17:27:46; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21002-101_TEQ_SJ637319_lipid.html; Workgroup: WG21002; Design ID: 559]

BATCH SUMMARY

Batch ID:	WG21015	***Date:***	19-Mar-2007
Analysis Type:	DIOXINS	***Matrix Type:***	BLOOD

BATCH MAKEUP

Contract: 2607

Samples:
L9584-1
L9584-5
L9584-6
L9584-13
L9584-26
L9584-28
L9584-35
L9584-38
L9584-39
L9584-40
L9584-42
L9584-43
L9584-47
L9584-48
L9584-50
L9584-51
L9584-52
L9584-53
L9584-55

Blank: WG21015-101

Reference or Spike: WG21015-102

Duplicate:

Comments:

1. Data are not blank corrected.

AXYS METHOD MLA-017 Rev 12

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL / WATER	**Lab Sample I.D.:**	WG21015-101 i:2607
Sample Receipt Date:	N/A	**Sample Size:**	0.160 g (lipid)
Extraction Date:	17-Jan-2007	**Initial Calibration Date:**	25-Jan-2007
Analysis Date:	30-Jan-2007 **Time:** 13:03:22	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	10	**GC Column ID:**	DB5
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DX72_045B S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX72_045B S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	DX72_045B S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		1.13		
1,2,3,7,8-PECDD [3]	ND		1.13		
1,2,3,4,7,8-HXCDD	ND		1.13		
1,2,3,6,7,8-HXCDD	ND		1.13		
1,2,3,7,8,9-HXCDD	ND		1.13		
1,2,3,4,6,7,8-HPCDD		3.38	1.13	1.09	1.000
OCDD		15.0	1.13	0.80	1.000
2,3,7,8-TCDF	ND		1.13		
1,2,3,7,8-PECDF	ND		1.13		
2,3,4,7,8-PECDF		1.13	1.13	1.41	1.000
1,2,3,4,7,8-HXCDF	ND		1.13		
1,2,3,6,7,8-HXCDF	ND		1.13		
1,2,3,7,8,9-HXCDF	ND		1.13		
2,3,4,6,7,8-HXCDF	ND		1.13		
1,2,3,4,6,7,8-HPCDF	NDR	1.13	1.13	1.45	1.000
1,2,3,4,7,8,9-HPCDF	ND		1.13		
OCDF		1.50	1.13	0.97	1.001
TOTAL TETRA-DIOXINS	ND		1.13		
TOTAL PENTA-DIOXINS	ND		1.13		
TOTAL HEXA-DIOXINS	ND		1.13		
TOTAL HEPTA-DIOXINS		6.38	1.13		
TOTAL TETRA-FURANS	ND		1.13		
TOTAL PENTA-FURANS		1.13	1.13		
TOTAL HEXA-FURANS	ND		1.13		
TOTAL HEPTA-FURANS	ND		1.13		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 19-Mar-2007 08:55:56; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613DB5_WG21015-101_Form1A_SJ635891_lipid.html; Workgroup: WG21015; Design ID: 621]

AXYS METHOD MLA-017 Rev 12

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL / WATER	**Project No.**	N/A
Sample Size:	0.160 g (lipid)	**Lab Sample I.D.:**	WG21015-101 i:2607
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	**DX72_045B S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		1.13	1	0.00e+00	5.65e-01	
1,2,3,7,8-PECDD	ND		1.13	1	0.00e+00	5.65e-01	
1,2,3,4,7,8-HXCDD	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,6,7,8-HXCDD	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,7,8,9-HXCDD	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,4,6,7,8-HPCDD		3.38	1.13	0.01	3.38e-02	3.38e-02	
OCDD		15.0	1.13	0.0001	1.50e-03	1.50e-03	
2,3,7,8-TCDF	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,7,8-PECDF	ND		1.13	0.05	0.00e+00	2.83e-02	
2,3,4,7,8-PECDF		1.13	1.13	0.5	5.65e-01	5.65e-01	
1,2,3,4,7,8-HXCDF	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,6,7,8-HXCDF	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,7,8,9-HXCDF	ND		1.13	0.1	0.00e+00	5.65e-02	
2,3,4,6,7,8-HXCDF	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,4,6,7,8-HPCDF	ND		1.13	0.01	0.00e+00	5.65e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.13	0.01	0.00e+00	5.65e-03	
OCDF		1.50	1.13	0.0001	1.50e-04	1.50e-04	
			TOTAL TEQ		0.600	2.22	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		1.13	1	0.00e+00	5.65e-01	
1,2,3,7,8-PECDD	ND		1.13	1	0.00e+00	5.65e-01	
1,2,3,4,7,8-HXCDD	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,6,7,8-HXCDD	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,7,8,9-HXCDD	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,4,6,7,8-HPCDD		3.38	1.13	0.01	3.38e-02	3.38e-02	
OCDD		15.0	1.13	0.0003	4.50e-03	4.50e-03	
2,3,7,8-TCDF	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,7,8-PECDF	ND		1.13	0.03	0.00e+00	1.70e-02	
2,3,4,7,8-PECDF		1.13	1.13	0.3	3.39e-01	3.39e-01	
1,2,3,4,7,8-HXCDF	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,6,7,8-HXCDF	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,7,8,9-HXCDF	ND		1.13	0.1	0.00e+00	5.65e-02	
2,3,4,6,7,8-HXCDF	ND		1.13	0.1	0.00e+00	5.65e-02	
1,2,3,4,6,7,8-HPCDF	ND		1.13	0.01	0.00e+00	5.65e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.13	0.01	0.00e+00	5.65e-03	
OCDF		1.50	1.13	0.0003	4.50e-04	4.50e-04	
			TOTAL TEQ		0.378	1.99	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 16-Mar-2007 19:03:16; Application: XMLTransformer-1.7.35;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21015-101_TEQ_SJ635891_lipid.html; Workgroup: WG21015; Design ID: 621]

BATCH SUMMARY

Batch ID:	WG21407	***Date:***	20-Mar-2007
Analysis Type:	Dioxins	***Matrix Type:***	Solid

BATCH MAKEUP

Contract: 2607

Samples: L9585-55
L9585-115
L9585-116
L9585-117

L9585-31
L9585-33

Blank: WG21407-101

Reference or Spike: WG21407-102

Duplicate:

Comments:

1. Data are not blank corrected.

RESUBMISSION 05-APR-07:
Data are being resubmitted to include samples 06VN031 and 06VN033 (AXYS Ids L9585-31 and –33). No other data have changed. Please accept these data as final and disregard previously submitted data.

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21650-101
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 01:07:28	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_142 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_142 S: 1
Concentration Units:	pg/g		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0500		
1,2,3,7,8-PECDD [3]	ND		0.0500		
1,2,3,4,7,8-HXCDD	ND		0.0500		
1,2,3,6,7,8-HXCDD	ND		0.0500		
1,2,3,7,8,9-HXCDD	ND		0.0500		
1,2,3,4,6,7,8-HPCDD		0.098	0.0500	1.17	1.000
OCDD		0.162	0.0500	0.98	1.000
2,3,7,8-TCDF	ND		0.0500		
1,2,3,7,8-PECDF	ND		0.0500		
2,3,4,7,8-PECDF	ND		0.0500		
1,2,3,4,7,8-HXCDF	ND		0.0500		
1,2,3,6,7,8-HXCDF	ND		0.0500		
1,2,3,7,8,9-HXCDF	ND		0.0500		
2,3,4,6,7,8-HXCDF	ND		0.0500		
1,2,3,4,6,7,8-HPCDF	ND		0.0500		
1,2,3,4,7,8,9-HPCDF	ND		0.0500		
OCDF	NDR	0.062	0.0500	1.11	1.002
TOTAL TETRA-DIOXINS	ND		0.0500		
TOTAL PENTA-DIOXINS	ND		0.0500		
TOTAL HEXA-DIOXINS	ND		0.0500		
TOTAL HEPTA-DIOXINS		0.098	0.0500		
TOTAL TETRA-FURANS	ND		0.0500		
TOTAL PENTA-FURANS	ND		0.0500		
TOTAL HEXA-FURANS	ND		0.0500		
TOTAL HEPTA-FURANS	ND		0.0500		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	N/A
Sample Size:	10.0 g	**Lab Sample I.D.:**	WG21650-101
		GC Column ID(s):	DB225 DB5
Concentration Units:	pg/g	**Sample Data Filenames:**	**DB73_066 S: 5** **DX72_142 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD		0.098	0.0500	0.01	9.80e-04	9.80e-04	
OCDD		0.162	0.0500	0.0001	1.62e-05	1.62e-05	
2,3,7,8-TCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF	ND		0.0500	0.5	0.00e+00	1.25e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0500	0.0001	0.00e+00	2.50e-06	
			TOTAL TEQ		0.000996	0.0852	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD		0.098	0.0500	0.01	9.80e-04	9.80e-04	
OCDD		0.162	0.0500	0.0003	4.86e-05	4.86e-05	
2,3,7,8-TCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,4,7,8-PECDF	ND		0.0500	0.3	0.00e+00	7.50e-03	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0500	0.0003	0.00e+00	7.50e-06	
			TOTAL TEQ		0.00103	0.0798	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 05-Apr-2007 16:55:28; Application: XMLTransformer-1.7.38;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21650-101_TEQ_SJ659710.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21650-101
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	26-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	04-Apr-2007 **Time:** 01:07:28	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_142 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_142 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_142 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1400	69.9	0.79	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1520	76.1	0.62	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1720	86.0	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1740	87.1	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1640	82.1	1.06	1.094
13C-OCDD		4000	2700	67.5	0.89	1.177
13C-2,3,7,8-TCDF		2000	1360	68.0	0.78	0.966
13C-1,2,3,7,8-PECDF		2000	1500	75.0	1.56	1.282
13C-2,3,4,7,8-PECDF		2000	1490	74.7	1.58	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1760	87.8	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1770	88.5	0.53	0.959
13C-1,2,3,7,8,9-HXCDF		2000	1640	82.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1700	85.2	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1600	80.0	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1590	79.3	0.46	1.103
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	140	69.9		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38; Report Filename: 1613_DIOXINS_1613DB5_WG21650-101_Form2_SJ659710.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21650-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	26-Mar-2007	**Initial Calibration Date:**	08-Jan-2007
Analysis Date:	04-Apr-2007 **Time:** 10:49:19	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB73_066 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DB73_066 S: 5
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DB73_066 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	ND		0.0500		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 05-Apr-2007 16:54:21; Application: XMLTransformer-1.7.38; Report Filename: 1613_DIOXINS_1613DB225_WG21650-101_Form1A_SJ660130.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_142 S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21650-102
Extraction Date:	26-Mar-2007	**Analysis Date:**	03-Apr-2007 **Time:** 22:24:02

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.79	10.0	10.3	6.70 - 15.8	103
1,2,3,7,8-PECDD [4]		0.63	50.0	50.4	35.0 - 71.0	101
1,2,3,4,7,8-HXCDD		1.26	50.0	49.1	35.0 - 82.0	98.1
1,2,3,6,7,8-HXCDD		1.23	50.0	50.2	38.0 - 67.0	100
1,2,3,7,8,9-HXCDD		1.22	50.0	49.4	32.0 - 81.0	98.7
1,2,3,4,6,7,8-HPCDD		1.05	50.0	49.9	35.0 - 70.0	99.8
OCDD		0.89	100	102	78.0 - 144	102
2,3,7,8-TCDF		0.80	10.0	10.5	7.50 - 15.8	105
1,2,3,7,8-PECDF		1.57	50.0	49.4	40.0 - 67.0	98.8
2,3,4,7,8-PECDF		1.57	50.0	50.5	34.0 - 80.0	101
1,2,3,4,7,8-HXCDF		1.26	50.0	49.2	36.0 - 67.0	98.4
1,2,3,6,7,8-HXCDF		1.23	50.0	50.1	42.0 - 65.0	100
1,2,3,7,8,9-HXCDF		1.26	50.0	50.4	39.0 - 65.0	101
2,3,4,6,7,8-HXCDF		1.23	50.0	49.9	35.0 - 78.0	99.9
1,2,3,4,6,7,8-HPCDF		1.04	50.0	51.2	41.0 - 61.0	102
1,2,3,4,7,8,9-HPCDF		1.04	50.0	49.4	39.0 - 69.0	98.9
OCDF		0.91	100	108	63.0 - 170	108

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 05-Apr-2007 16:51:35; Application: XMLTransformer-1.7.38; Report Filename: 1613_DIOXINS_1613DB5_WG21650-102_Form8A_SJ659706.html; Workgroup: WG21650; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_142 S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21650-102
Extraction Date:	26-Mar-2007	**Analysis Date:**	03-Apr-2007 **Time:** 22:24:02

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.80	100	41.5	20.0-175	41.5
13C-1,2,3,7,8-PECDD [4]		0.63	100	46.2	21.0-227	46.2
13C-1,2,3,4,7,8-HXCDD		1.26	100	51.7	21.0-193	51.7
13C-1,2,3,6,7,8-HXCDD		1.25	100	50.8	25.0-163	50.8
13C-1,2,3,4,6,7,8-HPCDD		1.07	100	49.1	26.0-166	49.1
13C-OCDD		0.90	200	78.9	26.0-397	39.4
13C-2,3,7,8-TCDF		0.80	100	39.3	22.0-152	39.3
13C-1,2,3,7,8-PECDF		1.58	100	45.8	21.0-192	45.8
13C-2,3,4,7,8-PECDF		1.56	100	44.7	13.0-328	44.7
13C-1,2,3,4,7,8-HXCDF		0.52	100	51.4	19.0-202	51.4
13C-1,2,3,6,7,8-HXCDF		0.53	100	51.6	21.0-159	51.6
13C-1,2,3,7,8,9-HXCDF		0.53	100	49.0	17.0-205	49.0
13C-2,3,4,6,7,8-HXCDF		0.53	100	48.8	22.0-176	48.8
13C-1,2,3,4,6,7,8-HPCDF		0.46	100	47.7	21.0-158	47.7
13C-1,2,3,4,7,8,9-HPCDF		0.47	100	49.7	20.0-186	49.7
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	4.38	3.10-19.1	43.8

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21241-101
Matrix:	CORN OIL / WATER	**Sample Size:**	30.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	04-Apr-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Apr-2007 **Time:** 13:01:11	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_152 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_152 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_152 S: 1
Concentration Units:	pg/g		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.0167		
1,2,3,7,8-PECDD [3]	ND		0.0167		
1,2,3,4,7,8-HXCDD	ND		0.0167		
1,2,3,6,7,8-HXCDD	ND		0.0167		
1,2,3,7,8,9-HXCDD	ND		0.0167		
1,2,3,4,6,7,8-HPCDD		0.027	0.0167	0.92	1.000
OCDD		0.097	0.0167	0.83	1.000
2,3,7,8-TCDF	ND		0.0167		
1,2,3,7,8-PECDF	ND		0.0167		
2,3,4,7,8-PECDF	ND		0.0167		
1,2,3,4,7,8-HXCDF	ND		0.0167		
1,2,3,6,7,8-HXCDF	ND		0.0167		
1,2,3,7,8,9-HXCDF	ND		0.0167		
2,3,4,6,7,8-HXCDF	ND		0.0167		
1,2,3,4,6,7,8-HPCDF	ND		0.0167		
1,2,3,4,7,8,9-HPCDF	ND		0.0167		
OCDF		0.048	0.0167	1.00	1.002
TOTAL TETRA-DIOXINS	ND		0.0167		
TOTAL PENTA-DIOXINS	ND		0.0167		
TOTAL HEXA-DIOXINS	ND		0.0167		
TOTAL HEPTA-DIOXINS		0.027	0.0167		
TOTAL TETRA-FURANS	ND		0.0167		
TOTAL PENTA-FURANS	ND		0.0167		
TOTAL HEXA-FURANS	ND		0.0167		
TOTAL HEPTA-FURANS	ND		0.0167		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21241-101
Matrix:	CORN OIL / WATER	**Sample Size:**	1.00 g (lipid)
Sample Receipt Date:	N/A	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	04-Apr-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Apr-2007 **Time:** 13:01:11	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_152 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_152 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_152 S: 1
Concentration Units:	pg/g (lipid weight basis)		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	ND		0.501		
1,2,3,7,8-PECDD [3]	ND		0.501		
1,2,3,4,7,8-HXCDD	ND		0.501		
1,2,3,6,7,8-HXCDD	ND		0.501		
1,2,3,7,8,9-HXCDD	ND		0.501		
1,2,3,4,6,7,8-HPCDD		0.810	0.501	0.92	1.000
OCDD		2.91	0.501	0.83	1.000
2,3,7,8-TCDF	ND		0.501		
1,2,3,7,8-PECDF	ND		0.501		
2,3,4,7,8-PECDF	ND		0.501		
1,2,3,4,7,8-HXCDF	ND		0.501		
1,2,3,6,7,8-HXCDF	ND		0.501		
1,2,3,7,8,9-HXCDF	ND		0.501		
2,3,4,6,7,8-HXCDF	ND		0.501		
1,2,3,4,6,7,8-HPCDF	ND		0.501		
1,2,3,4,7,8,9-HPCDF	ND		0.501		
OCDF		1.44	0.501	1.00	1.002
TOTAL TETRA-DIOXINS	ND		0.501		
TOTAL PENTA-DIOXINS	ND		0.501		
TOTAL HEXA-DIOXINS	ND		0.501		
TOTAL HEPTA-DIOXINS		0.810	0.501		
TOTAL TETRA-FURANS	ND		0.501		
TOTAL PENTA-FURANS	ND		0.501		
TOTAL HEXA-FURANS	ND		0.501		
TOTAL HEPTA-FURANS	ND		0.501		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 25-Apr-2007 16:34:10; Application: XMLTransformer-1.7.39;
Report Filename: 1613_DIOXINS_1613DB5_WG21241-101_Form1A_SJ663367_lipid.html; Workgroup: WG21241; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21241-101
Matrix:	CORN OIL / WATER	**Sample Size:**	30.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	02-Apr-2007
Extraction Date:	04-Apr-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Apr-2007 **Time:** 13:01:11	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX72_152 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX72_152 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX72_152 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	975	48.8	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1230	61.4	0.63	1.383
13C-1,2,3,4,7,8-HXCDD		2000	1220	60.9	1.31	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1170	58.7	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	975	48.7	1.05	1.095
13C-OCDD		4000	921	23.0	0.89	1.178
13C-2,3,7,8-TCDF		2000	1000	50.2	0.79	0.965
13C-1,2,3,7,8-PECDF		2000	1110	55.3	1.58	1.283
13C-2,3,4,7,8-PECDF		2000	1080	53.8	1.57	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1220	61.1	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1180	59.1	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	957	47.9	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1020	50.9	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1020	51.1	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1020	51.2	0.46	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	111	55.7		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 25-Apr-2007 16:34:10; Application: XMLTransformer-1.7.39;
Report Filename: 1613_DIOXINS_1613DB5_WG21241-101_Form2_SJ663367.html; Workgroup: WG21241; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**DX72_152 S: 2**
Matrix:	MILK	**Lab Sample I.D.:**	WG21241-102
Extraction Date:	04-Apr-2007	**Analysis Date:**	13-Apr-2007 **Time:** 10:17:51

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.79	10.0	10.0	6.70 - 15.8	100
1,2,3,7,8-PECDD [4]		0.64	50.0	49.0	35.0 - 71.0	98.1
1,2,3,4,7,8-HXCDD		1.25	50.0	46.1	35.0 - 82.0	92.2
1,2,3,6,7,8-HXCDD		1.25	50.0	47.3	38.0 - 67.0	94.6
1,2,3,7,8,9-HXCDD		1.25	50.0	46.8	32.0 - 81.0	93.6
1,2,3,4,6,7,8-HPCDD		1.05	50.0	46.3	35.0 - 70.0	92.6
OCDD		0.89	100	93.9	78.0 - 144	93.9
2,3,7,8-TCDF		0.80	10.0	9.71	7.50 - 15.8	97.1
1,2,3,7,8-PECDF		1.54	50.0	46.2	40.0 - 67.0	92.3
2,3,4,7,8-PECDF		1.57	50.0	47.6	34.0 - 80.0	95.1
1,2,3,4,7,8-HXCDF		1.25	50.0	46.6	36.0 - 67.0	93.2
1,2,3,6,7,8-HXCDF		1.26	50.0	47.4	42.0 - 65.0	94.8
1,2,3,7,8,9-HXCDF		1.26	50.0	47.2	39.0 - 65.0	94.4
2,3,4,6,7,8-HXCDF		1.25	50.0	47.6	35.0 - 78.0	95.2
1,2,3,4,6,7,8-HPCDF		1.05	50.0	48.3	41.0 - 61.0	96.6
1,2,3,4,7,8,9-HPCDF		1.05	50.0	46.6	39.0 - 69.0	93.2
OCDF		0.92	100	103	63.0 - 170	103

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 25-Apr-2007 16:34:10; Application: XMLTransformer-1.7.39; Report Filename: 1613_DIOXINS_1613DB5_WG21241-102_Form8A_SJ663364.html; Workgroup: WG21241; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607 **OPR Data Filename:** DX72_152 S: 2

Matrix: MILK **Lab Sample I.D.:** WG21241-102

Extraction Date: 04-Apr-2007 **Analysis Date:** 13-Apr-2007 **Time:** 10:17:51

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.80	100	41.0	20.0-175	41.0
13C-1,2,3,7,8-PECDD [4]		0.63	100	47.3	21.0-227	47.3
13C-1,2,3,4,7,8-HXCDD		1.26	100	48.0	21.0-193	48.0
13C-1,2,3,6,7,8-HXCDD		1.23	100	47.8	25.0-163	47.8
13C-1,2,3,4,6,7,8-HPCDD		1.04	100	49.0	26.0-166	49.0
13C-OCDD		0.89	200	78.6	26.0-397	39.3
13C-2,3,7,8-TCDF		0.79	100	44.1	22.0-152	44.1
13C-1,2,3,7,8-PECDF		1.55	100	44.2	21.0-192	44.2
13C-2,3,4,7,8-PECDF		1.54	100	42.6	13.0-328	42.6
13C-1,2,3,4,7,8-HXCDF		0.52	100	48.0	19.0-202	48.0
13C-1,2,3,6,7,8-HXCDF		0.52	100	47.4	21.0-159	47.4
13C-1,2,3,7,8,9-HXCDF		0.53	100	45.6	17.0-205	45.6
13C-2,3,4,6,7,8-HXCDF		0.53	100	45.5	22.0-176	45.5
13C-1,2,3,4,6,7,8-HPCDF		0.45	100	51.8	21.0-158	51.8
13C-1,2,3,4,7,8,9-HPCDF		0.46	100	48.8	20.0-186	48.8
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	5.08	3.10-19.1	50.8

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 07

CLIENT SAMPLE NO.
Lab Blank

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	N/A		
Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL / WATER	**Lab Sample I.D.:**	WG21241-101
Sample Size:	30.0 g	**GC Column ID:**	DB5
Concentration Units:	pg/g	**Sample Data Filename:**	DX72_152 S: 5

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0167	1	0.00e+00	8.35e-03	
1,2,3,7,8-PECDD	ND		0.0167	1	0.00e+00	8.35e-03	
1,2,3,4,7,8-HXCDD	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,6,7,8-HXCDD	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,7,8,9-HXCDD	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,4,6,7,8-HPCDD		0.027	0.0167	0.01	2.70e-04	2.70e-04	
OCDD		0.097	0.0167	0.0001	9.70e-06	9.70e-06	
2,3,7,8-TCDF	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,7,8-PECDF	ND		0.0167	0.05	0.00e+00	4.18e-04	
2,3,4,7,8-PECDF	ND		0.0167	0.5	0.00e+00	4.18e-03	
1,2,3,4,7,8-HXCDF	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,6,7,8-HXCDF	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,7,8,9-HXCDF	ND		0.0167	0.1	0.00e+00	8.35e-04	
2,3,4,6,7,8-HXCDF	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,4,6,7,8-HPCDF	ND		0.0167	0.01	0.00e+00	8.35e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0167	0.01	0.00e+00	8.35e-05	
OCDF		0.048	0.0167	0.0001	4.80e-06	4.80e-06	
			TOTAL TEQ		0.000285	0.0284	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.0167	1	0.00e+00	8.35e-03	
1,2,3,7,8-PECDD	ND		0.0167	1	0.00e+00	8.35e-03	
1,2,3,4,7,8-HXCDD	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,6,7,8-HXCDD	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,7,8,9-HXCDD	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,4,6,7,8-HPCDD		0.027	0.0167	0.01	2.70e-04	2.70e-04	
OCDD		0.097	0.0167	0.0003	2.91e-05	2.91e-05	
2,3,7,8-TCDF	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,7,8-PECDF	ND		0.0167	0.03	0.00e+00	2.51e-04	
2,3,4,7,8-PECDF	ND		0.0167	0.3	0.00e+00	2.51e-03	
1,2,3,4,7,8-HXCDF	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,6,7,8-HXCDF	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,7,8,9-HXCDF	ND		0.0167	0.1	0.00e+00	8.35e-04	
2,3,4,6,7,8-HXCDF	ND		0.0167	0.1	0.00e+00	8.35e-04	
1,2,3,4,6,7,8-HPCDF	ND		0.0167	0.01	0.00e+00	8.35e-05	
1,2,3,4,7,8,9-HPCDF	ND		0.0167	0.01	0.00e+00	8.35e-05	
OCDF		0.048	0.0167	0.0003	1.44e-05	1.44e-05	
			TOTAL TEQ		0.000314	0.0266	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 25-Apr-2007 16:40:44; Application: XMLTransformer-1.7.39;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21241-101_TEQ_SJ663367.html; Workgroup: WG21241; Design ID: 559]

AXYS METHOD MLA-013 Rev 07

CLIENT SAMPLE NO.
Lab Blank

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL / WATER	**Project No.**	N/A
Sample Size:	1.00 g (lipid)	**Lab Sample I.D.:**	WG21241-101
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID:**	DB5
		Sample Data Filename:	DX72_152 S: 5

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.501	1	0.00e+00	2.51e-01	
1,2,3,7,8-PECDD	ND		0.501	1	0.00e+00	2.51e-01	
1,2,3,4,7,8-HXCDD	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,6,7,8-HXCDD	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,7,8,9-HXCDD	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,4,6,7,8-HPCDD		0.810	0.501	0.01	8.10e-03	8.10e-03	
OCDD		2.91	0.501	0.0001	2.91e-04	2.91e-04	
2,3,7,8-TCDF	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,7,8-PECDF	ND		0.501	0.05	0.00e+00	1.25e-02	
2,3,4,7,8-PECDF	ND		0.501	0.5	0.00e+00	1.25e-01	
1,2,3,4,7,8-HXCDF	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,6,7,8-HXCDF	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,7,8,9-HXCDF	ND		0.501	0.1	0.00e+00	2.51e-02	
2,3,4,6,7,8-HXCDF	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.501	0.01	0.00e+00	2.51e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.501	0.01	0.00e+00	2.51e-03	
OCDF		1.44	0.501	0.0001	1.44e-04	1.44e-04	
			TOTAL TEQ		0.00854	0.853	

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	ND		0.501	1	0.00e+00	2.51e-01	
1,2,3,7,8-PECDD	ND		0.501	1	0.00e+00	2.51e-01	
1,2,3,4,7,8-HXCDD	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,6,7,8-HXCDD	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,7,8,9-HXCDD	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,4,6,7,8-HPCDD		0.810	0.501	0.01	8.10e-03	8.10e-03	
OCDD		2.91	0.501	0.0003	8.73e-04	8.73e-04	
2,3,7,8-TCDF	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,7,8-PECDF	ND		0.501	0.03	0.00e+00	7.52e-03	
2,3,4,7,8-PECDF	ND		0.501	0.3	0.00e+00	7.52e-02	
1,2,3,4,7,8-HXCDF	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,6,7,8-HXCDF	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,7,8,9-HXCDF	ND		0.501	0.1	0.00e+00	2.51e-02	
2,3,4,6,7,8-HXCDF	ND		0.501	0.1	0.00e+00	2.51e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.501	0.01	0.00e+00	2.51e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.501	0.01	0.00e+00	2.51e-03	
OCDF		1.44	0.501	0.0003	4.32e-04	4.32e-04	
			TOTAL TEQ		0.00941	0.798	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 25-Apr-2007 16:40:44; Application: XMLTransformer-1.7.39;
Report Filename: 1613_DIOXINS_1613-TEQ_WG21241-101_TEQ_SJ663367_lipid.html; Workgroup: WG21241; Design ID: 559]

A2.6
AXYS Analytical Services Methodologies

INDEPENDENT GRAVIMETRIC DETERMINATION OF LIPID CONTENT OF WHOLE BLOOD

SUMMARY

Extraction

The blood sample is extracted according to the extraction procedure used for dioxin and PCB analysis. A sample of whole blood (up to 10 grams) is accurately weighed into a round bottom flask (250 mL). Ethanol (10 mL), hexane (50 mL) and saturated ammonium sulphate (10 mL) are added to the sample and the mixture is extracted by shaking for 30 minutes. The hexane layer is collected for analysis. The remaining aqueous fraction is extracted with hexane which is then added to the first hexane layer. The combined hexane extract is back extracted with water to remove residual ethanol and dried over sodium sulfate.

Lipid Determination

Residual sodium sulfate is removed from the extract by gravity filtration and the extract is reduced to a final volume of about 1 mL. The entire extract is transferred to a pre-weighed glass petri dish with dichloromethane rinses and the solvent removed by drying at 105°C for 30 minutes. The Petri dish containing the extracted lipid material is weighed.

Calculation of Results

Lipid weight:

W_l = (weight of petri dish and lipid) -– (weight of petri dish)

Percent Lipid:

$$\%lipid = \frac{W_l}{W_s} x \ \ 100$$

where W_l = weight of lipid (above);

W_s = weight of sample taken for analysis;

Lipid Estimation

For samples which did not have a lipid determination done, a lipid value was assigned based on whether the specimen was from a male or a female. Previous lipid data from 1410 Viet Namese people was used to determine that the average lipid content of the whole blood of a male is 0.28% while that of a female is 0.31%.

DETERMINATION OF POLYCHLORINATED DIBENZODIOXINS AND POLYCHLORINATED DIBENZODIFURANS ACCORDING TO EPA 1613B

The extraction, cleanup and instrumental procedures are fully documented in AXYS' methods MLA-013 "*Analytical Method for the Determination of: Polychlorinated Dibenzodioxins and Furans, Polybrominated Diphenyl Ethers, PCB Congeners, Chlorinated Pesticides and Toxaphene*" and MLA-017 "*Analytical Method for the determination of Polychlorinated Dibenzodioxins and Dibenzofurans by EPA Method 1613B, EPA Method 8290/8290A, Env. Canada EPS 1/RM/19 or EPA Method DLM02.0*".

EXTRACTION

Solids Soxhlet extraction

Sediment and soil samples are thawed, homogenized and the moisture is determined. Wet samples (equivalent to 5-25 g dry sample) are spiked with dioxin/furan surrogate standards and the sample is dried by mixing with anhydrous sodium sulphate. The sample is extracted for at least 16 hours using 300 mL of 80:20 toluene:acetone in a Soxhlet extractor. Aliquots of extraction standards are added and the extract is ready for cleanup.

Soxhlet Extraction of Tissues

Tissue samples are thawed and homogenized. Wet sample (10 g wet weight) is spiked with dioxin/furan surrogate standards and the sample is dried by mixing with anhydrous sodium sulphate. The dried and spiked sample is extracted for at least 16 hours using 300 mL of 1:1 dichloromethane:hexane in a Soxhlet extractor. Gravimetric lipid determination is performed on a portion of the extract. Aliquots of extraction standards are added. The extract is ready for cleanup.

Aqueous Samples

An aliquot of surrogate standards is added to a 1-litre water sample. The water is extracted by shaking three times with dichloromethane. The combined dichloromethane extracts are dried over anhydrous sodium sulphate and evaporated to less than 10 mL by rotary evaporation. Extraction standards are added and the extract is ready for cleanup.

Blood Extraction Procedure

Whole blood or blood serum samples are thawed and homogenized by thorough shaking. Surrogate standards are added to accurately weighed amounts of blood serum (40 g) or whole blood (60 g). Ethanol, hexane and saturated ammonium sulphate solution are added (sample:ethanol:hexane:saturated ammonium sulphate ratio 1:1:3:1) and the mixture is mechanically shaken for 30 minutes. The hexane layer is collected, 50 mL of fresh hexane is added and the mixture is shaken again for 30 minutes. The two hexane extracts are combined, washed twice by shaking with 50 mL of water and dried over anhydrous sodium sulphate. Extraction standards are added and the extract is ready for clean up.

Milk Extraction Procedure

Milk samples are thawed and homogenized by thorough shaking. Surrogate standards are added to up to 50 g milk subsamples. The mixture is extracted by shaking with 200 mL 2:1 acetone:hexane in a separatory funnel. The hexane extract is collected and the water phase extracted this time with 200 mL of hexane. The hexane phases are combined, washed twice by

shaking with 50 mL of water and dried over anhydrous sodium sulphate. A gravimetric lipid determination is performed on an aliquot of the extract. Extraction standards are added and the extract is ready for cleanup.

CHROMATOGRAPHIC CLEANUP

An automated chromatographic cleanup system utilizes a Fluid Management System (FMS) to pump solvents through various chromatography columns to cleanup the extract and, if desired, to chemically separate the extract into two fractions, one containing PCBs and the other containing PCDD/Fs.

The solvent exchanged to hexane and the extract is filtered to remove any precipitate. The extract is processed through the column sequence Jumbo Acidic Silica – Small Layered Silica – Alumina- Carbon. The eluate containing the dioxins and furans is evaporated to 0.5 mL and is ready for instrumental analysis.

If both dioxin/furan and PCB analysis is required, the extract is first processed through the column sequence Jumbo Acidic Silica – Small Layered Silica – Florisil– Alumina. The resulting eluate contains PCBs while the dioxins and furans are retained on the Florisil column. The silica and alumina columns are removed and a carbon column is inserted after the Florisil column. The elution is performed with a stronger solvent to yield the PCDD/Fs. This eluate containing the dioxins and furans is evaporated to 0.5 mL and is ready for instrumental analysis.

INSTRUMENTAL ANALYSIS

The cleaned up extract is evaporated and solvent changed to hexane. PCDD/F recovery standards are added. Analysis of the extract is performed using a Micromass Ultima high resolution mass spectrometer equipped with an HP 6890 gas chromatograph, a CTC autosampler, and an Alpha workstation running VG software.

HRGC/HRMS Analysis

A 1-2 µl splitless/split injection sequence is used on a DB-5 chromatography column (60 m, 0.25 mm i.d., 0.1 µm film thickness) coupled directly to the MS source. The HRMS is operated at a static mass resolution of 10,000 or greater in the electron impact (EI) ionization mode. To enhance sensitivity data are acquired in the voltage selected ion recording mode (SIR). At least two ions are used to monitor each of the target analytes and ^{13}C-labelled surrogate standards.

Quantification

Target concentrations are determined with respect to the labelled surrogate standards added at the beginning of analysis. Mean relative response factors (RRF) determined from the initial calibration runs are used to convert raw peak areas in sample chromatograms to final recovery corrected concentrations using the following formulae:

$$\text{Concentration of target} = \left(\frac{\text{area of Target}}{\text{area of Surrogate}}\right) \times \left(\frac{\text{weight of Surrogate}}{\text{weight of sample}}\right) \times \left(\frac{1}{\text{RRF}}\right)$$

$$\text{where} \quad \text{RRF} = \left(\frac{\text{area of Target}}{\text{area of Surrogate}}\right) \times \left(\frac{\text{weight of Surrogate}}{\text{weight of Target}}\right)$$

Quality Control Samples

- Batch Size. Each batch consists of up to twenty test samples and additional QC samples.
- Blanks. One procedural blank is analyzed with each batch. It is prepared by spiking an aliquot of the surrogate standard solution into a clean matrix.
- On-going Precision and Recovery (OPR) is demonstrated by the analysis of a spiked reference matrix (SPM) analyzed with each batch. The OPR sample is prepared by spiking an aliquot of the authentic spiking solution into an accurately weighed in-house reference blank matrix.
- A duplicate sample is analyzed in each analysis batch, provided sufficient sample is available.

QC Specifications for QC Samples, Instrumental Analysis and Analyte Quantification

QC Parameter	Specification
Analysis Duplicate	Must agree to within ±20% of the mean (applicable to concentrations >10 times the DL)[1]
Procedural Blank	**Blood:** TCDD/F <0.2 pg/sample, PeCDD/F <0.5 pg/sample, HxCDD/F and HpCDD/F <1.0 pg/ sample, OCDD/F<5 pg/sample. **Other Matrices:** TCDD/F <0.5 pg/sample, PeCDD/F, HxCDD/F, HpCDD/F <1.0 pg/sample, OCDD/F <5 pg/sample. Higher levels acceptable where all sample concentrations are > 10X the blank concentrations.
Detection Limit	SDL Requirements **Blood:** Tetra-penta-CDD/F 0.2 pg/sample Hexa-octa-CDD/F 0.5 pg/sample **Other Matrices**: 1 pg/sample
Instrument Carry over and Background: **Toluene Blank** **Samples**	A. 1st toluene blank following Cal Ver must have <0.6 pg TCDD and <25 pg OCDD[2]. B. 2nd toluene blank following Cal Ver must have <0.2 pg TCDD/F, <0.8 pg Pe-HpCDD/F, and <5.0 pg OCDD[2]. Blood Extract Analysis: as many toluene blanks as necessary are run to achieve an instrument blank level of <0.1 pg TCDD/F, <0.3 pg PeCDD/F, <0.5 pg HxCDD/F, <0.5 pg HpCDD/F and <3.5 pg OCDD. <10% contribution from preceding sample (based on observed instrument carryover rate).
Analyte/Surrogate Ratios	Response must be within the calibrated range of the instrument. Data may be taken from more than one chromatogram to get the responses in the calibrated range.
Ion Ratios	Must be within ±15% of theoretical
Sensitivity	S:N≥10:1 for all compounds for 0.1 pg/µL (CS-0.2) plus, for bloods, S:N≥3:1 for 0.025 pg/µL 2,3,7,8-T4CDD.

[1] Duplicate criterion is a guideline; final assessment depends upon sample characteristics, overall batch QC and on-going lab performance.

[2] Instrument background specifications are calculated from spiking labelled standard into the toluene blank and expressed as pg in a 20 µL extract.

DETERMINATION OF POLYCYCLIC AROMATIC HYDROCARBONS (PAH) AND ALKYLATED PAH IN SEDIMENT BY GC/MS

EXTRACTION

The extraction, cleanup and analysis procedures are fully documented in AXYS method MLA-021, "*Analytical Method for the Determination of Polycyclic Aromatic Hydrocarbons (PAH), Alkylated Polycyclic Aromatic Hydrocarbons, and Alkanes*".

Soxhlet extraction

Sediments are thawed and homogenized and the moisture is determined. Approximately 10 g of homogenized sediment sample is dried by mixing with anhydrous sodium sulphate. The sample is spiked with a suite of perdeuterated surrogate standards, see table 1. The routine quantity of each surrogate added to each sediment sample is 20 000 ng. The dried and spiked sample is extracted for 16-18 hours with dichloromethane in a Soxhlet extractor. The extract is concentrated and solvent changed to 1-2 mL iso-octane using a Kuderna-Danish flask.

COLUMN CLEANUP

Silica Column Cleanup

The extract is solvent exchanged to hexane, adjusted to 1 mL and treated with activated copper to remove elemental sulphur. The extract is loaded onto a silica gel column and eluted with pentane into a first fraction F1 and then with dichloromethane into a second fraction F2. The second fraction (F2) containing the PAHs and the alkylated PAHs is concentrated to 1 mL in a Kuderna-Danish flask.

Alumina Column Cleanup

1 mL of the extract dissolved in hexane is loaded onto an alumina column and eluted first with hexane (discarded fraction) and then with dichloromethane (retained fraction). The dichloromethane fraction is concentrated to 1 mL in a Kuderna-Danish flask.

INSTRUMENTAL ANALYSIS

Recovery standards (deuterated analogs of acenaphthene, pyrene, and benzo(e)pyrene) are added prior to GC/MS analysis.

Analysis of the extract is conducted using high resolution gas chromatography coupled to low resolution quadrupole mass spectrometry (HRGC/LRMS).

Sensitivity

For 10 pg of each target analyte, the signal to noise ratio must be greater than or equal to 3:1.

GC Resolution

The valley height (expressed in terms of the smaller peak in the pair) between benzo(b)fluoranthene and benzo(k)fluoranthene must be less than or equal to 75%, and the valley height between phenanthrene and anthracene must be less than or equal to 30% for all calibration runs. The maximum peak width at 10% peak height for the dibenzo[ghi]perylene peak must be less than or equal to 15 seconds.

Instrument Calibration

Initial calibration is performed using a series of solutions that encompass the working concentration range of the instrument. The initial calibration solutions contain the suite of labelled surrogate and recovery standards and authentic target analytes. Calibration is verified at least once every twelve hours by analysis of a mid-level calibration solution. The nominal concentration range of target analytes in the calibration solutions is 50 – 5000 ng/mL.

Quadrupole (Low Resolution) GC/MS Analysis

The HRGC/LRMS analysis is conducted on a gas chromatograph equipped with a low-resolution mass spectrometer (MS).

A splitless/split injection sequence is used on a Restek Rt_x-5 chromatography column (30 m, 0.25 mm i.d., 0.25 µm film thickness) coupled directly to the MS source. The MS is operated at a unit mass resolution in the electron impact (EI) ionization mode using multiple ion detection (MID) acquiring at least one characteristic ion for each target analyte and surrogate standard. The ions acquired are listed in the attached Table 1.

ANALYTE IDENTIFICATION

A chromatographic peak is identified as a target compound if the following criteria are met for the quantification and confirmation ions (where confirmation ions are available):

1. Peak responses must be at least three times the background noise level.
2. The retention time must be within three seconds of that predicted from the calibration run and the sample retention time reference (labelled compound).
3. Peak maxima for the quantification and confirmation ions must coincide within two seconds.
4. The relative ion abundance ratios must be within 20% of the opening calibration values.

QUANTIFICATION

Target concentrations are determined with respect to the labelled surrogate standards added at the beginning of analysis, the surrogate employed is the one judged to be chemically most similar to the target analyte. Mean relative response factors (RRF) determined from the initial calibration runs are used to convert raw peak areas in sample chromatograms to final recovery corrected concentrations using the following formulae:

$$\text{Concentration of Target} = \left(\frac{\text{area of Target}}{\text{area of Surrogate}}\right) \times \left(\frac{\text{weight of Surrogate}}{\text{weight of sample}}\right) \times \left(\frac{1}{\text{RRF}}\right)$$

where $$\text{RRF} = \left(\frac{\text{area of Target}}{\text{area of Surrogate}}\right) \times \left(\frac{\text{weight of Surrogate}}{\text{weight of Target}}\right)$$

QUALITY ACCEPTANCE CRITERIA

- Samples are analyzed in batches consisting of a maximum of twenty samples, a procedural blank, a reference sample (certified reference material or spiked matrix sample) and a duplicate sample. Matrix spike/matrix spike duplicate (MS/MSD) are analyzed upon client request. Each batch is carried through the complete analytical process as a unit. For sample data to be reportable the batch QC data must meet established acceptance criteria.

- For the initial 5-point calibration the percent relative standard deviation (%RSD) of the RRFs must be less than 20% for analytes with labelled surrogates and less than 35% for others. The concentration of natives and labelled surrogates from the opening calibration verification runs must be within 25% of expected values. Concentrations of native compounds in the closing calibration verification must be within ±25% of expected values. Concentrations of labelled surrogates in the closing calibration must be within ±25% of expected values, with any two (2) values allowed to be within ±40%.
  RRFs for the opening and closing calibrations over a 12 hour period must agree to within ±20% of the mean.

- Concentrations of target analytes in procedural blanks must be <10 ng absolute for naphthalene and phenanthrene, <5 ng for all others, or 5 times lower than analogous analyte value detected in the samples.

- Recoveries of target compounds in reference samples must fall within 70-130% for all targets except acenaphthylene, which is 70-140%.

- Recoveries of surrogate standards must fall within 15-130% for naphthalene, 20-130% for acenaphthylene, methylnaphthalene and dimethylnaphtalene and within 30-130% for the remaining surrogates. It should be noted that surrogate recoveries are reported only as indicators of overall method performance since the method of quantification yields recovery corrected concentrations.

- As a guideline analysis duplicates should fall within ±20% of the mean plus the D.L.

Table 1. Analyte Ions Monitored, Surrogates Used and RRF Determination For PAH by Low Resolution GC/MS

TARGET ANALYTES	Quantification Ion (m/z)	Confirmation Ions (m/z)	SURROGATE	RRF DETERMINED FROM
Naphthalene	128	102	d_8-Naphthalene	Naphthalene
Acenaphthylene	152	151	d_8-Acenaphthylene	Acenaphthylene
Acenaphthene	154	153	d_8-Acenaphthylene	Acenaphthene
Fluorene	166	165	d_{10}-Phenanthrene	Fluorene
Phenanthrene	178	176	d_{10}-Phenanthrene	Phenanthrene
Anthracene	178	176	d_{10}-Phenanthrene	Anthracene
Fluoranthene	202	200	d_{10}-Fluoranthene	Fluoranthene
Pyrene	202	200	d_{10}-Fluoranthene	Pyrene
Benz[a]anthracene	228	226	d_{12}-Benz[a]anthracene	Benz[a]anthracene
Chrysene[1]	228	226	d_{12}-Chrysene	Chrysene
Benzo[bjk]fluoranthene	252	253	d_{12}-Benzo[b,k]fluoranthene	Benzo[b,k]fluoranthene
Benzo[e]pyrene	252	253	d_{12}-Benzo[a]pyrene	Benzo[e]pyrene
Benzo[a]pyrene	252	253	d_{12}-Benzo[a]pyrene	Benzo[a]pyrene
Perylene	252	253	d_{12}-Perylene	Perylene
Dibenzo[ah]anthracene[2]	278	139	d_{14}-Dibenzo[ah]anthracene	Dibenz[ah]anthracene
Indeno[1,2,3-cd]pyrene	276	138	d_{12}-Indeno[1,2,3,cd]pyrene	Indeno[1,2,3-cd]pyrene
Benzo[ghi]perylene	276	138	d_{12}-Benzo[ghi]perylene	Benzo[ghi]perylene
1-Methylnaphthalene[3]	142	141	d_{10}-2-Methylnaphthalene	1-Methylnaphthalene
2-Methylnaphthalene[3]	142	141	d_{10}-2-Methylnaphthalene	2-Methylnaphthalene
C1-Naphthalenes[3]	142	141	d_{10}-2-Methylnaphthalene	1- / 2-Methylnaphthalene
2,6-Dimethylnaphthalene[3]	156	141	d_{12}-2,6 Dimethylnaphthalene	2,6-Dimethylnaphthalene
C2-Naphthalenes[3]	156	141	d_{12}-2,6 Dimethylnaphthalene	2,6-Dimethylnaphthalene
2,3,5-Trimethylnaphthalene[3]	170	155	d_{12}-2,6 Dimethylnaphthalene	2,3,5- Trimethylnaphthalene
C3-Naphthalenes[3]	170	155	d_{12}-2,6 Dimethylnaphthalene	2,3,5- Trimethylnaphthalene
1-Methylphenanthrene[3]	192	191	d_{10}-Phenanthrene	1-Methylphenanthrene
C1-Phenanthrenes/Anthracenes[3]	192	191	d_{10}-Phenanthrene	1-Methylphenanthrene
3,6-Dimethylphenanthrene[3]	206	191	d_{10}-Phenanthrene	3,6-Dimethylphenanthrene
C2-Phenanthrenes/Anthracenes[3]	206	191	d_{10}-Phenanthrene	3,6-Dimethylphenanthrene
Dibenzothiophene[3]	184	152	d_{10}-Phenanthrene	Dibenzothiophene
Retene[3]	234	219	d_{10}-Fluoranthene	Retene
Biphenyl[3]	154	152	d_{10}-2-Methylnaphthalene	Biphenyl
LABELLED SURROGATE STANDARDS	**Quantification Ion (m/z)**	**Confirmation Ions (m/z)**	**RECOVERY CALCULATED AGAINST**	
d_8-Naphthalene	136	134	d_{10}-Acenaphthene	
d_{10}-2-Methylnaphthalene	152	151	d_{10}-Acenaphthene	
d_8-Acenaphthylene	160	158	d_{10}-Acenaphthene	
d_{10}-Phenanthrene	188	184	d_{10}-Pyrene	
d_{10}-Fluoranthene	212	208	d_{10}-Pyrene	
d_{12}-Benz[a]anthracene	240	236	d_{10}-Pyrene	
d_{12}-Chrysene	240	236	d_{10}-Pyrene	
d_{12}-2,6 Dimethylnaphthalene	168	150	d_8-Acenaphthylene	
d_{12}-Benzo[b,k]fluoranthene	264	260	d_{12}-Benzo[e]pyrene	
d_{12}-Benzo[a]pyrene	264	260	d_{12}-Benzo[e]pyrene	

[1] Coelutes with Triphenylene
[2] Coelutes with Dibenz[ac]anthracene
[3] These compounds are in addition to the regular suite of analytes, and are analyzed by client request only.

LABELLED SURROGATE STANDARDS	Quantification Ion (m/z)	Confirmation Ions (m/z)	RECOVERY CALCULATED AGAINST
d_{12}-Perylene	264	260	d_{12}-Benzo[e]pyrene
d_{12}-Indeno[1,2,3,cd]pyrene	288	284	d_{12}-Benzo[e]pyrene
d_{14}-Dibenzo[ah]anthracene	292	288	d_{12}-Benzo[e]pyrene
d_{12}-Benzo[ghi]perylene	288	284	d_{12}-Benzo[e]pyrene
d_{10}-Biphenyl	164		d_8-Acenaphthylene
LABELLED RECOVERY STANDARDS	**Quantification Ion (m/z)**	**Confirmation Ions (m/z)**	
d_{10}-Acenaphthene	164	160	
d_{10}-Pyrene	212	208	
d_{12}-Benzo[e]pyrene	264	260	

DETERMINATION OF POLYCHLORINATED BIPHENYL CONGENERS BY HIGH RESOLUTION GC/MS ACCORDING TO EPA 1668A.

The extraction, cleanup and instrumental procedures are fully documented in AXYS' method MLA-010 "*Analytical Method for the Determination of: 209 PCB Congeners by EPA Method 1668A*".

EXTRACTION

Soxhlet Extraction of Solids

Sediment or soil samples are thawed, homogenized and the moisture is determined. The sample (equivalent to 10 g dry weight) is dried by mixing with anhydrous sodium sulphate, transferred into a Soxhlet thimble containing clean silica and spiked with surrogate standards. The sample is Soxhlet extracted for 16-20 hours with 300-600 mL of dichloromethane. An aliquot of cleanup standard is added and the extract is concentrated to 1 mL. The extract is now ready for chromatographic cleanup.

Soxhlet Extraction of Tissues

Tissue samples are thawed, homogenized and the moisture is determined. Wet sample (1-25 g wet weight) is dried by mixing with anhydrous sodium sulphate, transferred into a Soxhlet thimble and spiked with surrogate standards. The dried and spiked sample is Soxhlet extracted for 16-20 hours using 300-600 mL of dichloromethane. An aliquots of cleanup surrogate standard is added. Optionally a lipid determination may be performed. The extract is evaporated to 1 mL, loaded onto a Biobead SX-3 gel permeation column and eluted with 1:1 dichloromethane:hexane to yield two consecutive fractions, F1 and F2. Fraction F2 is collected and evaporated to a small volume. If the lipid content of the extracted sample is greater than 2 g absolute the gel permeation cleanup is repeated.

Milk Extraction Procedure

Milk samples are thawed and homogenized by thorough shaking. Surrogate standards are added to 50 g milk subsamples. The mixture is extracted by shaking with 200 mL 2:1 acetone:hexane in a separatory funnel. The hexane extract is collected and the water phase extracted, this time with 200 mL of hexane. The hexane phases are combined, washed twice by shaking with 50 mL of water and dried over anhydrous sodium sulphate. Cleanup standards are added and a lipid determination is performed. The extract is loaded on a Biobead SX-3 gel permeation column and eluted with 1:1 dichloromethane:hexane to yield two consecutive fractions, F1 and F2. Fraction F2 is collected for column cleanup.

Blood Extraction Procedure

Whole blood, blood serum or plasma samples are thawed and homogenized by thorough shaking. Surrogate standards are added to accurately weighed amounts of the sample (5-20 g). Ethanol, hexane and saturated ammonium sulphate solution are added (sample:ethanol:hexane:saturated ammonium sulphate ratio 1:1:3:1) and the mixture is mechanically shaken for 30 minutes. The hexane layer is collected, 50 mL of fresh hexane is added and the mixture is shaken again for 30 minutes. The two hexane extracts are combined, washed twice by shaking with 50 mL of water and dried over anhydrous sodium sulphate. Cleanup standards are added. Optionally a lipid determination may be performed. The extract is loaded onto a Biobead SX-3 gel permeation column and eluted with 1:1 dichloromethane:hexane to yield two consecutive fractions, F1 and F2. Fraction F2 is collected for column cleanup.

CHROMATOGRAPHIC CLEANUP

An automated chromatographic cleanup system utilizes a Fluid Management System (FMS) to pump solvents through various chromatography columns to cleanup the extract and, if desired, to chemically separate the extract into two fractions, one containing PCBs and the other containing PCDD/Fs.

The solvent exchanged to hexane and the extract is filtered to remove any precipitate. The extract processed through the column sequence Jumbo Acidic Silica – Small Layered Silica – Florisil– Alumina. The resulting eluate contains PCBs while the dioxins and furans are retained on the Florisil column. This eluate containing the PCBs is evaporated to 0.5 mL and is ready for instrumental analysis.

INSTRUMENTAL ANALYSIS

The cleaned up extract is evaporated and solvent changed to hexane using 15 µL nonane as keeper. PCB recovery standards are added. Analysis of the extract is performed using high resolution gas chromatography coupled to high resolution mass spectrometry (HRGC/HRMS).

HRGC/HRMS Analysis

A 1-2 µl splitless/split injection sequence is used on a SPB-Octyl gas chromatography column (30 m, 0.25 mm i.d., 0.25 µm film thickness) coupled directly to the MS source.

The HRMS is operated at a static mass resolution of 10,000 or greater in the electron impact (EI) ionization mode. To enhance sensitivity data are acquired in the voltage selected ion recording mode (SIR). At least two ions are used to monitor each of the target analytes and ^{13}C-labelled surrogate standards.

Quantification

Target concentrations are determined with respect to the labelled surrogate standards added at the beginning of analysis. Mean relative response factors (RRF) determined from the initial calibration runs are used to convert raw peak areas in sample chromatograms to final recovery corrected concentrations using the following formulae:

$$\text{Concentration of target} = \left(\frac{\text{area of Target}}{\text{area of Surrogate}}\right) \times \left(\frac{\text{weight of Surrogate}}{\text{weight of sample}}\right) \times \left(\frac{1}{\text{RRF}}\right)$$

$$\text{where} \quad \text{RRF} = \left(\frac{\text{area of Target}}{\text{area of Surrogate}}\right) \times \left(\frac{\text{weight of Surrogate}}{\text{weight of Target}}\right)$$

Quality Control Samples

- Batch Size. Each batch consists of up to twenty test samples and additional QC samples.
- Blanks. One procedural blank is analyzed with each batch. It is prepared by spiking an aliquot of the surrogate standard solution into a clean matrix.
- On-going Precision and Recovery (OPR) is demonstrated by the analysis of a spiked reference matrix (SPM) analyzed with each batch. The OPR sample is prepared by spiking an aliquot of the authentic spiking solution into an accurately weighed in-house reference blank matrix.
- A duplicate sample is analyzed in each analysis, provided sufficient sample is available.

QC Specifications for QC Samples, Instrumental Analysis and Analyte Quantification

QC Parameter	Specification
Analysis Duplicate	Must agree to within ±20% of the mean (applicable to concentrations >10 times the DL)[1]
Procedural Blank	Analyte concentrations in blank samples for PCB congeners 77, 81, 114, 123, 126 and 169 must be less than 2 pg/congener/sample, and concentrations of PCB congeners 156, 157, 167 and 189 must be less than 10 pg/congener/sample. Concentrations of all other individual PCB congeners or coelutions must be less than 50 pg/congener/sample in blank samples. The sum of all 209 congeners should be less than 300 pg/sample. Higher levels are acceptable where sample concentrations exceed 10 times the blank levels.
Sample Specific Detection Limit	Typical sample specific detection limits, determined from chromatographic noise, are in the range of 0.5 to 2.0 pg.
Initial Calibration	For 6-point calibration, a relative standard deviation of the RRF's ≤20% for all compounds Ion ratios for all congeners must be within ±15% of theoretical for CS 0.2. (See Section 8.1.1 for details) Minimum S:N ratio 10:1 for all calibration standards. For CS0.2, S:N ratio may be as low as 3:1 for di-PCBs and nona-PCBs.
Continuing CAL VER	Refer to Table 4 above.
Analyte/Surrogate Ratios	Response must be within the calibrated range of the instrument. Coders may use data from more than one chromatogram to get the responses in the calibrated range.
Ion Ratios	Ion ratios must fall within ±15% of the theoretical values for positive identification of all targets in the calibration standards and samples.
Sensitivity	Minimum S:N ratio 10:1 for all calibration standards. For CS0.2, S:N ratio may be as low as 3:1. for di-PCBs and nona-PCBs.

[1] Duplicate criterion is a guideline; final assessment depends upon sample characteristics, overall batch QC and on-going lab performance.

DETERMINATION OF ORGANOCHLORINE PESTICIDES IN SEDIMENTS BY HRGC/HRMS

SUMMARY

Analytes

This method is suitable for the determination of organochlorine pesticides in sediment.

Extraction and Cleanup Procedures

Approximately 10 g of homogenized sediment sample is dried by mixing with anhydrous sodium sulphate. The sample is spiked with a suite of isotopically labelled surrogate standards and extracted for 16-20 hours with dichloromethane in a Soxhlet extractor. The extract is concentrated to 1 mL by rotary evaporation and activated copper is added to remove elemental sulphur. The solvent is changed to hexane by evaporation and adjusted to 1 mL.

The extract is cleaned up on a Florisil column and separated into two fractions, E1 and E2, where E2 contains the more polar chlorinated pesticides. The two fractions are separately concentrated, spiked with isotopically labelled recovery standard(s) and adjusted to 200 µL with hexane.

HRGC/HRMS Analysis

Analysis of the E1 and E2 fractions is performed on a high-resolution gas chromatograph (HRGC) equipped with a J&W DB-5 chromatography column (60 m, 0.25 mm i.d., 0.10 µm film thickness) and coupled to a high-resolution mass spectrometer (HRMS). The HRMS is operated at a static (8000) mass resolution (10% valley) in the electron ionization (EI) mode using multiple ion detection (MID) acquiring two characteristic ions for each target analyte and surrogate standard. The ions acquired are presented in Tables 1 and 2.

Initial calibration is performed using a five-point calibration series of solutions that encompass the working concentration range. Calibration is verified at least once every twelve hours by analysis of a mid-level calibration solution.

Analyte Identification

A chromatographic peak is identified as a target compound if the following criteria are met for the quantification and confirmation ions (where confirmation ions are available):

1. Peak response must be at least three times the background noise level.
2. The peak retention time must be within the window predicted from the initial calibration runs and the surrogate standard retention times.
3. Peak maxima for quantification and confirmation ions must coincide within two seconds.
4. The relative ion abundance ratios must be within 20% of the theoretical except for oxychlordane and labelled methoxychlor that must be 30% and 50% respectively.

Quantification Procedures

Target concentrations are determined with respect to labelled surrogate standards as shown in Tables 1 and 2. Mean relative response factors (RRF) determined from the initial calibration runs are used to convert raw peak areas in sample chromatograms to final concentrations as follows:

$$\text{Concentration of Target} = \left(\frac{\text{area of Target}}{\text{area of Surrogate}}\right) \times \left(\frac{\text{weight of Surrogate}}{\text{weight of sample}}\right) \times \left(\frac{1}{\text{RRF}}\right)$$

where $$\text{RRF} = \left(\frac{\text{area of Target}}{\text{area of Surrogate}}\right) \times \left(\frac{\text{concentration of Surrogate}}{\text{concentration of Target}}\right)$$

Final concentrations are recovery corrected by the method of quantification.

Sample specific detection limits (SDLs), reported with the analytical results, are determined from the analysis data by converting the minimum detectable signal to a concentration following the same procedures used to convert target peak responses to concentrations. The estimated minimum detectable area is determined as three times the height of the noise in the m/z channel of interest, converted to an area using the area height ratio of the corresponding labelled surrogate peak.

Recoveries of surrogates are determined similarly against the recovery (internal) standard and are used as general indicators of overall analytical quality.

Delta-HCH is quantified in both fractions E1 and E2 and summed.

QA/QC

Samples are analyzed in batches consisting of a maximum of twenty samples, a procedural blank and a spiked reference sample (SPM). Sample duplicates or matrix spike/matrix spike duplicate (MS/MSD) pairs may be analyzed on an individual contract basis. The batch is carried through the complete analytical process as a unit. For sample data to be reportable, the batch QC data must meet the established acceptance criteria presented on the analysis reports.

All aspects of the method are described in detail in AXYS' document MLA-028 r02 "Organochlorine Pesticides by Isotope Dilution HRGC/HRMS".

Table 1. Analyte Ions Monitored, Surrogates Used, and RRF Determination for E1 Pesticides by HRGC/HRMS

(No entry in the "RRF Used" field designates an RRF derived from that same compound.)

Analyte Name	Quantified against labelled standard	RRF Determination	Typical Retention Time	RT Win. (sec)	Acquired in Function	mass1	mass2	m1/m2 ratio	Ion Ratio Tolerance (+/- %)
1,3/1,4-Cl_2-BZ	$^{13}C_6$-1,4-Cl_2-BZ		9:11	10	1	145.969	147.966	1.56	20
1,2-Cl_2-BZ	$^{13}C_6$-1,4-Cl_2-BZ		9:31	10	1	145.969	147.966	1.56	20
1,3,5-Cl_3-BZ	$^{13}C_6$-1,2,3-Cl_3-BZ		11:04	10	1	179.93	181.927	1.03	20
1,2,4-Cl_3-BZ	$^{13}C_6$-1,2,3-Cl_3-BZ		11:47	10	1	179.93	181.927	1.03	20
1,2,3-Cl_3-BZ	$^{13}C_6$-1,2,3-Cl_3-BZ		12:21	10	1	179.93	181.927	1.03	20
1,2,4,5/3,5-Cl_4-BZ	$^{13}C_6$-1,2,3,4-Cl_4-BZ		14:14	10	2	213.891	215.888	0.77	20
1,2,3,4-Cl_4-BZ	$^{13}C_6$-1,2,3,4-Cl_4-BZ		15:02	10	2	213.891	215.888	0.77	20
Cl_5-BZ	$^{13}C_6$-Cl_5-BZ		17:27	10	2	247.852	249.849	0.62	20
HCB	$^{13}C_6$-HCB		20:55	10	3	283.81	285.807	1.25	20
TCMX	$^{13}C_6$-HCB		19:06	15	2	241.922	243.919	0.78	20
Cl_6-Butadiene	$^{13}C_6$-1,2,3,4-Cl_4-BZ	1,2,3,4-Cl_4-BZ	12:20	15	1	189.872	187.875	1.32	20
alpha-HCH	$^{13}C_6$-gamma-HCH		20:36	10	3	216.915	218.912	0.77	20
beta-HCH	$^{13}C_6$-beta-HCH		21:39	10	3	216.915	218.912	0.77	20
gamma-HCH	$^{13}C_6$-gamma-HCH		21:48	10	3	216.915	218.912	0.77	20
delta-HCH[1]	$^{13}C_6$-delta-HCH		22:43	10	3	216.915	218.912	0.77	20
Heptachlor	$^{13}C_{10}$-Heptachlor		24:25	10	3	271.81	273.81	1.24	20
Aldrin	$^{13}C_{12}$-Aldrin		25:43	10	3	262.857	264.854	1.55	20
Octachlorostyrene	$^{13}C_{10}$-trans-Chlordane		27:05	10	3	270.844	272.841	0.62	20
Oxychlordane	$^{13}C_{10}$-Oxychlordane		27:16	10	3	262.857	264.854	1.55	20
trans-Chlordane	$^{13}C_{10}$-trans-Chlordane		28:06	10	4	271.81	273.807	1.24	20
cis-Chlordane	$^{13}C_{10}$-trans-Chlordane		28:41	10	4	271.81	273.807	1.24	20
o,p-DDE	$^{13}C_{12}$-o,p-DDE		28:19	10	4	246	247.997	1.56	20
p,p-DDE	$^{13}C_{12}$-p,p-DDE		29:29	10	4	246	247.997	1.56	20
trans-Nonachlor	$^{13}C_{10}$-trans-Nonachlor		28:52	10	4	271.81	273.807	1.24	20
cis-Nonachlor	$^{13}C_{10}$-cis-Nonachlor		31:12	10	5	271.81	273.807	1.24	20
o,p-DDD	$^{13}C_{12}$-o,p-DDT		29:49	10	5	235.008	237.005	1.56	20
p,p-DDD	$^{13}C_{12}$-o,p-DDT		31:03	10	5	235.008	237.005	1.56	20
o,p-DDT	$^{13}C_{12}$-o,p-DDT		31:10	10	5	235.008	237.005	1.56	20
p,p-DDT	$^{13}C_{12}$-p,p-DDT		32:24	10	5	235.008	237.005	1.56	20
Mirex	$^{13}C_{10}$-Mirex		34:54	10	5	269.813	271.81	0.52	20

[1] delta-HCH normally will elute primarily in the E2 fraction and can be quantified solely from this fraction. Recoveries of ^{13}C-delta-HCH may be reported as the sum of the E1 and E2 recoveries if significant concentrations of ^{13}C-delta-HCH are observed in the E1 fraction.

Table 1 (Cont'd)

Analyte Name	Quantified against labelled standard	RRF Determination	Typical Retention Time	RT Win. (sec)	Acquired in Function	mass1	mass2	m1/m2 ratio	Ion Ratio Tolerance (+/-)
$^{13}C_6$-1,4-Cl_2-BZ	$^{13}C_{12}$-PCB-52		9:10	30	1	151.989	153.986	1.56	20
$^{13}C_6$-1,2,3-Cl_3-BZ	$^{13}C_{12}$-PCB-52		12:20	30	1	185.95	187.947	1.03	20
$^{13}C_6$-1,2,3,4-Cl_4-BZ	$^{13}C_{12}$-PCB-52		15:02	30	2	221.908	223.905	2.08	20
$^{13}C_6$-Cl_5-BZ	$^{13}C_{12}$-PCB-52		17:26	30	2	255.869	257.866	1.55	20
$^{13}C_6$-HCB	$^{13}C_{12}$-PCB-52		20:55	30	3	289.83	291.828	1.25	20
$^{13}C_6$-beta-HCH	$^{13}C_{12}$-PCB-52		21:38	30	3	222.935	224.932	0.77	20
$^{13}C_6$-gamma-HCH	$^{13}C_{12}$-PCB-52		21:47	30	3	222.935	224.932	0.77	20
$^{13}C_6$-delta-HCH	$^{13}C_{12}$-PCB-52		22:42	30	3	222.935	224.932	0.77	20
$^{13}C_{10}$-Heptachlor	$^{13}C_{12}$-PCB-52		24:24	30	3	276.827	278.824	1.24	20
$^{13}C_{10}$-Aldrin	$^{13}C_{12}$-PCB-52		25:41	30	3	269.88	271.877	1.55	20
$^{13}C_{10}$-Oxychlordane	$^{13}C_{12}$-PCB-52		27:15	30	3	269.88	271.877	1.55	30
$^{13}C_{10}$-trans-Chlordane	$^{13}C_{12}$-PCB-138		28:05	30	4	276.827	278.824	1.24	20
$^{13}C_{10}$-trans-Nonachlor	$^{13}C_{12}$-PCB-138		28:51	30	4	276.827	278.824	1.24	20
$^{13}C_{10}$-cis-Nonachlor	$^{13}C_{12}$-PCB-138		31:11	30	5	276.827	278.824	1.24	20
$^{13}C_{12}$-o,p-DDE	$^{13}C_{12}$-PCB-138		28:18	30	4	258.041	260.038	1.56	20
$^{13}C_{12}$-p,p-DDE	$^{13}C_{12}$-PCB-138		29:29	30	4	258.041	260.038	1.56	20
$^{13}C_{12}$-o,p-DDT	$^{13}C_{12}$-PCB-138		31:09	30	5	247.048	249.045	1.56	20
$^{13}C_{12}$-p,p-DDT	$^{13}C_{12}$-PCB-138		32:23	30	5	247.048	249.045	1.56	20
$^{13}C_{10}$-Mirex	$^{13}C_{12}$-PCB-138		34:53	30	5	276.827	278.824	1.25	20
Recovery Standards									
$^{13}C_{12}$-PCB-52			25:07	100	3	301.963	303.96	0.77	20
$^{13}C_{12}$-PCB-138			32:31	100	5	299.947	301.944	0.77	20
Lock-Mass					1	180.989			
Lock-Mass					1	180.989			
Lock-Mass					2	230.986			
Lock-Mass					2	230.986			
Lock-Mass					3	230.986			
Lock-Mass					3	230.986			
Lock-Mass					3	230.986			
Lock-Mass					3	230.986			
Lock-Mass					3	230.986			
Lock-Mass					4	292.982			
Lock-Mass					4	292.982			
Lock-Mass					5	292.982			
Lock-Mass					5	292.982			
Lock-Mass					5	292.982			
Lock-Mass					5	292.982			
Lock-Mass					3	230.986			
Lock-Mass					5	292.982			

Table 2. Analyte Ions Monitored, Surrogates Used and RRF Determination for E2 Pesticides by HRGC/HRMS

(No entry in the "RRF Used" field designates an RRF derived from that same compound.)

Analyte Name	Quantified against labelled standard	RRF Determination	Typical Retention Time	RT Win. (sec)	Acquired in Function	mass1	mass2	m1/m2 ratio	Ion Ratio Tolerance (+/- %)
delta-HCH	$^{13}C_6$-gamma-HCH		13:13	10	1	216.915	220.909	1.63	20
Heptachlor epoxide	$^{13}C_9$-Heptachlor-Epoxide		18:31	10	2	354.841	352.844	0.8	20
alpha-Endosulphan	$^{13}C_9$-alpha-endosulphan		20:59	10	2	264.854	262.857	0.64	20
Dieldrin	$^{13}C_{12}$-Dieldrin		23:00	10	2	264.854	262.857	0.64	20
Endrin	$^{13}C_{12}$-Endrin		24:22	10	2	264.854	262.857	0.64	20
beta-Endosulphan	$^{13}C_9$-beta-Endosulphan		24:55	10	2	264.854	262.857	0.64	20
Endosulphan sulphate	$^{13}C_9$-beta-Endosulphan		27:06	10	2	264.854	262.857	0.64	20
Endrin aldehyde	$^{13}C_{12}$-Endrin		25:56	10	2	346.896	344.899	0.64	20
Endrin ketone	$^{13}C_{12}$-Endrin		29:00	10	2	318.901	316.904	0.64	20
Methoxychlor	$^{13}C_{12}$-Methoxychlor		29:45	10	3	228.111	227.107	Note 1	20
Labelled Surrogates									
$^{13}C_6$-gamma-HCH	$^{13}C_{12}$-PCB-153		13:12	40	1	222.935	224.932	0.78	20
$^{13}C_9$-Heptachlor-Epoxide	$^{13}C_{12}$-PCB-153		18:30	30	2	364.875	362.878	0.8	20
$^{13}C_9$-alpha-endosulphan	$^{13}C_{12}$-PCB-153		20:58	30	2	271.877	269.88	0.64	20
$^{13}C_{12}$-Dieldrin	$^{13}C_{12}$-PCB-153		22:58	30	2	271.877	269.88	0.64	20
$^{13}C_{12}$-Endrin	$^{13}C_{12}$-PCB-153		24:20	30	2	271.877	269.88	0.64	20
$^{13}C_9$-beta-Endosulphan	$^{13}C_{12}$-PCB-153		24:55	30	2	271.877	269.88	0.64	20
$^{13}C_{12}$-Methoxychlor	$^{13}C_{12}$-PCB-153		29:45	30	3	239.148	240.151	Note 1	20
Recovery Standard									
$^{13}C_{12}$-PCB-153			26:16	100	2	299.947	301.944	0.78	20
Lock Mass					1	218.986			
Lock Mass					2	292.982			
Lock Mass					2	292.982			
Lock Mass					2	292.982			
Lock Mass					2	292.982			
Lock Mass					2	292.982			
Lock Mass					3	292.982			
Lock Mass					2	292.982			
Summary Pest					2	262.857			

Appendix A3

PCB, PAH and Pesticide Data from AXYS Analytical Services

A3.1
Soil and Sediment

AXYS METHOD MLA-013 Rev 06

Form 1A
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN040
Sample Collection:
08-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-40
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.09 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 18:12:25	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_070E S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_069E S: 6
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	PB7C_070E S: 1
		% Moisture:	73.5

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			5910	6.60	0.78	1.000
3,4,4',5-TeCB	81			83.6	6.77	0.79	1.001
2,3,3',4,4'-PeCB	105			10200	3.63	1.56	1.000
2,3,4,4',5-PeCB	114			437	3.55	1.55	1.000
2,3',4,4',5-PeCB	118			40600	3.52	1.56	1.000
2',3,4,4',5-PeCB	123			558	3.88	1.55	1.001
3,3',4,4',5-PeCB	126			154	4.22	1.56	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	4900	6.43	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			1950	4.15	1.27	1.000
3,3',4,4',5,5'-HxCB	169		ND		16.7		
2,2',3,3',4,4',5-HpCB	170			7370	0.906	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	17800	0.913	1.06	1.001
2,3,3',4,4',5,5'-HpCB	189			344	1.91	1.04	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_L9585-40_Form1A_SJ637637.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN040
Sample Collection:
08-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-40
Matrix:	SOLID	**Sample Size:**	5.09 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 18:12:25	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_070E S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_070E S: 1
Concentration Units:	pg absolute	**% Moisture:**	73.5

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			10000	4900	49.0	0.77	1.395
13C12-3,4,4',5-TeCB	81L			10000	4940	49.4	0.77	1.371
13C12-2,3,3',4,4'-PeCB	105L			10000	4810	48.1	1.57	1.194
13C12-2,3,4,4',5-PeCB	114L			10000	4630	46.3	1.58	1.173
13C12-2,3',4,4',5-PeCB	118L			10000	4740	47.4	1.54	1.155
13C12-2',3,4,4',5-PeCB	123L			10000	4550	45.5	1.57	1.145
13C12-3,3',4,4',5-PeCB	126L			10000	4460	44.6	1.57	1.294
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	20000	9270	46.3	1.28	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			10000	4790	47.9	1.29	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			10000	4860	48.6	1.28	1.190
13C12-2,2',3,3',4,4',5-HpCB	170L			10000	4760	47.6	1.07	1.175
13C12-2,2',3,4,4',5,5'-HpCB	180L			10000	3920	39.2	1.09	1.142
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	4760	47.6	1.08	1.255
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			10000	4200	42.0	1.61	1.082
13C12-2,2',3,3',5,5',6-HpCB	178L			10000	4010	40.1	1.08	1.011

(1) Suffix "**L**" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33; Report Filename: 1668_PCB1668_PCBTOX_L9585-40_Form2_SJ637637.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VN040

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	08-Dec-2006 16:10
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.09 g (dry)	**Lab Sample I.D.:**	L9585-40
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_070E S: 6**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			5910	6.60	0.0001	5.91e-01	5.91e-01	
3,4,4',5-TeCB	81			83.6	6.77	0.0001	8.36e-03	8.36e-03	
2,3,3',4,4'-PeCB	105			10200	3.63	0.0001	1.02e+00	1.02e+00	
2,3,4,4',5-PeCB	114			437	3.55	0.0005	2.19e-01	2.19e-01	
2,3',4,4',5-PeCB	118			40600	3.52	0.0001	4.06e+00	4.06e+00	
2',3,4,4',5-PeCB	123			558	3.88	0.0001	5.58e-02	5.58e-02	
3,3',4,4',5-PeCB	126			154	4.22	0.1	1.54e+01	1.54e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	4900	6.43	0.0005	2.45e+00	2.45e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1950	4.15	0.00001	1.95e-02	1.95e-02	
3,3',4,4',5,5'-HxCB	169		ND		16.7	0.01	0.00e+00	8.35e-02	
2,3,3',4,4',5,5'-HpCB	189			344	1.91	0.0001	3.44e-02	3.44e-02	
					TOTAL TEQ		23.9	23.9	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			5910	6.60	0.0001	5.91e-01	5.91e-01	
3,4,4',5-TeCB	81			83.6	6.77	0.0003	2.51e-02	2.51e-02	
2,3,3',4,4'-PeCB	105			10200	3.63	0.00003	3.06e-01	3.06e-01	
2,3,4,4',5-PeCB	114			437	3.55	0.00003	1.31e-02	1.31e-02	
2,3',4,4',5-PeCB	118			40600	3.52	0.00003	1.22e+00	1.22e+00	
2',3,4,4',5-PeCB	123			558	3.88	0.00003	1.67e-02	1.67e-02	
3,3',4,4',5-PeCB	126			154	4.22	0.1	1.54e+01	1.54e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	4900	6.43	0.00003	1.47e-01	1.47e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1950	4.15	0.00003	5.85e-02	5.85e-02	
3,3',4,4',5,5'-HxCB	169		ND		16.7	0.03	0.00e+00	2.51e-01	
2,3,3',4,4',5,5'-HpCB	189			344	1.91	0.00003	1.03e-02	1.03e-02	
					TOTAL TEQ		17.8	18.0	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 09-Mar-2007 08:06:35; Application: XMLTransformer-1.7.33; Report Filename: 1668_PCB1668_HomTotals-TEQs_L9585-40_TEQ_SJ637637.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-1
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-115
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	3.55 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Mar-2007 **Time:** 00:16:27	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_119 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_119 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	PB7C_119 S: 1
		% Moisture:	67.4

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			1080	1.84	0.78	1.001
3,4,4',5-TeCB	81			8.03	1.74	0.84	1.001
2,3,3',4,4'-PeCB	105			1670	3.15	1.55	1.000
2,3,4,4',5-PeCB	114			57.7	2.70	1.73	1.001
2,3',4,4',5-PeCB	118			9050	2.75	1.57	1.000
2',3,4,4',5-PeCB	123			94.4	2.79	1.53	1.001
3,3',4,4',5-PeCB	126			45.9	3.24	1.58	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	800	3.22	1.24	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			351	2.17	1.31	1.000
3,3',4,4',5,5'-HxCB	169		ND		10.0		
2,2',3,3',4,4',5-HpCB	170			1320	1.42	1.04	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	3000	1.12	1.04	1.000
2,3,3',4,4',5,5'-HpCB	189			56.9	2.77	1.02	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 22-Mar-2007 10:13:00; Application: XMLTransformer-1.7.35; Report Filename: 1668_PCB1668_PCBTOX_L9585-115_Form1A_SJ652687.html; Workgroup: WG21407; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-1
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-115
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	3.55 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Mar-2007 **Time:** 00:16:27	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_119 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_119 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	PB7C_119 S: 1
		% Moisture:	67.4

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1940	97.0	0.76	1.399
13C12-3,4,4',5-TeCB	81L			2000	2020	101	0.77	1.376
13C12-2,3,3',4,4'-PeCB	105L			2000	2010	100	1.60	1.194
13C12-2,3,4,4',5-PeCB	114L			2000	2270	113	1.56	1.173
13C12-2,3',4,4',5-PeCB	118L			2000	2290	114	1.54	1.156
13C12-2',3,4,4',5-PeCB	123L			2000	2270	113	1.54	1.145
13C12-3,3',4,4',5-PeCB	126L			2000	2130	107	1.55	1.294
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2990	74.8	1.26	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1540	77.2	1.27	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1240	62.2	1.25	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1380	68.9	1.05	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1420	70.8	1.04	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1290	64.7	1.07	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	2080	104	1.59	1.083
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1540	76.9	1.08	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 22-Mar-2007 10:13:00; Application: XMLTransformer-1.7.35; Report Filename: 1668_PCB1668_PCBTOX_L9585-115_Form2_SJ652687.html; Workgroup: WG21407; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VN062-1

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 11:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	3.55 g (dry)	**Lab Sample I.D.:**	L9585-115
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_119 S: 5**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			1080	1.84	0.0001	1.08e-01	1.08e-01	
3,4,4',5-TeCB	81			8.03	1.74	0.0001	8.03e-04	8.03e-04	
2,3,3',4,4'-PeCB	105			1670	3.15	0.0001	1.67e-01	1.67e-01	
2,3,4,4',5-PeCB	114			57.7	2.70	0.0005	2.89e-02	2.89e-02	
2,3',4,4',5-PeCB	118			9050	2.75	0.0001	9.05e-01	9.05e-01	
2',3,4,4',5-PeCB	123			94.4	2.79	0.0001	9.44e-03	9.44e-03	
3,3',4,4',5-PeCB	126			45.9	3.24	0.1	4.59e+00	4.59e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	800	3.22	0.0005	4.00e-01	4.00e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			351	2.17	0.00001	3.51e-03	3.51e-03	
3,3',4,4',5,5'-HxCB	169		ND		10.0	0.01	0.00e+00	5.00e-02	
2,3,3',4,4',5,5'-HpCB	189			56.9	2.77	0.0001	5.69e-03	5.69e-03	
					TOTAL TEQ		6.22	6.27	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			1080	1.84	0.0001	1.08e-01	1.08e-01	
3,4,4',5-TeCB	81			8.03	1.74	0.0003	2.41e-03	2.41e-03	
2,3,3',4,4'-PeCB	105			1670	3.15	0.00003	5.01e-02	5.01e-02	
2,3,4,4',5-PeCB	114			57.7	2.70	0.00003	1.73e-03	1.73e-03	
2,3',4,4',5-PeCB	118			9050	2.75	0.00003	2.72e-01	2.72e-01	
2',3,4,4',5-PeCB	123			94.4	2.79	0.00003	2.83e-03	2.83e-03	
3,3',4,4',5-PeCB	126			45.9	3.24	0.1	4.59e+00	4.59e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	800	3.22	0.00003	2.40e-02	2.40e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			351	2.17	0.00003	1.05e-02	1.05e-02	
3,3',4,4',5,5'-HxCB	169		ND		10.0	0.03	0.00e+00	1.50e-01	
2,3,3',4,4',5,5'-HpCB	189			56.9	2.77	0.00003	1.71e-03	1.71e-03	
					TOTAL TEQ		5.06	5.21	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 22-Mar-2007 10:13:47; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9585-115_TEQ_SJ652687.html; Workgroup: WG21407; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-2
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-116
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.42 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Mar-2007 **Time:** 01:20:54	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_119 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_119 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	PB7C_119 S: 1
		% Moisture:	61.3

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			221	0.415	0.77	1.001
3,4,4',5-TeCB	81			2.65	0.387	0.73	1.000
2,3,3',4,4'-PeCB	105			350	1.07	1.52	1.000
2,3,4,4',5-PeCB	114			11.0	0.802	1.36	1.001
2,3',4,4',5-PeCB	118			1780	0.808	1.56	1.000
2',3,4,4',5-PeCB	123			19.1	0.841	1.49	1.001
3,3',4,4',5-PeCB	126		NDR	9.81	0.969	1.55	1.001
2,3,3',4,4',5-HxCB	156	156 + 157	C	148	1.97	1.29	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			67.3	1.31	1.30	1.000
3,3',4,4',5,5'-HxCB	169		ND		2.20		
2,2',3,3',4,4',5-HpCB	170			270	0.964	1.06	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	616	0.758	1.04	1.000
2,3,3',4,4',5,5'-HpCB	189			11.1	2.27	0.96	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 22-Mar-2007 10:13:00; Application: XMLTransformer-1.7.35; Report Filename: 1668_PCB1668_PCBTOX_L9585-116_Form1A_SJ652688.html; Workgroup: WG21407; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-2
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-116
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.42 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Mar-2007 Time: 01:20:54	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_119 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_119 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	PB7C_119 S: 1
		% Moisture:	61.3

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1800	90.2	0.78	1.397
13C12-3,4,4',5-TeCB	81L			2000	1910	95.7	0.77	1.373
13C12-2,3,3',4,4'-PeCB	105L			2000	1660	83.0	1.53	1.195
13C12-2,3,4,4',5-PeCB	114L			2000	1970	98.7	1.57	1.173
13C12-2,3',4,4',5-PeCB	118L			2000	1980	99.2	1.55	1.156
13C12-2',3,4,4',5-PeCB	123L			2000	2030	101	1.58	1.145
13C12-3,3',4,4',5-PeCB	126L			2000	1870	93.3	1.59	1.294
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	3070	76.9	1.30	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1600	80.0	1.26	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1300	65.0	1.25	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1390	69.5	1.04	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1430	71.4	1.07	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1350	67.3	1.04	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1720	86.2	1.56	1.082
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1580	79.2	1.03	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 22-Mar-2007 10:13:00; Application: XMLTransformer-1.7.35; Report Filename: 1668_PCB1668_PCBTOX_L9585-116_Form2_SJ652688.html; Workgroup: WG21407; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VN062-2

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 11:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.42 g (dry)	**Lab Sample I.D.:**	L9585-116
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_119 S: 6**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			221	0.415	0.0001	2.21e-02	2.21e-02	
3,4,4',5-TeCB	81			2.65	0.387	0.0001	2.65e-04	2.65e-04	
2,3,3',4,4'-PeCB	105			350	1.07	0.0001	3.50e-02	3.50e-02	
2,3,4,4',5-PeCB	114			11.0	0.802	0.0005	5.50e-03	5.50e-03	
2,3',4,4',5-PeCB	118			1780	0.808	0.0001	1.78e-01	1.78e-01	
2',3,4,4',5-PeCB	123			19.1	0.841	0.0001	1.91e-03	1.91e-03	
3,3',4,4',5-PeCB	126		ND		0.969	0.1	0.00e+00	4.85e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	148	1.97	0.0005	7.40e-02	7.40e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			67.3	1.31	0.00001	6.73e-04	6.73e-04	
3,3',4,4',5,5'-HxCB	169		ND		2.20	0.01	0.00e+00	1.10e-02	
2,3,3',4,4',5,5'-HpCB	189			11.1	2.27	0.0001	1.11e-03	1.11e-03	
					TOTAL TEQ		0.319	0.378	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			221	0.415	0.0001	2.21e-02	2.21e-02	
3,4,4',5-TeCB	81			2.65	0.387	0.0003	7.95e-04	7.95e-04	
2,3,3',4,4'-PeCB	105			350	1.07	0.00003	1.05e-02	1.05e-02	
2,3,4,4',5-PeCB	114			11.0	0.802	0.00003	3.30e-04	3.30e-04	
2,3',4,4',5-PeCB	118			1780	0.808	0.00003	5.34e-02	5.34e-02	
2',3,4,4',5-PeCB	123			19.1	0.841	0.00003	5.73e-04	5.73e-04	
3,3',4,4',5-PeCB	126		ND		0.969	0.1	0.00e+00	4.85e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	148	1.97	0.00003	4.44e-03	4.44e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			67.3	1.31	0.00003	2.02e-03	2.02e-03	
3,3',4,4',5,5'-HxCB	169		ND		2.20	0.03	0.00e+00	3.30e-02	
2,3,3',4,4',5,5'-HpCB	189			11.1	2.27	0.00003	3.33e-04	3.33e-04	
					TOTAL TEQ		0.0945	0.176	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 22-Mar-2007 10:13:47; Application: XMLTransformer-1.7.35; Report Filename: 1668_PCB1668_HomTotals-TEQs_L9585-116_TEQ_SJ652688.html; Workgroup: WG21407; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-3
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-117
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.01 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Mar-2007 **Time:** 02:25:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_119 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_119 S: 4
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	PB7C_119 S: 1
		% Moisture:	45.2

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			11.5	0.181	0.84	1.000
3,4,4',5-TeCB	81		ND		0.382		
2,3,3',4,4'-PeCB	105			33.1	0.545	1.50	1.001
2,3,4,4',5-PeCB	114			0.865	0.422	1.56	1.000
2,3',4,4',5-PeCB	118			138	0.430	1.58	1.000
2',3,4,4',5-PeCB	123		NDR	1.83	0.429	1.04	1.001
3,3',4,4',5-PeCB	126		ND		0.752		
2,3,3',4,4',5-HxCB	156	156 + 157	C	12.7	1.91	1.16	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			5.59	1.21	1.22	1.000
3,3',4,4',5,5'-HxCB	169		ND		1.82		
2,2',3,3',4,4',5-HpCB	170			20.9	0.909	1.11	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	45.4	0.737	1.18	1.000
2,3,3',4,4',5,5'-HpCB	189		ND		2.34		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 22-Mar-2007 10:13:00; Application: XMLTransformer-1.7.35; Report Filename: 1668_PCB1668_PCBTOX_L9585-117_Form1A_SJ652689.html; Workgroup: WG21407; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN062-3
Sample Collection:
09-Dec-2006 11:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-117
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.01 g (dry)
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Mar-2007 **Time:** 02:25:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	PB7C_119 S: 7
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_119 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	PB7C_119 S: 1
		% Moisture:	45.2

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1650	82.6	0.76	1.396
13C12-3,4,4',5-TeCB	81L			2000	1730	86.3	0.76	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1350	67.5	1.60	1.200
13C12-2,3,4,4',5-PeCB	114L			2000	1580	78.8	1.57	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1620	81.0	1.58	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1630	81.3	1.61	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1450	72.5	1.59	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2590	64.7	1.27	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1380	69.2	1.24	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1010	50.3	1.34	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1190	59.3	1.03	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1210	60.5	1.00	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1140	57.0	1.06	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1460	73.2	1.59	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1430	71.7	1.07	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 22-Mar-2007 10:13:00; Application: XMLTransformer-1.7.35; Report Filename: 1668_PCB1668_PCBTOX_L9585-117_Form2_SJ652689.html; Workgroup: WG21407; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VN062-3

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	09-Dec-2006 11:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.01 g (dry)	**Lab Sample I.D.:**	L9585-117
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_119 S:** 7

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			11.5	0.181	0.0001	1.15e-03	1.15e-03	
3,4,4',5-TeCB	81		ND		0.382	0.0001	0.00e+00	1.91e-05	
2,3,3',4,4'-PeCB	105			33.1	0.545	0.0001	3.31e-03	3.31e-03	
2,3,4,4',5-PeCB	114			0.865	0.422	0.0005	4.33e-04	4.33e-04	
2,3',4,4',5-PeCB	118			138	0.430	0.0001	1.38e-02	1.38e-02	
2',3,4,4',5-PeCB	123		ND		0.429	0.0001	0.00e+00	2.15e-05	
3,3',4,4',5-PeCB	126		ND		0.752	0.1	0.00e+00	3.76e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	12.7	1.91	0.0005	6.35e-03	6.35e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			5.59	1.21	0.00001	5.59e-05	5.59e-05	
3,3',4,4',5,5'-HxCB	169		ND		1.82	0.01	0.00e+00	9.10e-03	
2,3,3',4,4',5,5'-HpCB	189		ND		2.34	0.0001	0.00e+00	1.17e-04	
					TOTAL TEQ		0.0251	0.0720	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			11.5	0.181	0.0001	1.15e-03	1.15e-03	
3,4,4',5-TeCB	81		ND		0.382	0.0003	0.00e+00	5.73e-05	
2,3,3',4,4'-PeCB	105			33.1	0.545	0.00003	9.93e-04	9.93e-04	
2,3,4,4',5-PeCB	114			0.865	0.422	0.00003	2.60e-05	2.60e-05	
2,3',4,4',5-PeCB	118			138	0.430	0.00003	4.14e-03	4.14e-03	
2',3,4,4',5-PeCB	123		ND		0.429	0.00003	0.00e+00	6.44e-06	
3,3',4,4',5-PeCB	126		ND		0.752	0.1	0.00e+00	3.76e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	12.7	1.91	0.00003	3.81e-04	3.81e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			5.59	1.21	0.00003	1.68e-04	1.68e-04	
3,3',4,4',5,5'-HxCB	169		ND		1.82	0.03	0.00e+00	2.73e-02	
2,3,3',4,4',5,5'-HpCB	189		ND		2.34	0.00003	0.00e+00	3.51e-05	
					TOTAL TEQ		0.00686	0.0719	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 22-Mar-2007 10:13:47; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9585-117_TEQ_SJ652689.html; Workgroup: WG21407; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN063
Sample Collection:
10-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-60 i
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.99 (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	22-Feb-2007 **Time:** 00:13:13	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_080B S: 3**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_069E S: 6
Concentration Units:	pg (dry weight basis)	**Cal. Ver. Data Filename:**	PB7C_080B S: 1
		% Moisture:	17.3

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			221	1.07	0.82	1.000
3,4,4',5-TeCB	81			3.12	1.09	0.66	1.001
2,3,3',4,4'-PeCB	105			185	1.84	1.54	1.000
2,3,4,4',5-PeCB	114			2.37	1.82	1.34	1.000
2,3',4,4',5-PeCB	118			312	1.81	1.62	1.000
2',3,4,4',5-PeCB	123			13.3	1.87	1.68	1.000
3,3',4,4',5-PeCB	126			6.80	2.02	1.40	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	46.9	1.05	1.19	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			18.3	0.679	1.11	1.000
3,3',4,4',5,5'-HxCB	169		ND		1.46		
2,2',3,3',4,4',5-HpCB	170			113	0.371	0.99	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	240	0.299	1.02	1.000
2,3,3',4,4',5,5'-HpCB	189			4.35	0.378	0.99	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_L9585-60_Form1A_SJ640075.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN063
Sample Collection:
10-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-60 i
Matrix:	SOLID	**Sample Size:**	4.99 (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Feb-2007 **Time:** 00:13:13	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_080B S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_080B S: 1
Concentration Units:	pg absolute	**% Moisture:**	17.3

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			10000	5570	55.7	0.73	1.395
13C12-3,4,4',5-TeCB	81L			10000	5380	53.8	0.72	1.372
13C12-2,3,3',4,4'-PeCB	105L			10000	5630	56.3	1.57	1.201
13C12-2,3,4,4',5-PeCB	114L			10000	5370	53.7	1.60	1.180
13C12-2,3',4,4',5-PeCB	118L			10000	5490	54.9	1.58	1.162
13C12-2',3,4,4',5-PeCB	123L			10000	5430	54.3	1.58	1.151
13C12-3,3',4,4',5-PeCB	126L			10000	5400	54.0	1.59	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	20000	9810	49.1	1.29	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			10000	5100	51.0	1.27	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			10000	4470	44.7	1.26	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			10000	4820	48.2	1.06	1.175
13C12-2,2',3,4,4',5,5'-HpCB	180L			10000	4890	48.9	1.05	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	5490	54.9	1.02	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			10000	4980	49.8	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			10000	5150	51.5	1.04	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_L9585-60_Form2_SJ640075.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VN063

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	10-Dec-2006 15:20
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	4.99 (dry)	**Lab Sample I.D.:**	L9585-60 i
Concentration Units:	pg (dry weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	PB7C_080B S: 3

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			221	1.07	0.0001	2.21e-02	2.21e-02	
3,4,4',5-TeCB	81			3.12	1.09	0.0001	3.12e-04	3.12e-04	
2,3,3',4,4'-PeCB	105			185	1.84	0.0001	1.85e-02	1.85e-02	
2,3,4,4',5-PeCB	114			2.37	1.82	0.0005	1.19e-03	1.19e-03	
2,3',4,4',5-PeCB	118			312	1.81	0.0001	3.12e-02	3.12e-02	
2',3,4,4',5-PeCB	123			13.3	1.87	0.0001	1.33e-03	1.33e-03	
3,3',4,4',5-PeCB	126			6.80	2.02	0.1	6.80e-01	6.80e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	46.9	1.05	0.0005	2.35e-02	2.35e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			18.3	0.679	0.00001	1.83e-04	1.83e-04	
3,3',4,4',5,5'-HxCB	169		ND		1.46	0.01	0.00e+00	7.30e-03	
2,3,3',4,4',5,5'-HpCB	189			4.35	0.378	0.0001	4.35e-04	4.35e-04	
					TOTAL TEQ		0.779	0.786	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			221	1.07	0.0001	2.21e-02	2.21e-02	
3,4,4',5-TeCB	81			3.12	1.09	0.0003	9.36e-04	9.36e-04	
2,3,3',4,4'-PeCB	105			185	1.84	0.00003	5.55e-03	5.55e-03	
2,3,4,4',5-PeCB	114			2.37	1.82	0.00003	7.11e-05	7.11e-05	
2,3',4,4',5-PeCB	118			312	1.81	0.00003	9.36e-03	9.36e-03	
2',3,4,4',5-PeCB	123			13.3	1.87	0.00003	3.99e-04	3.99e-04	
3,3',4,4',5-PeCB	126			6.80	2.02	0.1	6.80e-01	6.80e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	46.9	1.05	0.00003	1.41e-03	1.41e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			18.3	0.679	0.00003	5.49e-04	5.49e-04	
3,3',4,4',5,5'-HxCB	169		ND		1.46	0.03	0.00e+00	2.19e-02	
2,3,3',4,4',5,5'-HpCB	189			4.35	0.378	0.00003	1.31e-04	1.31e-04	
					TOTAL TEQ		0.721	0.742	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 09-Mar-2007 08:06:35; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9585-60_TEQ_SJ640075.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-72
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.19 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 20:21:24	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_070E S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_069E S: 6
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	PB7C_070E S: 1
		% Moisture:	5.90

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			15.0	1.01	0.82	1.001
3,4,4',5-TeCB	81		ND		0.998		
2,3,3',4,4'-PeCB	105			64.2	1.12	1.56	1.000
2,3,4,4',5-PeCB	114			3.77	1.11	1.48	1.000
2,3',4,4',5-PeCB	118			137	1.23	1.55	1.000
2',3,4,4',5-PeCB	123			1.86	1.31	1.47	1.001
3,3',4,4',5-PeCB	126			1.85	1.26	1.33	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	24.2	1.20	1.37	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			9.74	0.770	1.29	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.721		
2,2',3,3',4,4',5-HpCB	170			80.3	0.499	1.06	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	183	0.590	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			4.53	0.768	1.06	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_L9585-72_Form1A_SJ637639.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-72
Matrix:	SOLID	**Sample Size:**	5.19 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 20:21:24	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_070E S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_070E S: 1
Concentration Units:	pg absolute	**% Moisture:**	5.90

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			10000	5360	53.6	0.77	1.395
13C12-3,4,4',5-TeCB	81L			10000	5500	55.0	0.77	1.372
13C12-2,3,3',4,4'-PeCB	105L			10000	6830	68.3	1.53	1.200
13C12-2,3,4,4',5-PeCB	114L			10000	6490	64.9	1.57	1.179
13C12-2,3',4,4',5-PeCB	118L			10000	6120	61.2	1.54	1.161
13C12-2',3,4,4',5-PeCB	123L			10000	6030	60.3	1.56	1.150
13C12-3,3',4,4',5-PeCB	126L			10000	6470	64.7	1.58	1.300
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	20000	11500	57.6	1.31	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			10000	6050	60.5	1.29	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			10000	6560	65.6	1.27	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			10000	7230	72.3	1.07	1.175
13C12-2,2',3,4,4',5,5'-HpCB	180L			10000	5030	50.3	1.08	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	6410	64.1	1.05	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			10000	5490	54.9	1.60	1.086
13C12-2,2',3,3',5,5',6-HpCB	178L			10000	4980	49.8	1.08	1.011

(1) Suffix "**L**" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_L9585-72_Form2_SJ637639.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VN075

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 08:20
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	5.19 g (dry)	**Lab Sample I.D.:**	L9585-72
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_070E S: 8**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			15.0	1.01	0.0001	1.50e-03	1.50e-03	
3,4,4',5-TeCB	81		ND		0.998	0.0001	0.00e+00	4.99e-05	
2,3,3',4,4'-PeCB	105			64.2	1.12	0.0001	6.42e-03	6.42e-03	
2,3,4,4',5-PeCB	114			3.77	1.11	0.0005	1.89e-03	1.89e-03	
2,3',4,4',5-PeCB	118			137	1.23	0.0001	1.37e-02	1.37e-02	
2',3,4,4',5-PeCB	123			1.86	1.31	0.0001	1.86e-04	1.86e-04	
3,3',4,4',5-PeCB	126			1.85	1.26	0.1	1.85e-01	1.85e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	24.2	1.20	0.0005	1.21e-02	1.21e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			9.74	0.770	0.00001	9.74e-05	9.74e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.721	0.01	0.00e+00	3.61e-03	
2,3,3',4,4',5,5'-HpCB	189			4.53	0.768	0.0001	4.53e-04	4.53e-04	
					TOTAL TEQ		0.221	0.225	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			15.0	1.01	0.0001	1.50e-03	1.50e-03	
3,4,4',5-TeCB	81		ND		0.998	0.0003	0.00e+00	1.50e-04	
2,3,3',4,4'-PeCB	105			64.2	1.12	0.00003	1.93e-03	1.93e-03	
2,3,4,4',5-PeCB	114			3.77	1.11	0.00003	1.13e-04	1.13e-04	
2,3',4,4',5-PeCB	118			137	1.23	0.00003	4.11e-03	4.11e-03	
2',3,4,4',5-PeCB	123			1.86	1.31	0.00003	5.58e-05	5.58e-05	
3,3',4,4',5-PeCB	126			1.85	1.26	0.1	1.85e-01	1.85e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	24.2	1.20	0.00003	7.26e-04	7.26e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			9.74	0.770	0.00003	2.92e-04	2.92e-04	
3,3',4,4',5,5'-HxCB	169		ND		0.721	0.03	0.00e+00	1.08e-02	
2,3,3',4,4',5,5'-HpCB	189			4.53	0.768	0.00003	1.36e-04	1.36e-04	
					TOTAL TEQ		0.194	0.205	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 09-Mar-2007 08:06:35; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9585-72_TEQ_SJ637639.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN099
Sample Collection:
14-Dec-2006 11:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-91
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 16:03:40	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_070E S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_070E S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	39.7

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			95.1	0.825	0.79	1.001
3,4,4',5-TeCB	81			3.48	0.803	0.78	1.001
2,3,3',4,4'-PeCB	105			447	1.21	1.56	1.000
2,3,4,4',5-PeCB	114			18.2	1.19	1.47	1.001
2,3',4,4',5-PeCB	118			911	1.22	1.55	1.001
2',3,4,4',5-PeCB	123			22.9	1.25	1.52	1.000
3,3',4,4',5-PeCB	126			13.3	1.26	1.51	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	317	3.97	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			127	2.67	1.27	1.001
3,3',4,4',5,5'-HxCB	169		ND		20.9		
2,2',3,3',4,4',5-HpCB	170			2100	0.431	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			54.5	1.97	1.04	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_L9585-91_Form1A_SJ637635.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN099
Sample Collection:
14-Dec-2006 11:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-91
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 16:03:40	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_070E S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_070E S: 1
Concentration Units:	pg absolute	**% Moisture:**	39.7

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1630	81.7	0.77	1.395
13C12-3,4,4',5-TeCB	81L			2000	1670	83.7	0.78	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1530	76.7	1.56	1.193
13C12-2,3,4,4',5-PeCB	114L			2000	1470	73.6	1.55	1.172
13C12-2,3',4,4',5-PeCB	118L			2000	1480	74.0	1.56	1.155
13C12-2',3,4,4',5-PeCB	123L			2000	1500	74.8	1.56	1.145
13C12-3,3',4,4',5-PeCB	126L			2000	1560	78.0	1.56	1.292
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	3000	74.9	1.29	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1520	76.1	1.29	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1450	72.6	1.29	1.190
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1370	68.4	1.08	1.175
13C12-2,2',3,4,4',5,5'-HpCB	180L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1570	78.6	1.07	1.255
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1410	70.5	1.61	1.082
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1440	71.8	1.08	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_L9585-91_Form2_SJ637635.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A
PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN099
Sample Collection:
14-Dec-2006 11:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9585-91 W
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Feb-2007 **Time:** 01:17:39	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB7C_080B S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	5	**Cal. Ver. Data Filename:**	NEED
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	39.7

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	6620	1.16	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_L9585-91_Form1A_SJ640076.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN099
Sample Collection:
14-Dec-2006 11:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-91 W
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	22-Feb-2007 **Time:** 01:17:39	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB7C_080B S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	5	**Cal. Ver. Data Filename:**	NEED
Concentration Units:	pg absolute	**% Moisture:**	39.7

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,3',4,4',5-HpCB	170L		X					
13C12-2,2',3,4,4',5,5'-HpCB	180L		D	2000	1590	79.7	1.09	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L		X					
13C12-2,2',3,3',5,5',6-HpCB	178L		X					

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_L9585-91_Form2_SJ640076.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VN099

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	14-Dec-2006 11:40
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.4 g (dry)	**Lab Sample I.D.:**	L9585-91
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_070E S: 4** **PB7C_080B S: 4**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			95.1	0.825	0.0001	9.51e-03	9.51e-03	
3,4,4',5-TeCB	81			3.48	0.803	0.0001	3.48e-04	3.48e-04	
2,3,3',4,4'-PeCB	105			447	1.21	0.0001	4.47e-02	4.47e-02	
2,3,4,4',5-PeCB	114			18.2	1.19	0.0005	9.10e-03	9.10e-03	
2,3',4,4',5-PeCB	118			911	1.22	0.0001	9.11e-02	9.11e-02	
2',3,4,4',5-PeCB	123			22.9	1.25	0.0001	2.29e-03	2.29e-03	
3,3',4,4',5-PeCB	126			13.3	1.26	0.1	1.33e+00	1.33e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	317	3.97	0.0005	1.59e-01	1.59e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			127	2.67	0.00001	1.27e-03	1.27e-03	
3,3',4,4',5,5'-HxCB	169		ND		20.9	0.01	0.00e+00	1.05e-01	
2,3,3',4,4',5,5'-HpCB	189			54.5	1.97	0.0001	5.45e-03	5.45e-03	
					TOTAL TEQ		1.65	1.76	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			95.1	0.825	0.0001	9.51e-03	9.51e-03	
3,4,4',5-TeCB	81			3.48	0.803	0.0003	1.04e-03	1.04e-03	
2,3,3',4,4'-PeCB	105			447	1.21	0.00003	1.34e-02	1.34e-02	
2,3,4,4',5-PeCB	114			18.2	1.19	0.00003	5.46e-04	5.46e-04	
2,3',4,4',5-PeCB	118			911	1.22	0.00003	2.73e-02	2.73e-02	
2',3,4,4',5-PeCB	123			22.9	1.25	0.00003	6.87e-04	6.87e-04	
3,3',4,4',5-PeCB	126			13.3	1.26	0.1	1.33e+00	1.33e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	317	3.97	0.00003	9.51e-03	9.51e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			127	2.67	0.00003	3.81e-03	3.81e-03	
3,3',4,4',5,5'-HxCB	169		ND		20.9	0.03	0.00e+00	3.14e-01	
2,3,3',4,4',5,5'-HpCB	189			54.5	1.97	0.00003	1.64e-03	1.64e-03	
					TOTAL TEQ		1.40	1.71	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 09-Mar-2007 08:06:35; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9585-91_TEQ_SJ637635.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN102
Sample Collection:
14-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-94
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.1 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 17:08:05	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_070E S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_069E S: 6
Concentration Units:	pg/g (dry weight basis)	**Cal. Ver. Data Filename:**	PB7C_070E S: 1
		% Moisture:	16.4

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			13.2	0.766	0.79	1.000
3,4,4',5-TeCB	81			0.777	0.736	0.75	1.000
2,3,3',4,4'-PeCB	105			80.5	0.577	1.57	1.000
2,3,4,4',5-PeCB	114			3.84	0.582	1.40	1.001
2,3',4,4',5-PeCB	118			284	0.578	1.56	1.000
2',3,4,4',5-PeCB	123			7.10	0.580	1.56	1.001
3,3',4,4',5-PeCB	126			3.58	0.635	1.51	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	68.0	1.21	1.28	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			29.9	0.873	1.27	1.000
3,3',4,4',5,5'-HxCB	169		ND		2.07		
2,2',3,3',4,4',5-HpCB	170			119	0.295	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	244	0.239	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			5.55	0.407	0.97	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_L9585-94_Form1A_SJ637636.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN102
Sample Collection:
14-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-94
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 17:08:05	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_070E S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_070E S: 1
Concentration Units:	pg absolute	**% Moisture:**	16.4

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1530	76.3	0.77	1.394
13C12-3,4,4',5-TeCB	81L			2000	1570	78.4	0.77	1.371
13C12-2,3,3',4,4'-PeCB	105L			2000	1780	89.1	1.56	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1710	85.4	1.58	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1780	88.9	1.56	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1770	88.4	1.56	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1740	87.1	1.55	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	3710	92.7	1.30	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1700	84.8	1.28	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1490	74.3	1.30	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1460	72.8	1.07	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1470	73.7	1.09	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1810	90.7	1.06	1.255
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1580	79.0	1.62	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1400	70.0	1.08	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_L9585-94_Form2_SJ637636.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VN102

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	14-Dec-2006 14:45
Matrix:	SOLID	**Project No.**	DANDI 1283
Sample Size:	10.1 g (dry)	**Lab Sample I.D.:**	L9585-94
Concentration Units:	pg/g (dry weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_070E S: 5**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			13.2	0.766	0.0001	1.32e-03	1.32e-03	
3,4,4',5-TeCB	81			0.777	0.736	0.0001	7.77e-05	7.77e-05	
2,3,3',4,4'-PeCB	105			80.5	0.577	0.0001	8.05e-03	8.05e-03	
2,3,4,4',5-PeCB	114			3.84	0.582	0.0005	1.92e-03	1.92e-03	
2,3',4,4',5-PeCB	118			284	0.578	0.0001	2.84e-02	2.84e-02	
2',3,4,4',5-PeCB	123			7.10	0.580	0.0001	7.10e-04	7.10e-04	
3,3',4,4',5-PeCB	126			3.58	0.635	0.1	3.58e-01	3.58e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	68.0	1.21	0.0005	3.40e-02	3.40e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			29.9	0.873	0.00001	2.99e-04	2.99e-04	
3,3',4,4',5,5'-HxCB	169		ND		2.07	0.01	0.00e+00	1.04e-02	
2,3,3',4,4',5,5'-HpCB	189			5.55	0.407	0.0001	5.55e-04	5.55e-04	
					TOTAL TEQ		0.433	0.444	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			13.2	0.766	0.0001	1.32e-03	1.32e-03	
3,4,4',5-TeCB	81			0.777	0.736	0.0003	2.33e-04	2.33e-04	
2,3,3',4,4'-PeCB	105			80.5	0.577	0.00003	2.42e-03	2.42e-03	
2,3,4,4',5-PeCB	114			3.84	0.582	0.00003	1.15e-04	1.15e-04	
2,3',4,4',5-PeCB	118			284	0.578	0.00003	8.52e-03	8.52e-03	
2',3,4,4',5-PeCB	123			7.10	0.580	0.00003	2.13e-04	2.13e-04	
3,3',4,4',5-PeCB	126			3.58	0.635	0.1	3.58e-01	3.58e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	68.0	1.21	0.00003	2.04e-03	2.04e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			29.9	0.873	0.00003	8.97e-04	8.97e-04	
3,3',4,4',5,5'-HxCB	169		ND		2.07	0.03	0.00e+00	3.11e-02	
2,3,3',4,4',5,5'-HpCB	189			5.55	0.407	0.00003	1.67e-04	1.67e-04	
					TOTAL TEQ		0.374	0.405	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 09-Mar-2007 08:06:35; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9585-94_TEQ_SJ637636.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-021 Rev 07

Form 1A

POLYAROMATIC HYDROCARBON ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN040
Sample Collection:
08-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-40
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	2.53 g (dry)
Extraction Date:	26-Jan-2007	**Initial Calibration Date:**	BRACKETING CAL
Analysis Date:	08-Feb-2007 **Time:** 16:29:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	500	**GC Column ID:**	RTX5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PH7A0561.D**
Dilution Factor:	N/A	**Blank Data Filename:**	PH7A0560.D
		Opening Cal. Data Filename:	PH7A0556.D
		Closing Cal. Data Filename:	PH7A0570.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	74.9

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Naphthalene	91-20-3		87.5	0.829	0.07	1.006
Acenaphthylene	208-96-8		6.43	0.370	0.26	1.003
Acenaphthene	83-32-9		21.0	0.854	1.24	1.047
Fluorene	86-73-7		24.9	1.11	0.99	0.843
Phenanthrene	85-01-8		97.8	2.00	0.19	1.003
Anthracene	120-12-7		20.1	2.18	0.18	1.012
Fluoranthene	206-44-0		149	2.97	0.21	1.002
Pyrene	129-00-0		192	2.99	0.21	1.032
Benz[a]anthracene	56-55-3		53.9	2.28	0.32	1.002
Chrysene [2]	218-01-9		132	2.61	0.32	1.002
Benzo[e]pyrene	192-97-2		105	5.70	0.23	0.996
Benzo[a]pyrene	50-32-8		65.6	6.12	0.22	1.004
Perylene	198-55-0		131	5.69	0.20	1.004
Dibenz[a,h]anthracene [3]	53-70-3		13.4	2.71	0.17	1.003
Indeno[1,2,3-c,d]-pyrene	193-39-5		66.5	3.37	0.21	1.002
Benzo[g,h,i]perylene	191-24-2		94.6	3.40	0.15	1.003
2-Methylnaphthalene	91-57-6		46.1	0.697	0.93	1.010
1-Methylnaphthalene	90-12-0		18.7	0.731	0.89	1.040
C1-Naphthalenes			64.9	0.731		
C2-Naphthalenes			174	0.876		
C3-Naphthalenes			123	1.36		
2,3,5-Trimethylnaphthalene	2245-38-7		29.3	1.34	0.94	1.229
C4-Naphthalenes			187	1.98		
C1-Fluorenes			86.0	3.36		
C2-Fluorenes			95.8	1.29		
C3-Fluorenes			211	6.27		
C4-Fluorenes			96.5	6.45		
Dibenzothiophene	132-65-0		17.1	2.03	0.09	0.983
C1-Dibenzothiophenes			91.8	1.60		
C2-Dibenzothiophenes			433	1.03		
C3-Dibenzothiophenes			585	8.65		
C1 Phenanthrenes/Anthracenes			114	3.83		
2,6-Dimethylphenanthrene		NDR	15.4	5.40	0.40	0.975
1,5/1,7-Dimethylphenanthrene			23.8	5.70	0.33	0.993
C2 Phenanthrenes/Anthracenes			182	5.40		
C3-Phenanthrenes/Anthracenes			232	3.58		
Retene	483-65-8		185	15.7	1.58	1.084
C4-Phenanthrenes/Anthracenes			469	15.7		

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
C1-Fluoranthenes/Pyrenes			178	2.70		
C2-Fluoranthenes/Pyrenes			145	1.69		
C3-Fluoranthenes/Pyrenes			50.4	4.70		
C4-Fluoranthenes/Pyrenes			6.14	2.35		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) May co-elute with Triphenylene.
(3) May co-elute with Dibenz[a,c]anthracene.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 07-Mar-2007 15:59:59; Application: XMLTransformer-1.7.32;
Report Filename: PAH_PAH_LO_LPAHF_L9585-40_Form1A_SJ640163.html; Workgroup: WG21189; Design ID: 529]

AXYS METHOD MLA-021 Rev 07

Form 2

POLYAROMATIC HYDROCARBON ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN040
Sample Collection:
08-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-40
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	2.53 g (dry)
Extraction Date:	26-Jan-2007	**Initial Calibration Date:**	BRACKETING CAL
Analysis Date:	08-Feb-2007 **Time:** 16:29:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	500	**GC Column ID:**	RTX5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PH7A0561.D**
Dilution Factor:	N/A	**Blank Data Filename:**	PH7A0560.D
		Opening Cal. Data Filename:	PH7A0556.D
		Closing Cal. Data Filename:	PH7A0570.D
Concentration Units:	ng absolute	**% Moisture:**	74.9

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Naphthalene d-8		2060	403	19.6	0.10	0.606
2-Methylnaphthalene d-10		2200	710	32.3	0.18	0.753
2,6-Dimethylnaphthalene d-12		1990	879	44.2	0.68	0.895
Acenaphthylene d-8		2100	903	43.0	0.16	0.961
Phenanthrene d-10		2310	1380	59.5	0.14	0.807
Fluoranthene d-10		2190	1430	65.1	0.16	0.970
Benzo[a]anthracene d-12		2310	1260	54.4	0.25	1.165
Chrysene d-12		2000	1050	52.3	0.27	1.170
Benzo[b]fluoranthene d-12		2270	1220	53.6	0.20	0.957
Benzo[k]fluoranthene d-12		2270	1050	46.1	0.19	0.961
Benzo[a]pyrene d-12		2220	1050	47.1	0.20	1.009
Perylene d-12		2320	1180	51.1	0.25	1.024
Dibenzo[a,h]anthracene d-14		2040	688	33.7	0.23	1.210
Indeno[1,2,3-cd]pyrene d-12		1870	830	44.4	0.18	1.206
Benzo[g,h,i]perylene d-12		2390	914	38.2	0.20	1.237

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 07-Mar-2007 15:59:59; Application: XMLTransformer-1.7.32;
Report Filename: PAH_PAH_LO_LPAHF_L9585-40_Form2_SJ640163.html; Workgroup: WG21189; Design ID: 529]

AXYS METHOD MLA-021 Rev 07

Form 1A

POLYAROMATIC HYDROCARBON ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN063
Sample Collection:
10-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-60
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	8.34 g (dry)
Extraction Date:	26-Jan-2007	**Initial Calibration Date:**	BRACKETING CAL
Analysis Date:	08-Feb-2007 **Time:** 17:18:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	500	**GC Column ID:**	RTX5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PH7A0562.D**
Dilution Factor:	N/A	**Blank Data Filename:**	PH7A0560.D
		Opening Cal. Data Filename:	PH7A0556.D
		Closing Cal. Data Filename:	PH7A0570.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	16.6

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Naphthalene	91-20-3		1.11	0.252	0.07	1.006
Acenaphthylene	208-96-8		0.096	0.046	0.21	1.003
Acenaphthene	83-32-9	NDR	0.176	0.154	4.04	1.045
Fluorene	86-73-7	ND		0.087		
Phenanthrene	85-01-8		0.500	0.057	0.23	1.003
Anthracene	120-12-7	ND		0.062		
Fluoranthene	206-44-0		0.420	0.043	0.20	1.002
Pyrene	129-00-0		0.463	0.043	0.24	1.032
Benz[a]anthracene	56-55-3		0.182	0.086	0.34	1.002
Chrysene [2]	218-01-9		0.655	0.097	0.29	1.003
Benzo[e]pyrene	192-97-2		0.456	0.120	0.19	0.995
Benzo[a]pyrene	50-32-8		0.244	0.128	0.25	1.004
Perylene	198-55-0	NDR	0.129	0.128	0.47	1.004
Dibenz[a,h]anthracene [3]	53-70-3	ND		0.185		
Indeno[1,2,3-c,d]-pyrene	193-39-5		0.479	0.159	0.24	1.002
Benzo[g,h,i]perylene	191-24-2		0.660	0.139	0.27	1.002
2-Methylnaphthalene	91-57-6		0.693	0.108	0.82	1.010
1-Methylnaphthalene	90-12-0		0.494	0.114	1.01	1.040
C1-Naphthalenes			1.19	0.114		
C2-Naphthalenes			3.41	0.385		
C3-Naphthalenes			1.52	0.061		
2,3,5-Trimethylnaphthalene	2245-38-7	NDR	0.193	0.060	1.15	1.227
C4-Naphthalenes			1.33	0.645		
C1-Fluorenes			0.882	0.591		
C2-Fluorenes			0.608	0.208		
C3-Fluorenes			1.52	0.117		
C4-Fluorenes			2.62	0.208		
Dibenzothiophene	132-65-0	NDR	0.090	0.069	0.31	0.983
C1-Dibenzothiophenes			0.119	0.050		
C2-Dibenzothiophenes			2.76	0.255		
C3-Dibenzothiophenes			4.53	0.180		
C1 Phenanthrenes/Anthracenes			0.745	0.070		
2,6-Dimethylphenanthrene		ND		0.208		
1,5/1,7-Dimethylphenanthrene		NDR	0.255	0.220	0.40	0.993
C2 Phenanthrenes/Anthracenes			1.56	0.208		
C3-Phenanthrenes/Anthracenes			2.35	0.189		
Retene	483-65-8	ND		0.440		
C4-Phenanthrenes/Anthracenes			5.00	0.440		

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
C1-Fluoranthenes/Pyrenes			0.710	0.144		
C2-Fluoranthenes/Pyrenes			0.792	0.088		
C3-Fluoranthenes/Pyrenes			0.947	0.138		
C4-Fluoranthenes/Pyrenes		ND		0.117		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) May co-elute with Triphenylene.
(3) May co-elute with Dibenz[a,c]anthracene.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-021 Rev 07

Form 2

POLYAROMATIC HYDROCARBON ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN063
Sample Collection:
10-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-60
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	8.34 g (dry)
Extraction Date:	26-Jan-2007	**Initial Calibration Date:**	BRACKETING CAL
Analysis Date:	08-Feb-2007 **Time:** 17:18:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	500	**GC Column ID:**	RTX5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PH7A0562.D**
Dilution Factor:	N/A	**Blank Data Filename:**	PH7A0560.D
		Opening Cal. Data Filename:	PH7A0556.D
		Closing Cal. Data Filename:	PH7A0570.D
Concentration Units:	ng absolute	**% Moisture:**	16.6

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Naphthalene d-8		2060	604	29.3	0.09	0.607
2-Methylnaphthalene d-10		2200	805	36.6	0.18	0.754
2,6-Dimethylnaphthalene d-12		1990	907	45.6	0.67	0.895
Acenaphthylene d-8		2100	1200	56.9	0.16	0.961
Phenanthrene d-10		2310	1690	73.2	0.14	0.807
Fluoranthene d-10		2190	1840	84.0	0.16	0.970
Benzo[a]anthracene d-12		2310	2030	87.8	0.23	1.165
Chrysene d-12		2000	1720	85.8	0.26	1.170
Benzo[b]fluoranthene d-12		2270	1850	81.3	0.20	0.957
Benzo[k]fluoranthene d-12		2270	1870	82.3	0.19	0.961
Benzo[a]pyrene d-12		2220	1790	80.6	0.20	1.009
Perylene d-12		2320	1890	81.5	0.24	1.024
Dibenzo[a,h]anthracene d-14		2040	1590	77.8	0.24	1.210
Indeno[1,2,3-cd]pyrene d-12		1870	1490	79.5	0.18	1.205
Benzo[g,h,i]perylene d-12		2390	1950	81.8	0.19	1.236

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 07-Mar-2007 15:59:59; Application: XMLTransformer-1.7.32;
Report Filename: PAH_PAH_LO_LPAHF_L9585-60_Form2_SJ640164.html; Workgroup: WG21189; Design ID: 529]

AXYS METHOD MLA-021 Rev 07

Form 1A

POLYAROMATIC HYDROCARBON ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-72
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.60 g (dry)
Extraction Date:	26-Jan-2007	**Initial Calibration Date:**	BRACKETING CAL
Analysis Date:	08-Feb-2007 Time: 18:07:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	500	**GC Column ID:**	RTX5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PH7A0563.D**
Dilution Factor:	N/A	**Blank Data Filename:**	PH7A0560.D
		Opening Cal. Data Filename:	PH7A0556.D
		Closing Cal. Data Filename:	PH7A0570.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	4.82

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Naphthalene	91-20-3		1.20	0.133	0.05	1.007
Acenaphthylene	208-96-8	NDR	0.139	0.063	0.60	1.003
Acenaphthene	83-32-9	ND		0.441		
Fluorene	86-73-7	ND		0.356		
Phenanthrene	85-01-8		2.48	0.714	0.19	1.004
Anthracene	120-12-7	ND		0.775		
Fluoranthene	206-44-0	NDR	3.14	0.373	3.03	1.002
Pyrene	129-00-0		1.00	0.377	0.21	1.032
Benz[a]anthracene	56-55-3	ND		0.184		
Chrysene [2]	218-01-9		1.89	0.209	0.32	1.002
Benzo[e]pyrene	192-97-2		0.914	0.246	0.23	0.996
Benzo[a]pyrene	50-32-8	ND		0.264		
Perylene	198-55-0	ND		0.261		
Dibenz[a,h]anthracene [3]	53-70-3	ND		0.205		
Indeno[1,2,3-c,d]-pyrene	193-39-5		0.513	0.143	0.22	1.003
Benzo[g,h,i]perylene	191-24-2		0.569	0.130	0.22	1.002
2-Methylnaphthalene	91-57-6		0.819	0.129	0.97	1.010
1-Methylnaphthalene	90-12-0		0.652	0.136	1.10	1.040
C1-Naphthalenes			1.47	0.136		
C2-Naphthalenes			4.08	0.186		
C3-Naphthalenes			7.25	0.062		
2,3,5-Trimethylnaphthalene	2245-38-7		1.08	0.061	0.91	1.227
C4-Naphthalenes			11.4	0.460		
C1-Fluorenes			8.01	3.42		
C2-Fluorenes			3.26	0.430		
C3-Fluorenes			15.9	1.19		
C4-Fluorenes			21.3	1.06		
Dibenzothiophene	132-65-0	NDR	1.04	0.750	0.12	0.983
C1-Dibenzothiophenes			8.00	0.655		
C2-Dibenzothiophenes			32.2	2.41		
C3-Dibenzothiophenes			32.7	1.18		
C1 Phenanthrenes/Anthracenes			5.89	0.220		
2,6-Dimethylphenanthrene			0.529	0.486	0.53	0.975
1,5/1,7-Dimethylphenanthrene			1.08	0.513	0.29	0.993
C2 Phenanthrenes/Anthracenes			7.11	0.486		
C3-Phenanthrenes/Anthracenes			14.7	0.808		
Retene	483-65-8	ND		1.75		
C4-Phenanthrenes/Anthracenes			34.1	1.75		

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
C1-Fluoranthenes/Pyrenes			1.87	0.532		
C2-Fluoranthenes/Pyrenes			5.58	0.141		
C3-Fluoranthenes/Pyrenes			4.60	0.176		
C4-Fluoranthenes/Pyrenes			2.72	0.180		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) May co-elute with Triphenylene.
(3) May co-elute with Dibenz[a,c]anthracene.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-021 Rev 07

Form 2

POLYAROMATIC HYDROCARBON ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-72
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	9.60 g (dry)
Extraction Date:	26-Jan-2007	**Initial Calibration Date:**	BRACKETING CAL
Analysis Date:	08-Feb-2007 **Time:** 18:07:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	500	**GC Column ID:**	RTX5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PH7A0563.D**
Dilution Factor:	N/A	**Blank Data Filename:**	PH7A0560.D
		Opening Cal. Data Filename:	PH7A0556.D
		Closing Cal. Data Filename:	PH7A0570.D
Concentration Units:	ng absolute	**% Moisture:**	4.82

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Naphthalene d-8		2060	672	32.6	0.09	0.607
2-Methylnaphthalene d-10		2200	937	42.6	0.18	0.754
2,6-Dimethylnaphthalene d-12		1990	1060	53.2	0.67	0.895
Acenaphthylene d-8		2100	1290	61.5	0.16	0.961
Phenanthrene d-10		2310	1720	74.6	0.14	0.807
Fluoranthene d-10		2190	1840	83.8	0.17	0.970
Benzo[a]anthracene d-12		2310	2020	87.5	0.24	1.165
Chrysene d-12		2000	1710	85.4	0.25	1.170
Benzo[b]fluoranthene d-12		2270	1910	84.3	0.19	0.957
Benzo[k]fluoranthene d-12		2270	1850	81.5	0.20	0.961
Benzo[a]pyrene d-12		2220	1660	75.0	0.20	1.009
Perylene d-12		2320	1810	78.2	0.24	1.024
Dibenzo[a,h]anthracene d-14		2040	1600	78.6	0.23	1.210
Indeno[1,2,3-cd]pyrene d-12		1870	1510	80.6	0.18	1.205
Benzo[g,h,i]perylene d-12		2390	1950	81.5	0.19	1.236

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 07-Mar-2007 15:59:59; Application: XMLTransformer-1.7.32;
Report Filename: PAH_PAH_LO_LPAHF_L9585-72_Form2_SJ640165.html; Workgroup: WG21189; Design ID: 529]

AXYS METHOD MLA-021 Rev 07

Form 1A

POLYAROMATIC HYDROCARBON ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN099
Sample Collection:
14-Dec-2006 11:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-91 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	6.18 g (dry)
Extraction Date:	26-Jan-2007	**Initial Calibration Date:**	BRACKETING CAL
Analysis Date:	06-Mar-2007 **Time:** 15:31:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	500	**GC Column ID:**	RTX5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PH7A0996.D**
Dilution Factor:	N/A	**Blank Data Filename:**	PH7A0560.D
		Opening Cal. Data Filename:	PH7A0994.D
		Closing Cal. Data Filename:	PH7A1000.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	39.0

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Naphthalene	91-20-3		24.0	1.02	0.05	1.006
Acenaphthylene	208-96-8		1.96	0.658	0.18	1.003
Acenaphthene	83-32-9	ND		0.433		
Fluorene	86-73-7		3.49	0.753	0.96	0.843
Phenanthrene	85-01-8		22.9	0.395	0.18	1.003
Anthracene	120-12-7		3.66	0.431	0.19	1.012
Fluoranthene	206-44-0		38.7	0.896	0.21	1.002
Pyrene	129-00-0		46.8	0.893	0.21	1.032
Benz[a]anthracene	56-55-3	NDR	24.4	0.296	0.46	1.003
Chrysene [2]	218-01-9		40.8	0.331	0.32	1.003
Benzo[e]pyrene	192-97-2		36.1	0.581	0.21	0.996
Benzo[a]pyrene	50-32-8		37.2	0.631	0.20	1.004
Perylene	198-55-0		8.25	0.622	0.22	1.004
Dibenz[a,h]anthracene [3]	53-70-3		6.57	1.18	0.18	1.003
Indeno[1,2,3-c,d]-pyrene	193-39-5		44.8	0.666	0.18	1.002
Benzo[g,h,i]perylene	191-24-2		48.6	0.520	0.20	1.002
2-Methylnaphthalene	91-57-6		12.7	0.362	0.98	1.009
1-Methylnaphthalene	90-12-0		5.23	0.381	0.97	1.041
C1-Naphthalenes			17.9	0.381		
C2-Naphthalenes			38.0	0.522		
C3-Naphthalenes			39.6	0.347		
2,3,5-Trimethylnaphthalene	2245-38-7		8.20	0.340	0.97	1.230
C4-Naphthalenes			369	12.3		
C1-Fluorenes			59.0	0.782		
C2-Fluorenes			23.0	1.11		
C3-Fluorenes			46.2	3.60		
C4-Fluorenes			31.1	2.70		
Dibenzothiophene	132-65-0		3.73	0.328	0.09	0.983
C1-Dibenzothiophenes			20.6	0.381		
C2-Dibenzothiophenes			79.4	0.924		
C3-Dibenzothiophenes			108	1.79		
C1 Phenanthrenes/Anthracenes			32.8	0.631		
2,6-Dimethylphenanthrene		NDR	3.73	0.721	0.86	0.970
1,5/1,7-Dimethylphenanthrene			7.02	0.766	0.37	0.993
C2 Phenanthrenes/Anthracenes			48.1	0.721		
C3-Phenanthrenes/Anthracenes			47.7	0.843		
Retene	483-65-8		4.19	2.43	1.47	1.084
C4-Phenanthrenes/Anthracenes			92.7	2.43		

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
C1-Fluoranthenes/Pyrenes			46.4	0.727		
C2-Fluoranthenes/Pyrenes			49.1	0.798		
C3-Fluoranthenes/Pyrenes			20.2	1.26		
C4-Fluoranthenes/Pyrenes			6.22	0.818		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) May co-elute with Triphenylene.
(3) May co-elute with Dibenz[a,c]anthracene.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

AXYS METHOD MLA-021 Rev 07

Form 2

POLYAROMATIC HYDROCARBON ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN099
Sample Collection:
14-Dec-2006 11:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-91 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	6.18 g (dry)
Extraction Date:	26-Jan-2007	**Initial Calibration Date:**	BRACKETING CAL
Analysis Date:	06-Mar-2007 **Time:** 15:31:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	500	**GC Column ID:**	RTX5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PH7A0996.D**
Dilution Factor:	N/A	**Blank Data Filename:**	PH7A0560.D
		Opening Cal. Data Filename:	PH7A0994.D
		Closing Cal. Data Filename:	PH7A1000.D
Concentration Units:	ng absolute	**% Moisture:**	39.0

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Naphthalene d-8	V	2060	261	12.7	0.10	0.605
2-Methylnaphthalene d-10		2200	486	22.1	0.18	0.753
2,6-Dimethylnaphthalene d-12		1990	659	33.1	0.67	0.895
Acenaphthylene d-8		2100	1030	49.0	0.15	0.961
Phenanthrene d-10		2310	1610	69.9	0.14	0.807
Fluoranthene d-10		2190	1660	75.9	0.16	0.971
Benzo[a]anthracene d-12		2310	1670	72.1	0.24	1.166
Chrysene d-12		2000	1410	70.7	0.26	1.171
Benzo[b]fluoranthene d-12		2270	1600	70.5	0.20	0.956
Benzo[k]fluoranthene d-12		2270	1440	63.4	0.19	0.961
Benzo[a]pyrene d-12		2220	1570	70.7	0.20	1.009
Perylene d-12		2320	1690	73.0	0.24	1.024
Dibenzo[a,h]anthracene d-14		2040	1350	66.1	0.23	1.210
Indeno[1,2,3-cd]pyrene d-12		1870	1280	68.4	0.18	1.206
Benzo[g,h,i]perylene d-12		2390	1770	73.9	0.19	1.237

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.
(2) R% = percent recovery.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 07-Mar-2007 15:59:59; Application: XMLTransformer-1.7.32;
Report Filename: PAH_PAH_LO_LPAHF_L9585-91_Form2_SJ645933.html; Workgroup: WG21189; Design ID: 529]

AXYS METHOD MLA-021 Rev 07

Form 1A

POLYAROMATIC HYDROCARBON ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN102
Sample Collection:
14-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-94
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	8.53 g (dry)
Extraction Date:	26-Jan-2007	**Initial Calibration Date:**	BRACKETING CAL
Analysis Date:	08-Feb-2007 **Time:** 19:45:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	500	**GC Column ID:**	RTX5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PH7A0565.D**
Dilution Factor:	N/A	**Blank Data Filename:**	PH7A0560.D
		Opening Cal. Data Filename:	PH7A0556.D
		Closing Cal. Data Filename:	PH7A0570.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	15.9

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Naphthalene	91-20-3		4.53	0.176	0.05	1.006
Acenaphthylene	208-96-8		2.28	0.095	0.21	1.003
Acenaphthene	83-32-9		0.817	0.154	1.06	1.047
Fluorene	86-73-7		0.420	0.079	1.15	0.843
Phenanthrene	85-01-8		7.95	0.094	0.20	1.003
Anthracene	120-12-7		2.91	0.102	0.17	1.011
Fluoranthene	206-44-0		57.1	0.158	0.21	1.002
Pyrene	129-00-0		65.4	0.159	0.21	1.032
Benz[a]anthracene	56-55-3		66.4	0.106	0.31	1.002
Chrysene [2]	218-01-9		71.2	0.120	0.30	1.002
Benzo[e]pyrene	192-97-2		70.1	0.380	0.22	0.996
Benzo[a]pyrene	50-32-8		97.5	0.408	0.22	1.004
Perylene	198-55-0		27.8	0.419	0.22	1.004
Dibenz[a,h]anthracene [3]	53-70-3		15.1	0.279	0.14	1.003
Indeno[1,2,3-c,d]-pyrene	193-39-5		70.8	0.337	0.19	1.002
Benzo[g,h,i]perylene	191-24-2		63.0	0.283	0.20	1.002
2-Methylnaphthalene	91-57-6		2.39	0.119	0.93	1.010
1-Methylnaphthalene	90-12-0		2.51	0.125	0.92	1.040
C1-Naphthalenes			4.90	0.125		
C2-Naphthalenes			6.69	0.113		
C3-Naphthalenes			3.70	0.041		
2,3,5-Trimethylnaphthalene	2245-38-7		0.750	0.040	1.00	1.227
C4-Naphthalenes			3.73	0.159		
C1-Fluorenes			2.01	0.250		
C2-Fluorenes			2.23	0.135		
C3-Fluorenes			4.94	0.182		
C4-Fluorenes			4.02	0.112		
Dibenzothiophene	132-65-0		0.504	0.033	0.10	0.982
C1-Dibenzothiophenes			1.33	0.073		
C2-Dibenzothiophenes			2.40	0.185		
C3-Dibenzothiophenes			2.15	0.210		
C1 Phenanthrenes/Anthracenes			7.28	0.064		
2,6-Dimethylphenanthrene		NDR	0.710	0.149	0.40	0.975
1,5/1,7-Dimethylphenanthrene			1.10	0.158	0.36	0.993
C2 Phenanthrenes/Anthracenes			7.68	0.149		
C3-Phenanthrenes/Anthracenes			6.44	0.104		
Retene	483-65-8		1.07	0.402	1.42	1.084
C4-Phenanthrenes/Anthracenes			82.1	0.402		

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
C1-Fluoranthenes/Pyrenes			48.7	0.243		
C2-Fluoranthenes/Pyrenes			30.0	0.148		
C3-Fluoranthenes/Pyrenes			9.20	0.220		
C4-Fluoranthenes/Pyrenes			2.98	0.231		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) May co-elute with Triphenylene.
(3) May co-elute with Dibenz[a,c]anthracene.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 07-Mar-2007 15:59:59; Application: XMLTransformer-1.7.32; Report Filename: PAH_PAH_LO_LPAHF_L9585-94_Form1A_SJ640167.html; Workgroup: WG21189; Design ID: 529]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

AXYS METHOD MLA-021 Rev 07

Form 2

POLYAROMATIC HYDROCARBON ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN102
Sample Collection:
14-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-94
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	8.53 g (dry)
Extraction Date:	26-Jan-2007	**Initial Calibration Date:**	BRACKETING CAL
Analysis Date:	08-Feb-2007 **Time:** 19:45:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	500	**GC Column ID:**	RTX5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PH7A0565.D**
Dilution Factor:	N/A	**Blank Data Filename:**	PH7A0560.D
		Opening Cal. Data Filename:	PH7A0556.D
		Closing Cal. Data Filename:	PH7A0570.D
Concentration Units:	ng absolute	**% Moisture:**	15.9

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Naphthalene d-8		2060	832	40.4	0.09	0.607
2-Methylnaphthalene d-10		2200	1100	49.8	0.18	0.754
2,6-Dimethylnaphthalene d-12		1990	1190	59.9	0.68	0.895
Acenaphthylene d-8		2100	1400	66.5	0.16	0.961
Phenanthrene d-10		2310	1820	78.8	0.14	0.807
Fluoranthene d-10		2190	1870	85.3	0.16	0.970
Benzo[a]anthracene d-12		2310	2090	90.6	0.23	1.165
Chrysene d-12		2000	1760	88.0	0.26	1.170
Benzo[b]fluoranthene d-12		2270	1880	83.0	0.20	0.957
Benzo[k]fluoranthene d-12		2270	1850	81.5	0.19	0.961
Benzo[a]pyrene d-12		2220	1820	82.2	0.20	1.009
Perylene d-12		2320	1900	81.9	0.24	1.024
Dibenzo[a,h]anthracene d-14		2040	1660	81.3	0.23	1.210
Indeno[1,2,3-cd]pyrene d-12		1870	1550	83.0	0.18	1.205
Benzo[g,h,i]perylene d-12		2390	2000	83.8	0.19	1.237

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 07-Mar-2007 15:59:59; Application: XMLTransformer-1.7.32;
Report Filename: PAH_PAH_LO_LPAHF_L9585-94_Form2_SJ640167.html; Workgroup: WG21189; Design ID: 529]

AXYS METHOD MLA-028 Rev 02

Form 1A
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN040
Sample Collection:
08-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-40 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.09 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	13-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 22:22:10	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL7B_037A S: 51**
Dilution Factor:	0.2	**Blank Data Filename:**	CL7B_037A S: 46
		Cal. Ver. Data Filename:	CL7B_037A S: 40
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	73.5

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
HCH, delta	319-86-8	NDR	0.019	0.0176	0.83	1.001
Heptachlor Epoxide	1024-57-3	ND		0.0071		
alpha-Endosulphan	959-98-8	ND		0.0636		
Dieldrin	60-57-1		0.973	0.0214	0.70	1.001
Endrin	72-20-8	ND		0.0400		
beta-Endosulphan	33213-65-9	ND		0.119		
Endosulphan Sulphate	1031-07-8	ND		0.109		
Endrin Aldehyde	7421-93-4	ND		0.0700		
Endrin Ketone	53494-70-5	ND		0.0188		
Methoxychlor	72-43-5	NQ				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; NQ = data not quantifiable.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29; Report Filename: Pest_PEST_HI_HP34_L9585-40_Form1A_SJ637545.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 2

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN040
Sample Collection:
08-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-40 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.09 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	13-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 22:22:10	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL7B_037A S: 51**
Dilution Factor:	0.2	**Blank Data Filename:**	CL7B_037A S: 46
Concentration Units:	ng absolute	**Cal. Ver. Data Filename:**	CL7B_037A S: 40
		% Moisture:	73.5

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-delta-HCH		8.00	8.10	101	0.84	0.499
13C-Heptachlor-Epoxide		8.20	10.5	128	0.80	0.702
13C-alpha-Endosulphan		7.80	10.9	139	0.62	0.796
13C-Dieldrin		8.20	9.14	112	0.66	0.874
13C-Endrin		7.70	10.2	133	0.67	0.926
13C-beta-Endosulphan		7.80	7.78	99.8	0.63	0.949
13C-Methoxychlor	NQ					

(1) Where applicable, custom lab flags have been used on this report; NQ = data not quantifiable.
(2) R% = percent recovery.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29; Report Filename: Pest_PEST_HI_HP34_L9585-40_Form2_SJ637545.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 1A

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN040
Sample Collection:
08-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-40 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.09 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	15-Feb-2007
Analysis Date:	16-Feb-2007 **Time:** 02:12:32	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	CL72_066B S: 17
Dilution Factor:	0.2	**Blank Data Filename:**	CL72_066B S: 12
		Cal. Ver. Data Filename:	CL72_066B S: 3
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	73.5

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1		0.152	0.0016	1.32	1.001
HCH, alpha	319-84-6	NDR	0.086	0.0178	1.27	0.931
HCH, beta	319-85-7		0.065	0.0157	0.81	1.001
HCH, gamma	58-89-9		0.074	0.0201	0.66	1.000
HCH, delta	319-86-8	NDR	0.095	0.0508	0.50	1.001
Heptachlor	76-44-8	NQ				
Aldrin	309-00-2		2.04	0.0211	1.65	1.001
Chlordane, oxy-	27304-13-8	ND G		0.0454		
Chlordane, gamma (trans)	5103-74-2		0.858	0.0229	1.30	1.001
Chlordane, alpha (cis)	5103-71-9		0.817	0.0262	1.20	1.026
Nonachlor, trans-	39765-80-5		0.317	0.0315	1.06	1.001
Nonachlor, cis-	5103-73-1		0.331	0.0734	1.36	1.001
2,4'-DDD	53-19-0	T	2.67	0.329	1.57	0.946
4,4'-DDD	72-54-8	T	11.9	0.597	1.51	0.995
2,4'-DDE	3424-82-6		1.93	0.0479	1.52	1.000
4,4'-DDE	72-55-9		41.0	0.0683	1.54	1.000
2,4'-DDT	789-02-6	NQ				
4,4'-DDT	50-29-3	NQ				
Mirex	2385-85-5		0.196	0.0205	0.54	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; T = analyte recalculated against alternate labeled compound(s) or internal standard; NQ = data not quantifiable.

NOTE: The DDD and DDE concentrations include DDT as the compound has degraded. Result reported is a sum.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 27-Apr-2007 16:50:51; Application: XMLTransformer-1.8.0;
Report Filename: Pest_PEST_HI_HP12_L9585-40_Form1A_CL72_066BS17_SJ638160.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 2

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN040
Sample Collection:
08-Dec-2006 16:10

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-40 M
Matrix:	SOLID	**Sample Size:**	5.09 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	15-Feb-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Feb-2007 **Time:** 02:12:32	**GC Column ID:**	DB5
Extract Volume (uL):	40	**Sample Data Filename:**	**CL72_066B S: 17**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL72_066B S: 12
Dilution Factor:	0.2	**Cal. Ver. Data Filename:**	CL72_066B S: 3
Concentration Units:	ng absolute	**% Moisture:**	73.5

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		8.00	5.19	64.9	1.27	0.790
13C-beta-HCH		4.60	4.24	92.1	0.77	0.821
13C-gamma-HCH		13.0	7.69	59.2	0.75	0.832
13C-delta-HCH		8.00	2.42	30.3	0.81	0.874
13C-Heptachlor	NQ					
13C-Aldrin		8.00	2.46	30.8	1.50	1.031
13C-Chlordane, oxy	G	8.00	4.63	57.8	1.60	1.114
13C-Chlordane, gamma (trans)		8.00	9.23	115	1.26	0.840
13C-Nonachlor, trans-		8.00	7.99	99.9	1.24	0.869
13C-Nonachlor, cis-		8.00	6.12	76.5	1.37	0.956
13C-2,4'-DDE		8.00	11.0	137	1.54	0.847
13C-4,4'-DDE		8.00	9.36	117	1.56	0.891
13C-2,4'-DDT	NQ					
13C-4,4'-DDT	NQ					
13C-Mirex		8.00	3.79	47.4	1.29	1.086

(1) Where applicable, custom lab flags have been used on this report; G = lock mass interference present; NQ = data not quantifiable.
(2) R% = percent recovery.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 27-Apr-2007 16:50:51; Application: XMLTransformer-1.8.0;
Report Filename: Pest_PEST_HI_HP12_L9585-40_Form2_CL72_066BS17_SJ638160.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 1A

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN063
Sample Collection:
10-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-60 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	4.99 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	13-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 23:03:59	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL7B_037A S: 52**
Dilution Factor:	0.2	**Blank Data Filename:**	CL7B_037A S: 46
		Cal. Ver. Data Filename:	CL7B_037A S: 40
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	17.3

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
HCH, delta	319-86-8	ND		0.0172		
Heptachlor Epoxide	1024-57-3	ND		0.0080		
alpha-Endosulphan	959-98-8	ND		0.0582		
Dieldrin	60-57-1	ND		0.0188		
Endrin	72-20-8	ND		0.0206		
beta-Endosulphan	33213-65-9	ND		0.113		
Endosulphan Sulphate	1031-07-8	ND		0.103		
Endrin Aldehyde	7421-93-4	ND		0.0543		
Endrin Ketone	53494-70-5	NDR	0.730	0.0141	0.49	1.194
Methoxychlor	72-43-5	ND		0.0441		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29; Report Filename: Pest_PEST_HI_HP34_L9585-60_Form1A_SJ637546.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 2

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN063
Sample Collection:
10-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-60 M
Matrix:	SOLID	**Sample Size:**	4.99 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Feb-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 23:03:59	**GC Column ID:**	DB5
Extract Volume (uL):	40	**Sample Data Filename:**	**CL7B_037A S: 52**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7B_037A S: 46
Dilution Factor:	0.2	**Cal. Ver. Data Filename:**	CL7B_037A S: 40
Concentration Units:	ng absolute	**% Moisture:**	17.3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-delta-HCH		8.00	7.53	94.1	0.83	0.498
13C-Heptachlor-Epoxide		8.20	10.2	124	0.81	0.701
13C-alpha-Endosulphan		7.80	10.8	138	0.66	0.795
13C-Dieldrin		8.20	9.53	116	0.63	0.873
13C-Endrin		7.70	10.6	138	0.65	0.926
13C-beta-Endosulphan		7.80	6.80	87.2	0.66	0.948
13C-Methoxychlor		8.30	5.69	68.5	24.4	1.131

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29;
Report Filename: Pest_PEST_HI_HP34_L9585-60_Form2_SJ637546.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 1A

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN063
Sample Collection:
10-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-60 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.00 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	15-Feb-2007
Analysis Date:	16-Feb-2007 **Time:** 00:58:47	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL72_066B S: 15**
Dilution Factor:	0.2	**Blank Data Filename:**	CL72_066B S: 13
		Cal. Ver. Data Filename:	CL72_066B S: 3
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	17.3

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1		0.155	0.0032	1.12	1.000
HCH, alpha	319-84-6	NDR	0.016	0.0112	0.34	0.931
HCH, beta	319-85-7		0.037	0.0147	0.79	1.000
HCH, gamma	58-89-9	NDR	0.014	0.0127	0.99	1.000
HCH, delta	319-86-8	X				
Heptachlor	76-44-8	ND		0.0126		
Aldrin	309-00-2		0.034	0.0118	1.30	0.998
Chlordane, oxy-	27304-13-8	ND		0.0335		
Chlordane, gamma (trans)	5103-74-2	NDR	0.033	0.0058	0.99	1.001
Chlordane, alpha (cis)	5103-71-9		0.026	0.0066	1.14	1.026
Nonachlor, trans-	39765-80-5		0.039	0.0073	1.47	1.001
Nonachlor, cis-	5103-73-1	NDR	0.034	0.0168	0.36	1.000
2,4'-DDD	53-19-0		0.083	0.0574	1.63	0.946
4,4'-DDD	72-54-8		0.155	0.0912	1.25	0.995
2,4'-DDE	3424-82-6		0.069	0.0199	1.83	1.000
4,4'-DDE	72-55-9		0.506	0.0265	1.40	1.000
2,4'-DDT	789-02-6		0.131	0.0770	1.65	1.000
4,4'-DDT	50-29-3		0.543	0.0964	1.40	1.000
Mirex	2385-85-5	NDR	0.010	0.0037	1.02	1.001

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_L9585-60_Form1A_SJ638158.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 2

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN063
Sample Collection:
10-Dec-2006 15:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-60 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.00 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	15-Feb-2007
Analysis Date:	16-Feb-2007 **Time:** 00:58:47	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL72_066B S: 15**
Dilution Factor:	0.2	**Blank Data Filename:**	CL72_066B S: 13
Concentration Units:	ng absolute	**Cal. Ver. Data Filename:**	CL72_066B S: 3
		% Moisture:	17.3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		40.0	19.6	48.9	1.29	0.790
13C-beta-HCH		23.0	21.1	91.9	0.73	0.822
13C-gamma-HCH		65.0	53.5	82.3	0.76	0.833
13C-delta-HCH	X					
13C-Heptachlor		40.0	25.8	64.4	1.29	0.965
13C-Aldrin		40.0	26.7	66.8	1.55	1.031
13C-Chlordane, oxy		40.0	37.5	93.7	1.61	1.110
13C-Chlordane, gamma (trans)		40.0	36.9	92.2	1.26	0.840
13C-Nonachlor, trans-		40.0	36.9	92.1	1.25	0.868
13C-Nonachlor, cis-		40.0	34.2	85.4	1.18	0.956
13C-2,4'-DDE		40.0	40.4	101	1.54	0.847
13C-4,4'-DDE		40.0	38.7	96.8	1.55	0.891
13C-2,4'-DDT		40.0	34.8	87.1	1.57	0.955
13C-4,4'-DDT		40.0	35.1	87.9	1.54	0.996
13C-Mirex		40.0	29.5	73.8	1.22	1.086

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_L9585-60_Form2_SJ638158.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 1A
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-72 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.19 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	13-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 23:45:51	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL7B_037A S: 53**
Dilution Factor:	0.2	**Blank Data Filename:**	CL7B_037A S: 46
		Cal. Ver. Data Filename:	CL7B_037A S: 40
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	5.90

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
HCH, delta	319-86-8	NDR	0.050	0.0163	1.26	1.000
Heptachlor Epoxide	1024-57-3		0.020	0.0051	0.69	1.003
alpha-Endosulphan	959-98-8	ND		0.0428		
Dieldrin	60-57-1		0.876	0.0126	0.65	1.002
Endrin	72-20-8	ND		0.174		
beta-Endosulphan	33213-65-9	ND		0.0829		
Endosulphan Sulphate	1031-07-8	ND		0.0759		
Endrin Aldehyde	7421-93-4	ND		0.193		
Endrin Ketone	53494-70-5	NDR	0.540	0.0550	1.10	1.192
Methoxychlor	72-43-5	ND		0.0322		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29; Report Filename: Pest_PEST_HI_HP34_L9585-72_Form1A_SJ637547.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

Form 2
PESTICIDE ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-72 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.19 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	13-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 23:45:51	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL7B_037A S: 53**
Dilution Factor:	0.2	**Blank Data Filename:**	CL7B_037A S: 46
Concentration Units:	ng absolute	**Cal. Ver. Data Filename:**	CL7B_037A S: 40
		% Moisture:	5.90

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-delta-HCH		8.00	10.3	128	0.79	0.499
13C-Heptachlor-Epoxide		8.20	11.9	146	0.77	0.701
13C-alpha-Endosulphan		7.80	11.3	145	0.63	0.796
13C-Dieldrin		8.20	10.3	125	0.66	0.873
13C-Endrin	V	7.70	2.01	26.1	0.70	0.927
13C-beta-Endosulphan		7.80	7.49	96.0	0.60	0.949
13C-Methoxychlor		8.30	5.70	68.7	24.3	1.132

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.
(2) R% = percent recovery.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29;
Report Filename: Pest_PEST_HI_HP34_L9585-72_Form2_SJ637547.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 1A

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-72 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.19 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	15-Feb-2007
Analysis Date:	16-Feb-2007 **Time:** 01:35:47	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL72_066B S: 16**
Dilution Factor:	0.2	**Blank Data Filename:**	CL72_066B S: 13
		Cal. Ver. Data Filename:	CL72_066B S: 3
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	5.90

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1		0.298	0.0028	1.18	1.001
HCH, alpha	319-84-6	NDR	0.083	0.0104	0.99	0.932
HCH, beta	319-85-7		0.127	0.0152	0.72	1.001
HCH, gamma	58-89-9		0.142	0.0117	0.82	1.002
HCH, delta	319-86-8	X				
Heptachlor	76-44-8	NDR	0.410	0.0101	1.54	1.002
Aldrin	309-00-2	ND		0.0250		
Chlordane, oxy-	27304-13-8	ND		0.0380		
Chlordane, gamma (trans)	5103-74-2		18.7	0.0597	1.24	1.001
Chlordane, alpha (cis)	5103-71-9		19.9	0.0681	1.25	1.026
Nonachlor, trans-	39765-80-5		6.32	0.0745	1.30	1.000
Nonachlor, cis-	5103-73-1		2.97	0.0737	1.24	1.000
2,4'-DDD	53-19-0		0.332	0.0483	1.68	0.946
4,4'-DDD	72-54-8		1.60	0.0768	1.49	0.995
2,4'-DDE	3424-82-6		0.117	0.0243	1.46	1.001
4,4'-DDE	72-55-9		3.01	0.0305	1.50	1.001
2,4'-DDT	789-02-6		2.83	0.0648	1.51	1.000
4,4'-DDT	50-29-3		12.8	0.0802	1.53	1.000
Mirex	2385-85-5	ND		0.0153		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30; Report Filename: Pest_PEST_HI_HP12_L9585-72_Form1A_SJ638159.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 2

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN075
Sample Collection:
11-Dec-2006 08:20

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-72 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	5.19 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	15-Feb-2007
Analysis Date:	16-Feb-2007 **Time:** 01:35:47	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL72_066B S: 16**
Dilution Factor:	0.2	**Blank Data Filename:**	CL72_066B S: 13
Concentration Units:	ng absolute	**Cal. Ver. Data Filename:**	CL72_066B S: 3
		% Moisture:	5.90

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		40.0	20.3	50.7	1.25	0.790
13C-beta-HCH		23.0	17.4	75.7	0.73	0.822
13C-gamma-HCH		65.0	50.5	77.7	0.76	0.832
13C-delta-HCH	X					
13C-Heptachlor		40.0	26.2	65.4	1.23	0.964
13C-Aldrin		40.0	25.8	64.5	1.54	1.031
13C-Chlordane, oxy		40.0	37.7	94.4	1.53	1.111
13C-Chlordane, gamma (trans)		40.0	42.5	106	1.29	0.839
13C-Nonachlor, trans-		40.0	41.7	104	1.26	0.868
13C-Nonachlor, cis-		40.0	38.4	96.0	1.21	0.956
13C-2,4'-DDE		40.0	43.5	109	1.56	0.846
13C-4,4'-DDE		40.0	43.0	108	1.55	0.891
13C-2,4'-DDT		40.0	39.2	98.0	1.56	0.955
13C-4,4'-DDT		40.0	38.5	96.1	1.60	0.996
13C-Mirex		40.0	28.9	72.1	1.24	1.086

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_L9585-72_Form2_SJ638159.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 1A

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN099
Sample Collection:
14-Dec-2006 11:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-91
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	13-Feb-2007
Analysis Date:	13-Feb-2007 **Time:** 20:34:07	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	200	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL7B_037A S: 14**
Dilution Factor:	N/A	**Blank Data Filename:**	CL7B_037A S: 46
		Cal. Ver. Data Filename:	CL7B_037A S: 1
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	39.7

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
HCH, delta	319-86-8		0.020	0.0044	1.36	1.001
Heptachlor Epoxide	1024-57-3	NDR	0.004	0.0014	0.60	1.001
alpha-Endosulphan	959-98-8	NDR	0.011	0.0108	0.50	1.002
Dieldrin	60-57-1		2.03	0.0034	0.65	1.001
Endrin	72-20-8	NDR	0.013	0.0033	0.46	1.001
beta-Endosulphan	33213-65-9	ND		0.0161		
Endosulphan Sulphate	1031-07-8		0.039	0.0147	0.68	1.088
Endrin Aldehyde	7421-93-4	ND		0.0092		
Endrin Ketone	53494-70-5	NDR	0.008	0.0026	0.92	1.192
Methoxychlor	72-43-5	ND		0.0162		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29;
Report Filename: Pest_PEST_HI_HP34_L9585-91_Form1A_SJ637467.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

CLIENT SAMPLE NO.
06VN099
Sample Collection:
14-Dec-2006 11:40

Form 2
PESTICIDE ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-91
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	13-Feb-2007
Analysis Date:	13-Feb-2007 **Time:** 20:34:07	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	200	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL7B_037A S: 14**
Dilution Factor:	N/A	**Blank Data Filename:**	CL7B_037A S: 46
Concentration Units:	ng absolute	**Cal. Ver. Data Filename:**	CL7B_037A S: 1
		% Moisture:	39.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-delta-HCH		8.00	5.33	66.6	0.92	0.498
13C-Heptachlor-Epoxide		8.20	7.73	94.3	0.74	0.701
13C-alpha-Endosulphan		7.80	7.46	95.7	0.71	0.795
13C-Dieldrin		8.20	6.89	84.0	0.63	0.873
13C-Endrin		7.70	8.79	114	0.63	0.926
13C-beta-Endosulphan		7.80	6.55	84.0	0.67	0.947
13C-Methoxychlor		8.30	7.33	88.3	26.0	1.131

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29;
Report Filename: Pest_PEST_HI_HP34_L9585-91_Form2_SJ637467.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 1A
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN099
Sample Collection:
14-Dec-2006 11:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-91 Mi
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	20-Feb-2007
Analysis Date:	20-Feb-2007 **Time:** 22:21:45	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL72_072A S: 13**
Dilution Factor:	0.2	**Blank Data Filename:**	CL72_066B S: 12
		Cal. Ver. Data Filename:	CL72_072A S: 1
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	39.7

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1		0.067	0.0001	1.24	1.000
HCH, alpha	319-84-6		0.050	0.0010	0.72	0.930
HCH, beta	319-85-7		0.102	0.0013	0.74	1.000
HCH, gamma	58-89-9		0.023	0.0012	0.82	1.000
HCH, delta	319-86-8	X				
Heptachlor	76-44-8	NDR	0.004	0.0004	0.95	1.001
Aldrin	309-00-2		0.852	0.0068	1.53	1.001
Chlordane, oxy-	27304-13-8	ND		0.0058		
Chlordane, gamma (trans)	5103-74-2		0.194	0.0024	1.21	1.000
Chlordane, alpha (cis)	5103-71-9		0.155	0.0026	1.27	1.025
Nonachlor, trans-	39765-80-5		0.108	0.0034	1.24	1.000
Nonachlor, cis-	5103-73-1		0.093	0.0047	1.27	1.000
2,4'-DDD	53-19-0		1.52	0.0343	1.51	0.946
4,4'-DDD	72-54-8		8.69	0.0561	1.50	0.995
2,4'-DDE	3424-82-6		0.172	0.0021	1.52	1.001
4,4'-DDE	72-55-9		5.73	0.0028	1.53	1.001
2,4'-DDT	789-02-6		0.432	0.0504	1.49	0.999
4,4'-DDT	50-29-3		1.96	0.0793	1.50	1.000
Mirex	2385-85-5		0.048	0.0012	0.51	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_L9585-91_Form1A_SJ639567.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 2

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN099
Sample Collection:
14-Dec-2006 11:40

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-91 Mi
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.4 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	20-Feb-2007
Analysis Date:	20-Feb-2007 **Time:** 22:21:45	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL72_072A S: 13**
Dilution Factor:	0.2	**Blank Data Filename:**	CL72_066B S: 12
Concentration Units:	ng absolute	**Cal. Ver. Data Filename:**	CL72_072A S: 1
		% Moisture:	39.7

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		8.00	4.92	61.5	1.22	0.790
13C-beta-HCH		4.60	4.10	89.2	0.77	0.821
13C-gamma-HCH		13.0	9.83	75.6	0.78	0.833
13C-delta-HCH	X					
13C-Heptachlor		8.00	7.13	89.1	1.30	0.965
13C-Aldrin	V	8.00	0.812	10.1	1.72	1.031
13C-Chlordane, oxy		8.00	4.78	59.7	1.58	1.114
13C-Chlordane, gamma (trans)		8.00	8.63	108	1.25	0.840
13C-Nonachlor, trans-		8.00	7.26	90.8	1.21	0.868
13C-Nonachlor, cis-		8.00	6.52	81.5	1.26	0.955
13C-2,4'-DDE		8.00	9.36	117	1.55	0.847
13C-4,4'-DDE		8.00	9.08	113	1.54	0.891
13C-2,4'-DDT		8.00	7.39	92.4	1.59	0.954
13C-4,4'-DDT		8.00	6.21	77.6	1.55	0.996
13C-Mirex		8.00	5.12	64.0	1.26	1.086

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits; X = result reported separately.
(2) R% = percent recovery.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_L9585-91_Form2_SJ639567.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

CLIENT SAMPLE NO.
06VN102
Sample Collection:
14-Dec-2006 14:45

Form 1A
PESTICIDE ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9585-94 M
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	13-Feb-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 21:40:22	**GC Column ID:**	DB5
Extract Volume (uL):	40	**Sample Data Filename:**	**CL7B_037A S: 50**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7B_037A S: 46
Dilution Factor:	0.2	**Cal. Ver. Data Filename:**	CL7B_037A S: 40
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	16.4

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
HCH, delta	319-86-8		0.003	0.0009	1.38	1.001
Heptachlor Epoxide	1024-57-3	ND		0.0003		
alpha-Endosulphan	959-98-8	ND		0.0032		
Dieldrin	60-57-1		0.029	0.0006	0.56	1.001
Endrin	72-20-8		0.003	0.0006	0.58	1.001
beta-Endosulphan	33213-65-9	ND		0.0036		
Endosulphan Sulphate	1031-07-8	NDR	0.005	0.0033	1.45	1.088
Endrin Aldehyde	7421-93-4	ND		0.0021		
Endrin Ketone	53494-70-5	ND		0.0007		
Methoxychlor	72-43-5	NDR	0.004	0.0025	0.73	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29; Report Filename: Pest_PEST_HI_HP34_L9585-94_Form1A_SJ637544.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 2

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN102
Sample Collection:
14-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-94 M
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.1 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	13-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 21:40:22	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL7B_037A S: 50**
Dilution Factor:	0.2	**Blank Data Filename:**	CL7B_037A S: 46
Concentration Units:	ng absolute	**Cal. Ver. Data Filename:**	CL7B_037A S: 40
		% Moisture:	16.4

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-delta-HCH		8.00	7.28	91.0	0.80	0.498
13C-Heptachlor-Epoxide		8.20	10.1	123	0.77	0.701
13C-alpha-Endosulphan		7.80	10.3	132	0.63	0.796
13C-Dieldrin		8.20	9.29	113	0.65	0.873
13C-Endrin		7.70	11.3	147	0.65	0.926
13C-beta-Endosulphan		7.80	7.41	95.0	0.66	0.949
13C-Methoxychlor		8.30	6.61	79.6	25.1	1.132

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29; Report Filename: Pest_PEST_HI_HP34_L9585-94_Form2_SJ637544.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 1A
PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN102
Sample Collection:
14-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-94 Mi
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.1 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	20-Feb-2007
Analysis Date:	20-Feb-2007 **Time:** 21:44:48	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL72_072A S: 12**
Dilution Factor:	0.2	**Blank Data Filename:**	CL72_066B S: 12
		Cal. Ver. Data Filename:	CL72_072A S: 1
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	16.4

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1		0.019	0.0001	1.15	1.000
HCH, alpha	319-84-6	NDR	0.008	0.0004	0.60	0.931
HCH, beta	319-85-7		0.041	0.0005	0.77	1.001
HCH, gamma	58-89-9		0.015	0.0005	0.77	1.001
HCH, delta	319-86-8	X				
Heptachlor	76-44-8	ND		0.0005		
Aldrin	309-00-2		0.004	0.0004	1.51	1.002
Chlordane, oxy-	27304-13-8	NDR	0.007	0.0011	1.91	1.000
Chlordane, gamma (trans)	5103-74-2		0.050	0.0010	1.17	1.001
Chlordane, alpha (cis)	5103-71-9		0.051	0.0011	1.25	1.026
Nonachlor, trans-	39765-80-5		0.208	0.0012	1.22	1.001
Nonachlor, cis-	5103-73-1		0.060	0.0023	1.26	1.000
2,4'-DDD	53-19-0		0.118	0.0037	1.48	0.946
4,4'-DDD	72-54-8		0.643	0.0061	1.46	0.995
2,4'-DDE	3424-82-6		0.032	0.0006	1.59	1.000
4,4'-DDE	72-55-9		1.97	0.0008	1.56	1.001
2,4'-DDT	789-02-6		0.431	0.0055	1.49	1.000
4,4'-DDT	50-29-3		2.47	0.0064	1.46	1.001
Mirex	2385-85-5		2.22	0.0003	0.53	1.001

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_L9585-94_Form1A_SJ639566.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 2

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN102
Sample Collection:
14-Dec-2006 14:45

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	SOLID	**Lab Sample I.D.:**	L9585-94 Mi
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	10.1 g (dry)
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	20-Feb-2007
Analysis Date:	20-Feb-2007 **Time:** 21:44:48	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL72_072A S: 12**
Dilution Factor:	0.2	**Blank Data Filename:**	CL72_066B S: 12
Concentration Units:	ng absolute	**Cal. Ver. Data Filename:**	CL72_072A S: 1
		% Moisture:	16.4

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		8.00	3.54	44.2	1.24	0.790
13C-beta-HCH		4.60	3.67	79.8	0.78	0.821
13C-gamma-HCH		13.0	8.85	68.1	0.76	0.832
13C-delta-HCH	X					
13C-Heptachlor		8.00	4.93	61.6	1.29	0.964
13C-Aldrin		8.00	5.12	64.0	1.66	1.031
13C-Chlordane, oxy		8.00	7.86	98.2	1.56	1.111
13C-Chlordane, gamma (trans)		8.00	5.48	68.5	1.23	0.837
13C-Nonachlor, trans-		8.00	5.25	65.7	1.22	0.866
13C-Nonachlor, cis-		8.00	5.48	68.5	1.27	0.954
13C-2,4'-DDE		8.00	5.84	73.0	1.57	0.845
13C-4,4'-DDE		8.00	5.78	72.3	1.56	0.889
13C-2,4'-DDT		8.00	5.52	69.0	1.57	0.954
13C-4,4'-DDT		8.00	6.36	79.6	1.59	0.996
13C-Mirex		8.00	6.11	76.4	1.23	1.086

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_L9585-94_Form2_SJ639566.html; Workgroup: WG21086; Design ID: 595]

A3.2
Fish

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN216
Sample Collection:
11-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9586-21 LW
Matrix:	TISSUE	**Sample Size:**	5.60 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Feb-2007 **Time:** 05:52:04	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB7C_064 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_064 S: 3
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB7C_064 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	41.9

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		D	3070	7.76	0.78	1.000
3,4,4',5-TeCB	81		D	144	7.65	0.83	1.001
2,3,3',4,4'-PeCB	105		D	19200	7.40	1.56	1.001
2,3,4,4',5-PeCB	114		D	947	7.78	1.52	1.001
2,3',4,4',5-PeCB	118		OLR				
2',3,4,4',5-PeCB	123		D	1160	7.64	1.55	1.001
3,3',4,4',5-PeCB	126		D	142	8.29	1.55	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C D	6270	3.42	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		D	3170	2.27	1.26	1.000
3,3',4,4',5,5'-HxCB	169		ND D		25.0		
2,2',3,3',4,4',5-HpCB	170		D	12400	0.799	1.05	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189		D	301	2.79	1.00	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Todd Fisher_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 14-Feb-2007 09:43:57; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9586-21_Form1A_SJ635401.html; Workgroup: WG21089; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN216
Sample Collection:
11-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9586-21 LW
Matrix:	TISSUE	**Sample Size:**	5.60 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Feb-2007 **Time:** 05:52:04	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB7C_064 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_064 S: 3
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB7C_064 S: 1
Concentration Units:	pg absolute	**% Lipid:**	41.9

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L		D	2000	1890	94.5	0.78	1.396
13C12-3,4,4',5-TeCB	81L		D	2000	1960	97.9	0.78	1.372
13C12-2,3,3',4,4'-PeCB	105L		D	2000	1960	97.9	1.58	1.200
13C12-2,3,4,4',5-PeCB	114L		D	2000	1830	91.5	1.58	1.179
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		D	2000	1930	96.6	1.56	1.151
13C12-3,3',4,4',5-PeCB	126L		D	2000	1900	95.2	1.59	1.300
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C D	4000	2900	72.4	1.27	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		D	2000	1470	73.5	1.27	1.077
13C12-3,3',4,4',5,5'-HxCB	169L		D	2000	1300	65.2	1.26	1.190
13C12-2,2',3,3',4,4',5-HpCB	170L		D	2000	1260	63.1	1.07	1.175
13C12-2,2',3,4,4',5,5'-HpCB	180L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L		D	2000	1440	72.2	1.08	1.255
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L		D	2000	1600	80.0	1.61	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L		D	2000	1430	71.4	1.04	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

Approved by: Todd Fisher QA/QC Chemist

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Report Filename: 1668_PCB1668_PCBTOX_L9586-21_Form2_SJ635401.html; Workgroup: WG21089; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN216
Sample Collection:
11-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9586-21 LW2
Matrix:	TISSUE	**Sample Size:**	5.60 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 17:46:06	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	800	**Sample Data Filename:**	**PB7C_067A S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_064 S: 3
Dilution Factor:	40	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	41.9

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		D	79700	95.2	1.55	1.000
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	33200	3.62	1.04	1.000
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: Todd Fisher QA/QC Chemist

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Report Filename: 1668_PCB1668_PCBTOX_L9586-21_Form1A_SJ636115.html; Workgroup: WG21089; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN216
Sample Collection:
11-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9586-21 LW2
Matrix:	TISSUE	**Sample Size:**	5.60 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 17:46:06	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	800	**Sample Data Filename:**	**PB7C_067A S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_064 S: 3
Dilution Factor:	40	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg absolute	**% Lipid:**	41.9

LABELED COMPOUND	IUPAC NO.[1]	CO-ELUTIONS	LAB FLAG[2]	SPIKE CONC.	CONC. FOUND	R(%)[3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		D	2000	2040	102	1.58	1.161
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,3',4,4',5-HpCB	170L		X					
13C12-2,2',3,4,4',5,5'-HpCB	180L		D	2000	1460	73.1	1.09	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L		X					
13C12-2,2',3,3',5,5',6-HpCB	178L		X					

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Todd Fisher_____ QA/QC Chemist

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Report Filename: 1668_PCB1668_PCBTOX_L9586-21_Form2_SJ636115.html; Workgroup: WG21089; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VN216

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 15:40
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	5.60 g (wet)	**Lab Sample I.D.:**	L9586-21 LW
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_064 S: 10** **PB7C_067A S: 8**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			3070	7.76	0.0001	3.07e-01	3.07e-01	
3,4,4',5-TeCB	81			144	7.65	0.0001	1.44e-02	1.44e-02	
2,3,3',4,4'-PeCB	105			19200	7.40	0.0001	1.92e+00	1.92e+00	
2,3,4,4',5-PeCB	114			947	7.78	0.0005	4.74e-01	4.74e-01	
2,3',4,4',5-PeCB	118			79700	95.2	0.0001	7.97e+00	7.97e+00	
2',3,4,4',5-PeCB	123			1160	7.64	0.0001	1.16e-01	1.16e-01	
3,3',4,4',5-PeCB	126			142	8.29	0.1	1.42e+01	1.42e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	6270	3.42	0.0005	3.14e+00	3.14e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			3170	2.27	0.00001	3.17e-02	3.17e-02	
3,3',4,4',5,5'-HxCB	169		ND		25.0	0.01	0.00e+00	1.25e-01	
2,3,3',4,4',5,5'-HpCB	189			301	2.79	0.0001	3.01e-02	3.01e-02	
					TOTAL TEQ		28.2	28.3	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			3070	7.76	0.0001	3.07e-01	3.07e-01	
3,4,4',5-TeCB	81			144	7.65	0.0003	4.32e-02	4.32e-02	
2,3,3',4,4'-PeCB	105			19200	7.40	0.00003	5.76e-01	5.76e-01	
2,3,4,4',5-PeCB	114			947	7.78	0.00003	2.84e-02	2.84e-02	
2,3',4,4',5-PeCB	118			79700	95.2	0.00003	2.39e+00	2.39e+00	
2',3,4,4',5-PeCB	123			1160	7.64	0.00003	3.48e-02	3.48e-02	
3,3',4,4',5-PeCB	126			142	8.29	0.1	1.42e+01	1.42e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	6270	3.42	0.00003	1.88e-01	1.88e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			3170	2.27	0.00003	9.51e-02	9.51e-02	
3,3',4,4',5,5'-HxCB	169		ND		25.0	0.03	0.00e+00	3.75e-01	
2,3,3',4,4',5,5'-HpCB	189			301	2.79	0.00003	9.03e-03	9.03e-03	
					TOTAL TEQ		17.9	18.2	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Todd Fisher_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 14-Feb-2007 09:44:52; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9586-21_TEQ_SJ635401.html; Workgroup: WG21089; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN217
Sample Collection:
11-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9586-22 L
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Feb-2007 **Time:** 04:47:42	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_064 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_064 S: 3
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_064 S: 1
Concentration Units:	pg/g (wet weight basis)	**% Lipid:**	0.65

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			38.8	0.382	0.77	1.000
3,4,4',5-TeCB	81		NDR	1.79	0.381	0.88	1.000
2,3,3',4,4'-PeCB	105			261	0.156	1.55	1.000
2,3,4,4',5-PeCB	114			13.0	0.157	1.58	1.001
2,3',4,4',5-PeCB	118			1090	0.150	1.56	1.000
2',3,4,4',5-PeCB	123			15.7	0.155	1.59	1.001
3,3',4,4',5-PeCB	126		G	1.97	0.172	1.56	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	87.7	0.175	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			44.0	0.116	1.24	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.350		
2,2',3,3',4,4',5-HpCB	170			194	0.0364	1.05	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	578	0.0284	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			4.17	0.0717	1.03	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

Approved by: Todd Fisher QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 14-Feb-2007 09:43:57; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9586-22_Form1A_SJ635400.html; Workgroup: WG21089; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN217
Sample Collection:
11-Dec-2006 15:40

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9586-22 L
Matrix:	TISSUE	**Sample Size:**	10.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Feb-2007 **Time:** 04:47:42	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_064 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_064 S: 3
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_064 S: 1
Concentration Units:	pg absolute	**% Lipid:**	0.65

LABELED COMPOUND	IUPAC NO.[1]	CO-ELUTIONS	LAB FLAG[2]	SPIKE CONC.	CONC. FOUND	R(%)[3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	2110	106	0.78	1.396
13C12-3,4,4',5-TeCB	81L			2000	2140	107	0.78	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	2020	101	1.59	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1960	97.8	1.60	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	2080	104	1.57	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	2060	103	1.58	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	2000	100	1.56	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	3260	81.5	1.27	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1650	82.6	1.26	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1450	72.7	1.26	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1440	71.8	1.05	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1460	73.2	1.06	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1730	86.7	1.05	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1760	88.1	1.59	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1660	82.8	1.06	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: Todd Fisher QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 14-Feb-2007 09:43:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9586-22_Form2_SJ635400.html; Workgroup: WG21089; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VN217

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	11-Dec-2006 15:40
Matrix:	TISSUE	**Project No.**	DANDI 1283
Sample Size:	10.1 g (wet)	**Lab Sample I.D.:**	L9586-22 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_064 S: 9**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			38.8	0.382	0.0001	3.88e-03	3.88e-03	
3,4,4',5-TeCB	81		ND		0.381	0.0001	0.00e+00	1.91e-05	
2,3,3',4,4'-PeCB	105			261	0.156	0.0001	2.61e-02	2.61e-02	
2,3,4,4',5-PeCB	114			13.0	0.157	0.0005	6.50e-03	6.50e-03	
2,3',4,4',5-PeCB	118			1090	0.150	0.0001	1.09e-01	1.09e-01	
2',3,4,4',5-PeCB	123			15.7	0.155	0.0001	1.57e-03	1.57e-03	
3,3',4,4',5-PeCB	126			1.97	0.172	0.1	1.97e-01	1.97e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	87.7	0.175	0.0005	4.39e-02	4.39e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			44.0	0.116	0.00001	4.40e-04	4.40e-04	
3,3',4,4',5,5'-HxCB	169		ND		0.350	0.01	0.00e+00	1.75e-03	
2,3,3',4,4',5,5'-HpCB	189			4.17	0.0717	0.0001	4.17e-04	4.17e-04	
					TOTAL TEQ		0.389	0.391	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			38.8	0.382	0.0001	3.88e-03	3.88e-03	
3,4,4',5-TeCB	81		ND		0.381	0.0003	0.00e+00	5.72e-05	
2,3,3',4,4'-PeCB	105			261	0.156	0.00003	7.83e-03	7.83e-03	
2,3,4,4',5-PeCB	114			13.0	0.157	0.00003	3.90e-04	3.90e-04	
2,3',4,4',5-PeCB	118			1090	0.150	0.00003	3.27e-02	3.27e-02	
2',3,4,4',5-PeCB	123			15.7	0.155	0.00003	4.71e-04	4.71e-04	
3,3',4,4',5-PeCB	126			1.97	0.172	0.1	1.97e-01	1.97e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	87.7	0.175	0.00003	2.63e-03	2.63e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			44.0	0.116	0.00003	1.32e-03	1.32e-03	
3,3',4,4',5,5'-HxCB	169		ND		0.350	0.03	0.00e+00	5.25e-03	
2,3,3',4,4',5,5'-HpCB	189			4.17	0.0717	0.00003	1.25e-04	1.25e-04	
					TOTAL TEQ		0.246	0.252	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Todd Fisher_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 14-Feb-2007 09:44:52; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9586-22_TEQ_SJ635400.html; Workgroup: WG21089; Design ID: 594]

A3.3
Human Blood and Breast Milk

AXYS METHOD MLA-013 Rev 07

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN201M
Sample Collection:
08-Dec-2006

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	MILK	**Lab Sample I.D.:**	L9600-1
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	29.2 g (wet)
Extraction Date:	04-Apr-2007	**Initial Calibration Date:**	12-Apr-2007
Analysis Date:	13-Apr-2007 **Time:** 06:56:51	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_165 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_165 S: 7
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	PB7C_165 S: 1
		% Lipid:	3.24

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.280	0.0941	0.85	1.000
3,4,4',5-TeCB	81		ND		0.0989		
2,3,3',4,4'-PeCB	105			203	0.123	1.58	1.001
2,3,4,4',5-PeCB	114			31.0	0.121	1.59	1.000
2,3',4,4',5-PeCB	118			660	0.103	1.58	1.000
2',3,4,4',5-PeCB	123			9.73	0.121	1.59	1.000
3,3',4,4',5-PeCB	126			1.98	0.146	1.42	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	249	0.0868	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			56.8	0.0526	1.27	1.000
3,3',4,4',5,5'-HxCB	169		ND		2.53		
2,2',3,3',4,4',5-HpCB	170			449	0.0171	1.04	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1320	0.0171	1.04	1.001
2,3,3',4,4',5,5'-HpCB	189			18.8	0.0804	1.05	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-Apr-2007 16:50:49; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9600-1_Form1A_PB7C_165S10_SJ664336.html; Workgroup: WG21241; Design ID: 594]

AXYS METHOD MLA-013 Rev 07

CLIENT SAMPLE NO.
06VN201M

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	08-Dec-2006		
Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	MILK	**Lab Sample I.D.:**	L9600-1
Sample Size:	29.2 g (wet)	**GC Column ID(s):**	SPB OCTYL
Concentration Units:	pg/g (wet weight basis)	**Sample Data Filename(s):**	**PB7C_165 S: 10**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.280	0.0941	0.0001	2.80e-05	2.80e-05	
3,4,4',5-TeCB	81		ND		0.0989	0.0001	0.00e+00	4.95e-06	
2,3,3',4,4'-PeCB	105			203	0.123	0.0001	2.03e-02	2.03e-02	
2,3,4,4',5-PeCB	114			31.0	0.121	0.0005	1.55e-02	1.55e-02	
2,3',4,4',5-PeCB	118			660	0.103	0.0001	6.60e-02	6.60e-02	
2',3,4,4',5-PeCB	123			9.73	0.121	0.0001	9.73e-04	9.73e-04	
3,3',4,4',5-PeCB	126			1.98	0.146	0.1	1.98e-01	1.98e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	249	0.0868	0.0005	1.25e-01	1.25e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			56.8	0.0526	0.00001	5.68e-04	5.68e-04	
3,3',4,4',5,5'-HxCB	169		ND		2.53	0.01	0.00e+00	1.27e-02	
2,3,3',4,4',5,5'-HpCB	189			18.8	0.0804	0.0001	1.88e-03	1.88e-03	
					TOTAL TEQ		0.428	0.440	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.280	0.0941	0.0001	2.80e-05	2.80e-05	
3,4,4',5-TeCB	81		ND		0.0989	0.0003	0.00e+00	1.48e-05	
2,3,3',4,4'-PeCB	105			203	0.123	0.00003	6.09e-03	6.09e-03	
2,3,4,4',5-PeCB	114			31.0	0.121	0.00003	9.30e-04	9.30e-04	
2,3',4,4',5-PeCB	118			660	0.103	0.00003	1.98e-02	1.98e-02	
2',3,4,4',5-PeCB	123			9.73	0.121	0.00003	2.92e-04	2.92e-04	
3,3',4,4',5-PeCB	126			1.98	0.146	0.1	1.98e-01	1.98e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	249	0.0868	0.00003	7.47e-03	7.47e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			56.8	0.0526	0.00003	1.70e-03	1.70e-03	
3,3',4,4',5,5'-HxCB	169		ND		2.53	0.03	0.00e+00	3.80e-02	
2,3,3',4,4',5,5'-HpCB	189			18.8	0.0804	0.00003	5.64e-04	5.64e-04	
					TOTAL TEQ		0.235	0.273	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 25-Apr-2007 16:52:58; Application: XMLTransformer-1.8.0; Report Filename: 1668_PCB1668_HomTotals-TEQs_L9600-1_TEQ_SJ664336.html; Workgroup: WG21241; Design ID: 594]

AXYS METHOD MLA-013 Rev 07

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN201M
Sample Collection:
08-Dec-2006

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9600-1
Matrix:	MILK	**Sample Size:**	29.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	12-Apr-2007
Extraction Date:	04-Apr-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Apr-2007 **Time:** 06:56:51	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_165 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_165 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_165 S: 1
Concentration Units:	pg absolute	**% Lipid:**	3.24

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1130	56.3	0.76	1.396
13C12-3,4,4',5-TeCB	81L			2000	1040	52.0	0.77	1.373
13C12-2,3,3',4,4'-PeCB	105L			2000	1250	62.6	1.57	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1180	59.2	1.59	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1350	67.4	1.55	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1250	62.3	1.58	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1210	60.3	1.58	1.302
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2180	54.6	1.28	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1180	59.1	1.27	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	913	45.6	1.25	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1120	55.8	1.06	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1280	64.2	1.07	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1210	60.6	1.02	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1260	63.1	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1220	60.9	1.06	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-Apr-2007 16:50:49; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9600-1_Form2_PB7C_165S10_SJ664336.html; Workgroup: WG21241; Design ID: 594]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VN201M
Sample Collection:
08-Dec-2006

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	MILK	**Lab Sample I.D.:**	L9600-1
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.945 g (lipid)
Extraction Date:	04-Apr-2007	**Initial Calibration Date:**	12-Apr-2007
Analysis Date:	13-Apr-2007 **Time:** 06:56:51	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_165 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_165 S: 7
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	PB7C_165 S: 1
		% Lipid:	3.24

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			8.64	2.90	0.85	1.000
3,4,4',5-TeCB	81		ND		3.05		
2,3,3',4,4'-PeCB	105			6270	3.80	1.58	1.001
2,3,4,4',5-PeCB	114			957	3.73	1.59	1.000
2,3',4,4',5-PeCB	118			20400	3.18	1.58	1.000
2',3,4,4',5-PeCB	123			300	3.73	1.59	1.000
3,3',4,4',5-PeCB	126			61.1	4.51	1.42	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	7690	2.68	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			1750	1.62	1.27	1.000
3,3',4,4',5,5'-HxCB	169		ND		78.1		
2,2',3,3',4,4',5-HpCB	170			13900	0.528	1.04	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	40700	0.528	1.04	1.001
2,3,3',4,4',5,5'-HpCB	189			580	2.48	1.05	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-Apr-2007 16:50:49; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9600-1_Form1A_PB7C_165S10_SJ664336_lipid.html; Workgroup: WG21241; Design ID: 594]

AXYS METHOD MLA-013 Rev 07

CLIENT SAMPLE NO.
06VN201M

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	08-Dec-2006
Matrix:	MILK	**Project No.**	DANDI 1283
Sample Size:	0.945 g (lipid)	**Lab Sample I.D.:**	L9600-1
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_165 S: 10**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			8.64	2.90	0.0001	8.64e-04	8.64e-04	
3,4,4',5-TeCB	81		ND		3.05	0.0001	0.00e+00	1.53e-04	
2,3,3',4,4'-PeCB	105			6270	3.80	0.0001	6.27e-01	6.27e-01	
2,3,4,4',5-PeCB	114			957	3.73	0.0005	4.79e-01	4.79e-01	
2,3',4,4',5-PeCB	118			20400	3.18	0.0001	2.04e+00	2.04e+00	
2',3,4,4',5-PeCB	123			300	3.73	0.0001	3.00e-02	3.00e-02	
3,3',4,4',5-PeCB	126			61.1	4.51	0.1	6.11e+00	6.11e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	7690	2.68	0.0005	3.85e+00	3.85e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1750	1.62	0.00001	1.75e-02	1.75e-02	
3,3',4,4',5,5'-HxCB	169		ND		78.1	0.01	0.00e+00	3.91e-01	
2,3,3',4,4',5,5'-HpCB	189			580	2.48	0.0001	5.80e-02	5.80e-02	
					TOTAL TEQ		13.2	13.6	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			8.64	2.90	0.0001	8.64e-04	8.64e-04	
3,4,4',5-TeCB	81		ND		3.05	0.0003	0.00e+00	4.58e-04	
2,3,3',4,4'-PeCB	105			6270	3.80	0.00003	1.88e-01	1.88e-01	
2,3,4,4',5-PeCB	114			957	3.73	0.00003	2.87e-02	2.87e-02	
2,3',4,4',5-PeCB	118			20400	3.18	0.00003	6.12e-01	6.12e-01	
2',3,4,4',5-PeCB	123			300	3.73	0.00003	9.00e-03	9.00e-03	
3,3',4,4',5-PeCB	126			61.1	4.51	0.1	6.11e+00	6.11e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	7690	2.68	0.00003	2.31e-01	2.31e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1750	1.62	0.00003	5.25e-02	5.25e-02	
3,3',4,4',5,5'-HxCB	169		ND		78.1	0.03	0.00e+00	1.17e+00	
2,3,3',4,4',5,5'-HpCB	189			580	2.48	0.00003	1.74e-02	1.74e-02	
					TOTAL TEQ		7.25	8.42	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 25-Apr-2007 16:52:58; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9600-1_TEQ_SJ664336_lipid.html; Workgroup: WG21241; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB001 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-31 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.3 g (wet)
Extraction Date:	16-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	13-Feb-2007 **Time:** 02:22:08	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_066 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_065 S: 4
Concentration Units:	pg/g (wet weight basis)	**Cal. Ver. Data Filename:**	PB7C_066 S: 1

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.067	0.0161	0.81	1.000
3,4,4',5-TeCB	81			0.042	0.0158	0.79	1.000
2,3,3',4,4'-PeCB	105			26.0	0.157	1.56	1.001
2,3,4,4',5-PeCB	114			13.3	0.153	1.56	1.001
2,3',4,4',5-PeCB	118			153	0.151	1.57	1.000
2',3,4,4',5-PeCB	123			1.70	0.159	1.54	1.000
3,3',4,4',5-PeCB	126			0.248	0.171	1.60	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	143	0.107	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			27.6	0.0747	1.27	1.001
3,3',4,4',5,5'-HxCB	169		ND		0.729		
2,2',3,3',4,4',5-HpCB	170			193	0.0083	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			8.97	0.0398	1.05	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Brian Watson_____ QA/QC Chemist

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AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB001 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-31 L
Matrix:	BLOOD	**Sample Size:**	60.3 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 02:22:08	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1630	81.6	0.77	1.395
13C12-3,4,4',5-TeCB	81L			2000	1640	81.8	0.76	1.371
13C12-2,3,3',4,4'-PeCB	105L			2000	1760	87.9	1.61	1.200
13C12-2,3,4,4',5-PeCB	114L			2000	1760	87.8	1.62	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1800	89.8	1.60	1.161
13C12-2',3,4,4',5-PeCB	123L			2000	1780	89.1	1.59	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1730	86.6	1.59	1.300
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2800	70.0	1.29	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1400	69.8	1.28	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1250	62.7	1.30	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1300	64.8	1.05	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1320	66.0	1.08	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1270	63.3	1.07	1.258
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1760	88.2	1.61	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1500	75.1	1.05	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

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Report Filename: 1668_PCB1668_PCBTOX_L9584-31_Form2_SJ636402.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB001 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-31 LW
Matrix:	BLOOD	**Sample Size:**	60.3 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 02:57:01	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB7C_069E S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB7C_069D S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	552	0.0306	1.04	1.001
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-31_Form1A_SJ636858.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB001 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-31 LW
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	60.3 g (wet)
Extraction Date:	16-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 02:57:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_069E S:** 7
Dilution Factor:	5	**Blank Data Filename:**	PB7C_065 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	PB7C_069D S: 1

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,3',4,4',5-HpCB	170L		X					
13C12-2,2',3,4,4',5,5'-HpCB	180L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L		X					
13C12-2,2',3,3',5,5',6-HpCB	178L		X					

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-31_Form2_SJ636858.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB001 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.3 g (wet)	**Lab Sample I.D.:**	L9584-31 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_066 S:** 7 **PB7C_069E S:** 7

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.067	0.0161	0.0001	6.70e-06	6.70e-06	
3,4,4',5-TeCB	81			0.042	0.0158	0.0001	4.20e-06	4.20e-06	
2,3,3',4,4'-PeCB	105			26.0	0.157	0.0001	2.60e-03	2.60e-03	
2,3,4,4',5-PeCB	114			13.3	0.153	0.0005	6.65e-03	6.65e-03	
2,3',4,4',5-PeCB	118			153	0.151	0.0001	1.53e-02	1.53e-02	
2',3,4,4',5-PeCB	123			1.70	0.159	0.0001	1.70e-04	1.70e-04	
3,3',4,4',5-PeCB	126			0.248	0.171	0.1	2.48e-02	2.48e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	143	0.107	0.0005	7.15e-02	7.15e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			27.6	0.0747	0.00001	2.76e-04	2.76e-04	
3,3',4,4',5,5'-HxCB	169		ND		0.729	0.01	0.00e+00	3.65e-03	
2,3,3',4,4',5,5'-HpCB	189			8.97	0.0398	0.0001	8.97e-04	8.97e-04	
					TOTAL TEQ		0.122	0.126	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.067	0.0161	0.0001	6.70e-06	6.70e-06	
3,4,4',5-TeCB	81			0.042	0.0158	0.0003	1.26e-05	1.26e-05	
2,3,3',4,4'-PeCB	105			26.0	0.157	0.00003	7.80e-04	7.80e-04	
2,3,4,4',5-PeCB	114			13.3	0.153	0.00003	3.99e-04	3.99e-04	
2,3',4,4',5-PeCB	118			153	0.151	0.00003	4.59e-03	4.59e-03	
2',3,4,4',5-PeCB	123			1.70	0.159	0.00003	5.10e-05	5.10e-05	
3,3',4,4',5-PeCB	126			0.248	0.171	0.1	2.48e-02	2.48e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	143	0.107	0.00003	4.29e-03	4.29e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			27.6	0.0747	0.00003	8.28e-04	8.28e-04	
3,3',4,4',5,5'-HxCB	169		ND		0.729	0.03	0.00e+00	1.09e-02	
2,3,3',4,4',5,5'-HpCB	189			8.97	0.0398	0.00003	2.69e-04	2.69e-04	
					TOTAL TEQ		0.0360	0.0470	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-31_TEQ_SJ636402.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB001 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-31 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.170 g (lipid)
Extraction Date:	16-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	13-Feb-2007 **Time:** 02:22:08	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_066 S:** 7
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_065 S: 4
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
		% Lipid:	0.28

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			23.7	5.71	0.81	1.000
3,4,4',5-TeCB	81			14.9	5.60	0.79	1.000
2,3,3',4,4'-PeCB	105			9220	55.7	1.56	1.001
2,3,4,4',5-PeCB	114			4710	54.2	1.56	1.001
2,3',4,4',5-PeCB	118			54200	53.5	1.57	1.000
2',3,4,4',5-PeCB	123			603	56.4	1.54	1.000
3,3',4,4',5-PeCB	126			87.9	60.6	1.60	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	50700	37.9	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			9780	26.5	1.27	1.001
3,3',4,4',5,5'-HxCB	169		ND		258		
2,2',3,3',4,4',5-HpCB	170			68400	2.94	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			3180	14.1	1.05	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Mar-2007 18:48:37; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_PCBTOX_L9584-31_Form1A_SJ636402_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB001 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-31 LW
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.170 g (lipid)
Extraction Date:	16-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 02:57:01	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_069E S: 7**
Dilution Factor:	5	**Blank Data Filename:**	PB7C_065 S: 4
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	PB7C_069D S: 1
		% Lipid:	0.28

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	196000	10.8	1.04	1.001
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Mar-2007 18:48:37; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_PCBTOX_L9584-31_Form1A_SJ636858_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB001 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.170 g (lipid)	**Lab Sample I.D.:**	L9584-31 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_066 S:** 7 **PB7C_069E S:** 7

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			23.7	5.71	0.0001	2.37e-03	2.37e-03	
3,4,4',5-TeCB	81			14.9	5.60	0.0001	1.49e-03	1.49e-03	
2,3,3',4,4'-PeCB	105			9220	55.7	0.0001	9.22e-01	9.22e-01	
2,3,4,4',5-PeCB	114			4710	54.2	0.0005	2.36e+00	2.36e+00	
2,3',4,4',5-PeCB	118			54200	53.5	0.0001	5.42e+00	5.42e+00	
2',3,4,4',5-PeCB	123			603	56.4	0.0001	6.03e-02	6.03e-02	
3,3',4,4',5-PeCB	126			87.9	60.6	0.1	8.79e+00	8.79e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	50700	37.9	0.0005	2.54e+01	2.54e+01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			9780	26.5	0.00001	9.78e-02	9.78e-02	
3,3',4,4',5,5'-HxCB	169		ND		258	0.01	0.00e+00	1.29e+00	
2,3,3',4,4',5,5'-HpCB	189			3180	14.1	0.0001	3.18e-01	3.18e-01	
					TOTAL TEQ		43.3	44.6	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			23.7	5.71	0.0001	2.37e-03	2.37e-03	
3,4,4',5-TeCB	81			14.9	5.60	0.0003	4.47e-03	4.47e-03	
2,3,3',4,4'-PeCB	105			9220	55.7	0.00003	2.77e-01	2.77e-01	
2,3,4,4',5-PeCB	114			4710	54.2	0.00003	1.41e-01	1.41e-01	
2,3',4,4',5-PeCB	118			54200	53.5	0.00003	1.63e+00	1.63e+00	
2',3,4,4',5-PeCB	123			603	56.4	0.00003	1.81e-02	1.81e-02	
3,3',4,4',5-PeCB	126			87.9	60.6	0.1	8.79e+00	8.79e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	50700	37.9	0.00003	1.52e+00	1.52e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			9780	26.5	0.00003	2.93e-01	2.93e-01	
3,3',4,4',5,5'-HxCB	169		ND		258	0.03	0.00e+00	3.87e+00	
2,3,3',4,4',5,5'-HpCB	189			3180	14.1	0.00003	9.54e-02	9.54e-02	
					TOTAL TEQ		12.8	16.6	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Mar-2007 18:52:36; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-31_TEQ_SJ636402_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB002 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-8 L
Matrix:	BLOOD	**Sample Size:**	60.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 16:33:50	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.132	0.0305	0.85	1.000
3,4,4',5-TeCB	81		NDR	0.071	0.0306	0.80	1.000
2,3,3',4,4'-PeCB	105			33.2	0.187	1.56	1.000
2,3,4,4',5-PeCB	114			6.93	0.178	1.59	1.000
2,3',4,4',5-PeCB	118			147	0.182	1.57	1.000
2',3,4,4',5-PeCB	123			1.70	0.193	1.69	1.001
3,3',4,4',5-PeCB	126		G	0.327	0.196	1.55	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	110	0.150	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			21.1	0.104	1.25	1.001
3,3',4,4',5,5'-HxCB	169		ND		1.04		
2,2',3,3',4,4',5-HpCB	170			218	0.0130	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	590	0.0097	1.04	1.000
2,3,3',4,4',5,5'-HpCB	189			9.29	0.0665	1.06	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-8_Form1A_SJ636392.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB002 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-8 L
Matrix:	BLOOD	**Sample Size:**	60.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 16:33:50	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1750	87.3	0.78	1.396
13C12-3,4,4',5-TeCB	81L			2000	1730	86.3	0.79	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1670	83.7	1.59	1.200
13C12-2,3,4,4',5-PeCB	114L			2000	1710	85.7	1.66	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1690	84.3	1.59	1.161
13C12-2',3,4,4',5-PeCB	123L			2000	1640	82.2	1.59	1.151
13C12-3,3',4,4',5-PeCB	126L		G	2000	1690	84.7	1.58	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2730	68.2	1.27	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1380	68.9	1.28	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1280	64.1	1.27	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1290	64.3	1.05	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1350	67.6	1.06	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1440	72.1	1.05	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1600	80.0	1.61	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1430	71.6	1.06	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 14:19:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-8_Form2_SJ636392.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB002 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.2 g (wet)	**Lab Sample I.D.:**	L9584-8 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_065 S: 8**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.132	0.0305	0.0001	1.32e-05	1.32e-05	
3,3',4,4'-TeCB	77			0.132	0.0305	0.0001	1.32e-05	1.32e-05	
3,4,4',5-TeCB	81		ND		0.0306	0.0001	0.00e+00	1.53e-06	
3,4,4',5-TeCB	81			0.071	0.0306	0.0001	7.10e-06	7.10e-06	
2,3,3',4,4'-PeCB	105			33.2	0.187	0.0001	3.32e-03	3.32e-03	
2,3,3',4,4'-PeCB	105			33.2	0.187	0.0001	3.32e-03	3.32e-03	
2,3,4,4',5-PeCB	114			6.93	0.178	0.0005	3.47e-03	3.47e-03	
2,3,4,4',5-PeCB	114			6.93	0.178	0.0005	3.47e-03	3.47e-03	
2,3',4,4',5-PeCB	118			147	0.182	0.0001	1.47e-02	1.47e-02	
2,3',4,4',5-PeCB	118			147	0.182	0.0001	1.47e-02	1.47e-02	
2',3,4,4',5-PeCB	123			1.70	0.193	0.0001	1.70e-04	1.70e-04	
2',3,4,4',5-PeCB	123			1.70	0.193	0.0001	1.70e-04	1.70e-04	
3,3',4,4',5-PeCB	126			0.327	0.196	0.1	3.27e-02	3.27e-02	
3,3',4,4',5-PeCB	126			0.327	0.196	0.1	3.27e-02	3.27e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	110	0.150	0.0005	5.50e-02	5.50e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	110	0.455	0.0005	5.50e-02	5.50e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			21.1	0.104	0.00001	2.11e-04	2.11e-04	
2,3',4,4',5,5'-HxCB	167			21.1	0.314	0.00001	2.11e-04	2.11e-04	
3,3',4,4',5,5'-HxCB	169		ND		1.04	0.01	0.00e+00	5.20e-03	
3,3',4,4',5,5'-HxCB	169		ND		0.344	0.01	0.00e+00	1.72e-03	
2,3,3',4,4',5,5'-HpCB	189			9.29	0.0665	0.0001	9.29e-04	9.29e-04	
2,3,3',4,4',5,5'-HpCB	189			9.29	0.0665	0.0001	9.29e-04	9.29e-04	

					TOTAL TEQ		0.221	0.228	
COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.132	0.0305	0.0001	1.32e-05	1.32e-05	
3,3',4,4'-TeCB	77			0.132	0.0305	0.0001	1.32e-05	1.32e-05	
3,4,4',5-TeCB	81		ND		0.0306	0.0003	0.00e+00	4.59e-06	
3,4,4',5-TeCB	81			0.071	0.0306	0.0003	2.13e-05	2.13e-05	
2,3,3',4,4'-PeCB	105			33.2	0.187	0.00003	9.96e-04	9.96e-04	
2,3,3',4,4'-PeCB	105			33.2	0.187	0.00003	9.96e-04	9.96e-04	
2,3,4,4',5-PeCB	114			6.93	0.178	0.00003	2.08e-04	2.08e-04	
2,3,4,4',5-PeCB	114			6.93	0.178	0.00003	2.08e-04	2.08e-04	
2,3',4,4',5-PeCB	118			147	0.182	0.00003	4.41e-03	4.41e-03	
2,3',4,4',5-PeCB	118			147	0.182	0.00003	4.41e-03	4.41e-03	
2',3,4,4',5-PeCB	123			1.70	0.193	0.00003	5.10e-05	5.10e-05	
2',3,4,4',5-PeCB	123			1.70	0.193	0.00003	5.10e-05	5.10e-05	
3,3',4,4',5-PeCB	126			0.327	0.196	0.1	3.27e-02	3.27e-02	
3,3',4,4',5-PeCB	126			0.327	0.196	0.1	3.27e-02	3.27e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	110	0.150	0.00003	3.30e-03	3.30e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	110	0.455	0.00003	3.30e-03	3.30e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						

2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			21.1	0.104	0.00003	6.33e-04	6.33e-04
2,3',4,4',5,5'-HxCB	167			21.1	0.314	0.00003	6.33e-04	6.33e-04
3,3',4,4',5,5'-HxCB	169		ND		1.04	0.03	0.00e+00	1.56e-02
3,3',4,4',5,5'-HxCB	169		ND		0.344	0.03	0.00e+00	5.16e-03
2,3,3',4,4',5,5'-HpCB	189			9.29	0.0665	0.00003	2.79e-04	2.79e-04
2,3,3',4,4',5,5'-HpCB	189			9.29	0.0665	0.00003	2.79e-04	2.79e-04
					TOTAL TEQ		0.0852	0.106

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-8_TEQ_SJ636392.html; Workgroup: WG21016; Design ID: 594]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB002 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-8 L
Matrix:	BLOOD	**Sample Size:**	0.170 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 16:33:50	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid *:**	0.28

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			46.7	10.8	0.85	1.000
3,4,4',5-TeCB	81		NDR	25.1	10.8	0.80	1.000
2,3,3',4,4'-PeCB	105			11800	66.2	1.56	1.000
2,3,4,4',5-PeCB	114			2450	63.0	1.59	1.000
2,3',4,4',5-PeCB	118			52100	64.4	1.57	1.000
2',3,4,4',5-PeCB	123			602	68.3	1.69	1.001
3,3',4,4',5-PeCB	126		G	116	69.4	1.55	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	39000	53.1	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			7470	36.8	1.25	1.001
3,3',4,4',5,5'-HxCB	169		ND		368		
2,2',3,3',4,4',5-HpCB	170			77200	4.60	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	209000	3.43	1.04	1.000
2,3,3',4,4',5,5'-HpCB	189			3290	23.5	1.06	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

NOTE: * Estimated value based on lipid data from 763 Vietnamese Males

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 21-Mar-2007 09:19:30; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_PCBTOX_L9584-8_Form1A_SJ636392_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB002 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.170 g (lipid)	**Lab Sample I.D.:**	L9584-8 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_065 S: 8**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			46.7	10.8	0.0001	4.67e-03	4.67e-03	
3,4,4',5-TeCB	81		ND		10.8	0.0001	0.00e+00	5.40e-04	
2,3,3',4,4'-PeCB	105			11800	66.2	0.0001	1.18e+00	1.18e+00	
2,3,4,4',5-PeCB	114			2450	63.0	0.0005	1.23e+00	1.23e+00	
2,3',4,4',5-PeCB	118			52100	64.4	0.0001	5.21e+00	5.21e+00	
2',3,4,4',5-PeCB	123			602	68.3	0.0001	6.02e-02	6.02e-02	
3,3',4,4',5-PeCB	126			116	69.4	0.1	1.16e+01	1.16e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	39000	53.1	0.0005	1.95e+01	1.95e+01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			7470	36.8	0.00001	7.47e-02	7.47e-02	
3,3',4,4',5,5'-HxCB	169		ND		368	0.01	0.00e+00	1.84e+00	
2,3,3',4,4',5,5'-HpCB	189			3290	23.5	0.0001	3.29e-01	3.29e-01	
					TOTAL TEQ		39.2	41.0	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			46.7	10.8	0.0001	4.67e-03	4.67e-03	
3,4,4',5-TeCB	81		ND		10.8	0.0003	0.00e+00	1.62e-03	
2,3,3',4,4'-PeCB	105			11800	66.2	0.00003	3.54e-01	3.54e-01	
2,3,4,4',5-PeCB	114			2450	63.0	0.00003	7.35e-02	7.35e-02	
2,3',4,4',5-PeCB	118			52100	64.4	0.00003	1.56e+00	1.56e+00	
2',3,4,4',5-PeCB	123			602	68.3	0.00003	1.81e-02	1.81e-02	
3,3',4,4',5-PeCB	126			116	69.4	0.1	1.16e+01	1.16e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	39000	53.1	0.00003	1.17e+00	1.17e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			7470	36.8	0.00003	2.24e-01	2.24e-01	
3,3',4,4',5,5'-HxCB	169		ND		368	0.03	0.00e+00	5.52e+00	
2,3,3',4,4',5,5'-HpCB	189			3290	23.5	0.00003	9.87e-02	9.87e-02	
					TOTAL TEQ		15.1	20.6	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 21-Mar-2007 15:09:23; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-8_TEQ_SJ636392_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB004 Composite
Sample Collection:
N/A

Form 1A

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-32 L
Matrix:	BLOOD	**Sample Size:**	60.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 03:26:26	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.035	0.0116	0.86	1.000
3,4,4',5-TeCB	81		ND		0.0131		
2,3,3',4,4'-PeCB	105			5.55	0.0333	1.58	1.000
2,3,4,4',5-PeCB	114			2.12	0.0325	1.54	1.000
2,3',4,4',5-PeCB	118			26.4	0.0327	1.57	1.000
2',3,4,4',5-PeCB	123			0.286	0.0335	1.67	1.000
3,3',4,4',5-PeCB	126			0.042	0.0356	1.49	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	25.4	0.0502	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			4.30	0.0337	1.24	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.126		
2,2',3,3',4,4',5-HpCB	170			35.0	0.0083	1.04	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	96.3	0.0083	1.06	1.000
2,3,3',4,4',5,5'-HpCB	189			1.46	0.0165	1.03	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-32_Form1A_SJ636403.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB004 Composite
Sample Collection:
N/A

Form 2

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-32 L
Matrix:	BLOOD	**Sample Size:**	60.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 03:26:26	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1740	87.1	0.77	1.396
13C12-3,4,4',5-TeCB	81L			2000	1830	91.6	0.76	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1830	91.3	1.58	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1780	89.2	1.60	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1820	90.9	1.59	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1820	91.0	1.59	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1830	91.6	1.58	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2840	71.1	1.28	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1430	71.4	1.27	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1280	64.0	1.28	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1310	65.5	1.04	1.175
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1290	64.5	1.07	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1460	73.1	1.05	1.257
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1710	85.3	1.61	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1540	76.8	1.06	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-32_Form2_SJ636403.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB004 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.1 g (wet)	**Lab Sample I.D.:**	L9584-32 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_066 S: 8**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.035	0.0116	0.0001	3.50e-06	3.50e-06	
3,4,4',5-TeCB	81		ND		0.0131	0.0001	0.00e+00	6.55e-07	
2,3,3',4,4'-PeCB	105			5.55	0.0333	0.0001	5.55e-04	5.55e-04	
2,3,4,4',5-PeCB	114			2.12	0.0325	0.0005	1.06e-03	1.06e-03	
2,3',4,4',5-PeCB	118			26.4	0.0327	0.0001	2.64e-03	2.64e-03	
2',3,4,4',5-PeCB	123			0.286	0.0335	0.0001	2.86e-05	2.86e-05	
3,3',4,4',5-PeCB	126			0.042	0.0356	0.1	4.20e-03	4.20e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	25.4	0.0502	0.0005	1.27e-02	1.27e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			4.30	0.0337	0.00001	4.30e-05	4.30e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.126	0.01	0.00e+00	6.30e-04	
2,3,3',4,4',5,5'-HpCB	189			1.46	0.0165	0.0001	1.46e-04	1.46e-04	
					TOTAL TEQ		0.0214	0.0220	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.035	0.0116	0.0001	3.50e-06	3.50e-06	
3,4,4',5-TeCB	81		ND		0.0131	0.0003	0.00e+00	1.97e-06	
2,3,3',4,4'-PeCB	105			5.55	0.0333	0.00003	1.67e-04	1.67e-04	
2,3,4,4',5-PeCB	114			2.12	0.0325	0.00003	6.36e-05	6.36e-05	
2,3',4,4',5-PeCB	118			26.4	0.0327	0.00003	7.92e-04	7.92e-04	
2',3,4,4',5-PeCB	123			0.286	0.0335	0.00003	8.58e-06	8.58e-06	
3,3',4,4',5-PeCB	126			0.042	0.0356	0.1	4.20e-03	4.20e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	25.4	0.0502	0.00003	7.62e-04	7.62e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			4.30	0.0337	0.00003	1.29e-04	1.29e-04	
3,3',4,4',5,5'-HxCB	169		ND		0.126	0.03	0.00e+00	1.89e-03	
2,3,3',4,4',5,5'-HpCB	189			1.46	0.0165	0.00003	4.38e-05	4.38e-05	
					TOTAL TEQ		0.00617	0.00806	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-32_TEQ_SJ636403.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB004 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-32 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.130 g (lipid)
Extraction Date:	16-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	13-Feb-2007 **Time:** 03:26:26	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_066 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_065 S: 4
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
		% Lipid:	0.23

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			16.2	5.36	0.86	1.000
3,4,4',5-TeCB	81		ND		6.06		
2,3,3',4,4'-PeCB	105			2570	15.4	1.58	1.000
2,3,4,4',5-PeCB	114			980	15.0	1.54	1.000
2,3',4,4',5-PeCB	118			12200	15.1	1.57	1.000
2',3,4,4',5-PeCB	123			132	15.5	1.67	1.000
3,3',4,4',5-PeCB	126			19.4	16.5	1.49	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	11700	23.2	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			1990	15.6	1.24	1.000
3,3',4,4',5,5'-HxCB	169		ND		58.3		
2,2',3,3',4,4',5-HpCB	170			16200	3.84	1.04	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	44500	3.84	1.06	1.000
2,3,3',4,4',5,5'-HpCB	189			675	7.63	1.03	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Mar-2007 18:48:37; Application: XMLTransformer-1.7.35; Report Filename: 1668_PCB1668_PCBTOX_L9584-32_Form1A_SJ636403_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB004 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.130 g (lipid)	**Lab Sample I.D.:**	L9584-32 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_066 S: 8**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			16.2	5.36	0.0001	1.62e-03	1.62e-03	
3,4,4',5-TeCB	81		ND		6.06	0.0001	0.00e+00	3.03e-04	
2,3,3',4,4'-PeCB	105			2570	15.4	0.0001	2.57e-01	2.57e-01	
2,3,4,4',5-PeCB	114			980	15.0	0.0005	4.90e-01	4.90e-01	
2,3',4,4',5-PeCB	118			12200	15.1	0.0001	1.22e+00	1.22e+00	
2',3,4,4',5-PeCB	123			132	15.5	0.0001	1.32e-02	1.32e-02	
3,3',4,4',5-PeCB	126			19.4	16.5	0.1	1.94e+00	1.94e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	11700	23.2	0.0005	5.85e+00	5.85e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1990	15.6	0.00001	1.99e-02	1.99e-02	
3,3',4,4',5,5'-HxCB	169		ND		58.3	0.01	0.00e+00	2.92e-01	
2,3,3',4,4',5,5'-HpCB	189			675	7.63	0.0001	6.75e-02	6.75e-02	
					TOTAL TEQ		9.86	10.2	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			16.2	5.36	0.0001	1.62e-03	1.62e-03	
3,4,4',5-TeCB	81		ND		6.06	0.0003	0.00e+00	9.09e-04	
2,3,3',4,4'-PeCB	105			2570	15.4	0.00003	7.71e-02	7.71e-02	
2,3,4,4',5-PeCB	114			980	15.0	0.00003	2.94e-02	2.94e-02	
2,3',4,4',5-PeCB	118			12200	15.1	0.00003	3.66e-01	3.66e-01	
2',3,4,4',5-PeCB	123			132	15.5	0.00003	3.96e-03	3.96e-03	
3,3',4,4',5-PeCB	126			19.4	16.5	0.1	1.94e+00	1.94e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	11700	23.2	0.00003	3.51e-01	3.51e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1990	15.6	0.00003	5.97e-02	5.97e-02	
3,3',4,4',5,5'-HxCB	169		ND		58.3	0.03	0.00e+00	8.75e-01	
2,3,3',4,4',5,5'-HpCB	189			675	7.63	0.00003	2.03e-02	2.03e-02	
					TOTAL TEQ		2.85	3.72	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Mar-2007 18:52:36; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-32_TEQ_SJ636403_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB011 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-24 L
Matrix:	BLOOD	**Sample Size:**	47.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 00:13:25	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.040	0.0225	0.85	1.000
3,4,4',5-TeCB	81		ND		0.0210		
2,3,3',4,4'-PeCB	105			6.99	0.0542	1.52	1.001
2,3,4,4',5-PeCB	114			1.56	0.0518	1.60	1.001
2,3',4,4',5-PeCB	118			25.8	0.0529	1.56	1.000
2',3,4,4',5-PeCB	123			0.252	0.0531	1.47	1.000
3,3',4,4',5-PeCB	126			0.064	0.0603	1.65	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	39.4	0.0517	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			5.52	0.0339	1.24	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.966		
2,2',3,3',4,4',5-HpCB	170			318	0.0120	1.05	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			8.54	0.0661	1.03	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-24_Form1A_SJ636400.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB011 Composite
Sample Collection:
N/A

Form 2

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-24 L
Matrix:	BLOOD	**Sample Size:**	47.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 00:13:25	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1500	74.8	0.76	1.396
13C12-3,4,4',5-TeCB	81L			2000	1580	79.1	0.76	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1560	78.1	1.59	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1560	77.9	1.60	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1590	79.7	1.58	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1590	79.3	1.58	1.152
13C12-3,3',4,4',5-PeCB	126L			2000	1540	77.2	1.58	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2530	63.2	1.28	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1300	65.0	1.28	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1180	59.1	1.27	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1190	59.7	1.06	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1240	62.2	1.06	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1390	69.4	1.06	1.257
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1570	78.4	1.61	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1400	70.2	1.07	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-24_Form2_SJ636400.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB011 Composite
Sample Collection:
N/A

Form 1A

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-24 LW
Matrix:	BLOOD	**Sample Size:**	47.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 04:01:25	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB7C_069E S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB7C_069D S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	1500	0.0302	1.05	1.001
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-24_Form1A_SJ636859.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB011 Composite
Sample Collection:
N/A

Form 2

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-24 LW
Matrix:	BLOOD	**Sample Size:**	47.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 04:01:25	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB7C_069E S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB7C_069D S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,3',4,4',5-HpCB	170L		X					
13C12-2,2',3,4,4',5,5'-HpCB	180L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L		X					
13C12-2,2',3,3',5,5',6-HpCB	178L		X					

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-24_Form2_SJ636859.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB011 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	47.2 g (wet)	**Lab Sample I.D.:**	L9584-24 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_066 S: 5** **PB7C_069E S: 8**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.040	0.0225	0.0001	4.00e-06	4.00e-06	
3,4,4',5-TeCB	81		ND		0.0210	0.0001	0.00e+00	1.05e-06	
2,3,3',4,4'-PeCB	105			6.99	0.0542	0.0001	6.99e-04	6.99e-04	
2,3,4,4',5-PeCB	114			1.56	0.0518	0.0005	7.80e-04	7.80e-04	
2,3',4,4',5-PeCB	118			25.8	0.0529	0.0001	2.58e-03	2.58e-03	
2',3,4,4',5-PeCB	123			0.252	0.0531	0.0001	2.52e-05	2.52e-05	
3,3',4,4',5-PeCB	126			0.064	0.0603	0.1	6.40e-03	6.40e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	39.4	0.0517	0.0005	1.97e-02	1.97e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			5.52	0.0339	0.00001	5.52e-05	5.52e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.966	0.01	0.00e+00	4.83e-03	
2,3,3',4,4',5,5'-HpCB	189			8.54	0.0661	0.0001	8.54e-04	8.54e-04	
					TOTAL TEQ		0.0311	0.0359	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.040	0.0225	0.0001	4.00e-06	4.00e-06	
3,4,4',5-TeCB	81		ND		0.0210	0.0003	0.00e+00	3.15e-06	
2,3,3',4,4'-PeCB	105			6.99	0.0542	0.00003	2.10e-04	2.10e-04	
2,3,4,4',5-PeCB	114			1.56	0.0518	0.00003	4.68e-05	4.68e-05	
2,3',4,4',5-PeCB	118			25.8	0.0529	0.00003	7.74e-04	7.74e-04	
2',3,4,4',5-PeCB	123			0.252	0.0531	0.00003	7.56e-06	7.56e-06	
3,3',4,4',5-PeCB	126			0.064	0.0603	0.1	6.40e-03	6.40e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	39.4	0.0517	0.00003	1.18e-03	1.18e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			5.52	0.0339	0.00003	1.66e-04	1.66e-04	
3,3',4,4',5,5'-HxCB	169		ND		0.966	0.03	0.00e+00	1.45e-02	
2,3,3',4,4',5,5'-HpCB	189			8.54	0.0661	0.00003	2.56e-04	2.56e-04	
					TOTAL TEQ		0.00905	0.0235	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-24_TEQ_SJ636400.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB011 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-24 L
Matrix:	BLOOD	**Sample Size:**	0.110 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 00:13:25	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.23

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			17.2	9.65	0.85	1.000
3,4,4',5-TeCB	81		ND		9.01		
2,3,3',4,4'-PeCB	105			3000	23.2	1.52	1.001
2,3,4,4',5-PeCB	114			669	22.2	1.60	1.001
2,3',4,4',5-PeCB	118			11100	22.7	1.56	1.000
2',3,4,4',5-PeCB	123			108	22.8	1.47	1.000
3,3',4,4',5-PeCB	126			27.5	25.9	1.65	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	16900	22.2	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			2370	14.5	1.24	1.000
3,3',4,4',5,5'-HxCB	169		ND		414		
2,2',3,3',4,4',5-HpCB	170			136000	5.15	1.05	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			3660	28.4	1.03	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 26-Apr-2007 18:51:15; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-24_Form1A_PB7C_066S5_SJ636400_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB011 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-24 LW
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.110 g (lipid)
Extraction Date:	16-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 04:01:25	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_069E S: 8**
Dilution Factor:	5	**Blank Data Filename:**	PB7C_065 S: 4
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	PB7C_069D S: 1
		% Lipid:	0.23

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	643000	13.0	1.05	1.001
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 30-Apr-2007 10:27:09; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-24_Form1A_PB7C_069ES8_SJ636859_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB011 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.110 g (lipid)	**Lab Sample I.D.:**	L9584-24 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	PB7C_066 S: 5 PB7C_069E S: 8

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			17.2	9.65	0.0001	1.72e-03	1.72e-03	
3,4,4',5-TeCB	81		ND		9.01	0.0001	0.00e+00	4.51e-04	
2,3,3',4,4'-PeCB	105			3000	23.2	0.0001	3.00e-01	3.00e-01	
2,3,4,4',5-PeCB	114			669	22.2	0.0005	3.35e-01	3.35e-01	
2,3',4,4',5-PeCB	118			11100	22.7	0.0001	1.11e+00	1.11e+00	
2',3,4,4',5-PeCB	123			108	22.8	0.0001	1.08e-02	1.08e-02	
3,3',4,4',5-PeCB	126			27.5	25.9	0.1	2.75e+00	2.75e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	16900	22.2	0.0005	8.45e+00	8.45e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			2370	14.5	0.00001	2.37e-02	2.37e-02	
3,3',4,4',5,5'-HxCB	169		ND		414	0.01	0.00e+00	2.07e+00	
2,3,3',4,4',5,5'-HpCB	189			3660	28.4	0.0001	3.66e-01	3.66e-01	
					TOTAL TEQ		13.3	15.4	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			17.2	9.65	0.0001	1.72e-03	1.72e-03	
3,4,4',5-TeCB	81		ND		9.01	0.0003	0.00e+00	1.35e-03	
2,3,3',4,4'-PeCB	105			3000	23.2	0.00003	9.00e-02	9.00e-02	
2,3,4,4',5-PeCB	114			669	22.2	0.00003	2.01e-02	2.01e-02	
2,3',4,4',5-PeCB	118			11100	22.7	0.00003	3.33e-01	3.33e-01	
2',3,4,4',5-PeCB	123			108	22.8	0.00003	3.24e-03	3.24e-03	
3,3',4,4',5-PeCB	126			27.5	25.9	0.1	2.75e+00	2.75e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	16900	22.2	0.00003	5.07e-01	5.07e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			2370	14.5	0.00003	7.11e-02	7.11e-02	
3,3',4,4',5,5'-HxCB	169		ND		414	0.03	0.00e+00	6.21e+00	
2,3,3',4,4',5,5'-HpCB	189			3660	28.4	0.00003	1.10e-01	1.10e-01	
					TOTAL TEQ		3.89	10.1	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 26-Apr-2007 18:55:11; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-24_TEQ_SJ636400_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB014 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-45 L
Matrix:	BLOOD	**Sample Size:**	60.4 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 13:28:38	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_067A S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		NDR	0.024	0.0098	0.92	1.000
3,4,4',5-TeCB	81		ND		0.0093		
2,3,3',4,4'-PeCB	105			1.99	0.0144	1.54	1.000
2,3,4,4',5-PeCB	114			0.664	0.0140	1.56	1.001
2,3',4,4',5-PeCB	118			7.61	0.0143	1.52	1.000
2',3,4,4',5-PeCB	123			0.109	0.0144	1.48	1.000
3,3',4,4',5-PeCB	126		G	0.055	0.0176	1.73	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	9.85	0.0133	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			1.73	0.0095	1.24	1.001
3,3',4,4',5,5'-HxCB	169		ND		0.140		
2,2',3,3',4,4',5-HpCB	170			34.5	0.0083	1.05	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	132	0.0083	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			1.82	0.0156	0.97	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:58:45; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-45_Form1A_SJ636521.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB014 Composite
Sample Collection:
N/A

Form 2

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-45 L
Matrix:	BLOOD	**Sample Size:**	60.4 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 Time: 13:28:38	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_067A S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1580	79.0	0.79	1.396
13C12-3,4,4',5-TeCB	81L			2000	1660	83.0	0.79	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1650	82.6	1.57	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1610	80.5	1.57	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1630	81.5	1.56	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1630	81.5	1.56	1.151
13C12-3,3',4,4',5-PeCB	126L		G	2000	1400	69.8	1.56	1.300
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2670	66.7	1.27	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1370	68.4	1.28	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1320	66.1	1.29	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1250	62.5	1.06	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1220	60.9	1.05	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1130	56.6	1.04	1.259
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1660	83.2	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1450	72.4	1.06	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 14:19:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-45_Form2_SJ636521.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB014 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.4 g (wet)	**Lab Sample I.D.:**	L9584-45 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_067A S: 4**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.0098	0.0001	0.00e+00	4.90e-07	
3,4,4',5-TeCB	81		ND		0.0093	0.0001	0.00e+00	4.65e-07	
2,3,3',4,4'-PeCB	105			1.99	0.0144	0.0001	1.99e-04	1.99e-04	
2,3,4,4',5-PeCB	114			0.664	0.0140	0.0005	3.32e-04	3.32e-04	
2,3',4,4',5-PeCB	118			7.61	0.0143	0.0001	7.61e-04	7.61e-04	
2',3,4,4',5-PeCB	123			0.109	0.0144	0.0001	1.09e-05	1.09e-05	
3,3',4,4',5-PeCB	126			0.055	0.0176	0.1	5.50e-03	5.50e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	9.85	0.0133	0.0005	4.93e-03	4.93e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1.73	0.0095	0.00001	1.73e-05	1.73e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.140	0.01	0.00e+00	7.00e-04	
2,3,3',4,4',5,5'-HpCB	189			1.82	0.0156	0.0001	1.82e-04	1.82e-04	
					TOTAL TEQ		0.0119	0.0126	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.0098	0.0001	0.00e+00	4.90e-07	
3,4,4',5-TeCB	81		ND		0.0093	0.0003	0.00e+00	1.40e-06	
2,3,3',4,4'-PeCB	105			1.99	0.0144	0.00003	5.97e-05	5.97e-05	
2,3,4,4',5-PeCB	114			0.664	0.0140	0.00003	1.99e-05	1.99e-05	
2,3',4,4',5-PeCB	118			7.61	0.0143	0.00003	2.28e-04	2.28e-04	
2',3,4,4',5-PeCB	123			0.109	0.0144	0.00003	3.27e-06	3.27e-06	
3,3',4,4',5-PeCB	126			0.055	0.0176	0.1	5.50e-03	5.50e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	9.85	0.0133	0.00003	2.96e-04	2.96e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1.73	0.0095	0.00003	5.19e-05	5.19e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.140	0.03	0.00e+00	2.10e-03	
2,3,3',4,4',5,5'-HpCB	189			1.82	0.0156	0.00003	5.46e-05	5.46e-05	
					TOTAL TEQ		0.00621	0.00832	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-45_TEQ_SJ636521.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB014 Composite
Sample Collection:
N/A

Form 1A

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9584-45 L
Matrix:	BLOOD	**Sample Size:**	0.110 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 13:28:38	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_067A S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.19

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		NDR	13.2	5.38	0.92	1.000
3,4,4',5-TeCB	81		ND		5.11		
2,3,3',4,4'-PeCB	105			1090	7.91	1.54	1.000
2,3,4,4',5-PeCB	114			365	7.69	1.56	1.001
2,3',4,4',5-PeCB	118			4180	7.85	1.52	1.000
2',3,4,4',5-PeCB	123			59.9	7.91	1.48	1.000
3,3',4,4',5-PeCB	126		G	30.2	9.66	1.73	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	5410	7.30	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			950	5.22	1.24	1.001
3,3',4,4',5,5'-HxCB	169		ND		76.9		
2,2',3,3',4,4',5-HpCB	170			18900	4.56	1.05	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	72500	4.56	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			999	8.57	0.97	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Mar-2007 18:48:37; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_PCBTOX_L9584-45_Form1A_SJ636521_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB014 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.110 g (lipid)	**Lab Sample I.D.:**	L9584-45 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_067A S: 4**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		5.38	0.0001	0.00e+00	2.69e-04	
3,4,4',5-TeCB	81		ND		5.11	0.0001	0.00e+00	2.56e-04	
2,3,3',4,4'-PeCB	105			1090	7.91	0.0001	1.09e-01	1.09e-01	
2,3,4,4',5-PeCB	114			365	7.69	0.0005	1.83e-01	1.83e-01	
2,3',4,4',5-PeCB	118			4180	7.85	0.0001	4.18e-01	4.18e-01	
2',3,4,4',5-PeCB	123			59.9	7.91	0.0001	5.99e-03	5.99e-03	
3,3',4,4',5-PeCB	126			30.2	9.66	0.1	3.02e+00	3.02e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	5410	7.30	0.0005	2.71e+00	2.71e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			950	5.22	0.00001	9.50e-03	9.50e-03	
3,3',4,4',5,5'-HxCB	169		ND		76.9	0.01	0.00e+00	3.85e-01	
2,3,3',4,4',5,5'-HpCB	189			999	8.57	0.0001	9.99e-02	9.99e-02	
					TOTAL TEQ		6.55	6.93	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		5.38	0.0001	0.00e+00	2.69e-04	
3,4,4',5-TeCB	81		ND		5.11	0.0003	0.00e+00	7.67e-04	
2,3,3',4,4'-PeCB	105			1090	7.91	0.00003	3.27e-02	3.27e-02	
2,3,4,4',5-PeCB	114			365	7.69	0.00003	1.10e-02	1.10e-02	
2,3',4,4',5-PeCB	118			4180	7.85	0.00003	1.25e-01	1.25e-01	
2',3,4,4',5-PeCB	123			59.9	7.91	0.00003	1.80e-03	1.80e-03	
3,3',4,4',5-PeCB	126			30.2	9.66	0.1	3.02e+00	3.02e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	5410	7.30	0.00003	1.62e-01	1.62e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			950	5.22	0.00003	2.85e-02	2.85e-02	
3,3',4,4',5,5'-HxCB	169		ND		76.9	0.03	0.00e+00	1.15e+00	
2,3,3',4,4',5,5'-HpCB	189			999	8.57	0.00003	3.00e-02	3.00e-02	
					TOTAL TEQ		3.41	4.57	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Mar-2007 18:52:36; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-45_TEQ_SJ636521_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB015 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-54 L
Matrix:	BLOOD	**Sample Size:**	50.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 16:41:47	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_067A S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.033	0.0101	0.84	1.001
3,4,4',5-TeCB	81		ND		0.0101		
2,3,3',4,4'-PeCB	105			4.43	0.0240	1.54	1.001
2,3,4,4',5-PeCB	114			1.56	0.0240	1.53	1.001
2,3',4,4',5-PeCB	118			17.2	0.0238	1.54	1.000
2',3,4,4',5-PeCB	123			0.199	0.0245	1.52	1.000
3,3',4,4',5-PeCB	126			0.079	0.0282	1.71	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	19.9	0.0115	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			3.34	0.0100	1.29	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.158		
2,2',3,3',4,4',5-HpCB	170			42.1	0.0100	1.04	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	140	0.0100	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			2.00	0.0152	0.98	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-54_Form1A_SJ636526.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB015 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-54 L
Matrix:	BLOOD	**Sample Size:**	50.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 16:41:47	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_067A S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1820	91.2	0.78	1.395
13C12-3,4,4',5-TeCB	81L			2000	1830	91.5	0.78	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1810	90.5	1.58	1.200
13C12-2,3,4,4',5-PeCB	114L			2000	1760	87.9	1.57	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1810	90.6	1.57	1.161
13C12-2',3,4,4',5-PeCB	123L			2000	1810	90.5	1.58	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1710	85.4	1.56	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2960	74.1	1.28	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1490	74.5	1.28	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1380	69.1	1.27	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1390	69.3	1.07	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1370	68.3	1.05	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1380	68.8	1.04	1.257
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1680	83.9	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1530	76.5	1.07	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-54_Form2_SJ636526.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB015 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	50.0 g (wet)	**Lab Sample I.D.:**	L9584-54 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_067A S:** 7

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.033	0.0101	0.0001	3.30e-06	3.30e-06	
3,4,4',5-TeCB	81		ND		0.0101	0.0001	0.00e+00	5.05e-07	
2,3,3',4,4'-PeCB	105			4.43	0.0240	0.0001	4.43e-04	4.43e-04	
2,3,4,4',5-PeCB	114			1.56	0.0240	0.0005	7.80e-04	7.80e-04	
2,3',4,4',5-PeCB	118			17.2	0.0238	0.0001	1.72e-03	1.72e-03	
2',3,4,4',5-PeCB	123			0.199	0.0245	0.0001	1.99e-05	1.99e-05	
3,3',4,4',5-PeCB	126			0.079	0.0282	0.1	7.90e-03	7.90e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	19.9	0.0115	0.0005	9.95e-03	9.95e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			3.34	0.0100	0.00001	3.34e-05	3.34e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.158	0.01	0.00e+00	7.90e-04	
2,3,3',4,4',5,5'-HpCB	189			2.00	0.0152	0.0001	2.00e-04	2.00e-04	
					TOTAL TEQ		0.0210	0.0218	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.033	0.0101	0.0001	3.30e-06	3.30e-06	
3,4,4',5-TeCB	81		ND		0.0101	0.0003	0.00e+00	1.52e-06	
2,3,3',4,4'-PeCB	105			4.43	0.0240	0.00003	1.33e-04	1.33e-04	
2,3,4,4',5-PeCB	114			1.56	0.0240	0.00003	4.68e-05	4.68e-05	
2,3',4,4',5-PeCB	118			17.2	0.0238	0.00003	5.16e-04	5.16e-04	
2',3,4,4',5-PeCB	123			0.199	0.0245	0.00003	5.97e-06	5.97e-06	
3,3',4,4',5-PeCB	126			0.079	0.0282	0.1	7.90e-03	7.90e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	19.9	0.0115	0.00003	5.97e-04	5.97e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			3.34	0.0100	0.00003	1.00e-04	1.00e-04	
3,3',4,4',5,5'-HxCB	169		ND		0.158	0.03	0.00e+00	2.37e-03	
2,3,3',4,4',5,5'-HpCB	189			2.00	0.0152	0.00003	6.00e-05	6.00e-05	
					TOTAL TEQ		0.00936	0.0117	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-54_TEQ_SJ636526.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB015 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-54 L
Matrix:	BLOOD	**Sample Size:**	0.0700 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 16:41:47	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_067A S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.14

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			23.6	7.22	0.84	1.001
3,4,4',5-TeCB	81		ND		7.22		
2,3,3',4,4'-PeCB	105			3170	17.2	1.54	1.001
2,3,4,4',5-PeCB	114			1120	17.2	1.53	1.001
2,3',4,4',5-PeCB	118			12300	17.0	1.54	1.000
2',3,4,4',5-PeCB	123			142	17.5	1.52	1.000
3,3',4,4',5-PeCB	126			56.5	20.2	1.71	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	14200	8.22	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			2390	7.15	1.29	1.000
3,3',4,4',5,5'-HxCB	169		ND		113		
2,2',3,3',4,4',5-HpCB	170			30100	7.15	1.04	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	100000	7.15	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			1430	10.9	0.98	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 26-Apr-2007 18:51:15; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-54_Form1A_PB7C_067AS7_SJ636526_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB015 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.0700 g (lipid)	**Lab Sample I.D.:**	L9584-54 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	PB7C_067A S: 7

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			23.6	7.22	0.0001	2.36e-03	2.36e-03	
3,4,4',5-TeCB	81		ND		7.22	0.0001	0.00e+00	3.61e-04	
2,3,3',4,4'-PeCB	105			3170	17.2	0.0001	3.17e-01	3.17e-01	
2,3,4,4',5-PeCB	114			1120	17.2	0.0005	5.60e-01	5.60e-01	
2,3',4,4',5-PeCB	118			12300	17.0	0.0001	1.23e+00	1.23e+00	
2',3,4,4',5-PeCB	123			142	17.5	0.0001	1.42e-02	1.42e-02	
3,3',4,4',5-PeCB	126			56.5	20.2	0.1	5.65e+00	5.65e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	14200	8.22	0.0005	7.10e+00	7.10e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			2390	7.15	0.00001	2.39e-02	2.39e-02	
3,3',4,4',5,5'-HxCB	169		ND		113	0.01	0.00e+00	5.65e-01	
2,3,3',4,4',5,5'-HpCB	189			1430	10.9	0.0001	1.43e-01	1.43e-01	
					TOTAL TEQ		15.0	15.6	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			23.6	7.22	0.0001	2.36e-03	2.36e-03	
3,4,4',5-TeCB	81		ND		7.22	0.0003	0.00e+00	1.08e-03	
2,3,3',4,4'-PeCB	105			3170	17.2	0.00003	9.51e-02	9.51e-02	
2,3,4,4',5-PeCB	114			1120	17.2	0.00003	3.36e-02	3.36e-02	
2,3',4,4',5-PeCB	118			12300	17.0	0.00003	3.69e-01	3.69e-01	
2',3,4,4',5-PeCB	123			142	17.5	0.00003	4.26e-03	4.26e-03	
3,3',4,4',5-PeCB	126			56.5	20.2	0.1	5.65e+00	5.65e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	14200	8.22	0.00003	4.26e-01	4.26e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			2390	7.15	0.00003	7.17e-02	7.17e-02	
3,3',4,4',5,5'-HxCB	169		ND		113	0.03	0.00e+00	1.70e+00	
2,3,3',4,4',5,5'-HpCB	189			1430	10.9	0.00003	4.29e-02	4.29e-02	
					TOTAL TEQ		6.69	8.39	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 26-Apr-2007 18:55:11; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-54_TEQ_SJ636526_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB021 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-3 L
Matrix:	BLOOD	**Sample Size:**	40.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 Time: 13:20:45	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.043	0.0292	0.78	1.000
3,4,4',5-TeCB	81		ND		0.0284		
2,3,3',4,4'-PeCB	105			2.99	0.0284	1.52	1.000
2,3,4,4',5-PeCB	114			0.734	0.0270	1.67	1.001
2,3',4,4',5-PeCB	118			11.4	0.0282	1.55	1.000
2',3,4,4',5-PeCB	123			0.168	0.0283	1.62	1.000
3,3',4,4',5-PeCB	126			0.093	0.0317	1.47	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	10.4	0.0163	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			2.07	0.0125	1.24	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.256		
2,2',3,3',4,4',5-HpCB	170			29.6	0.0125	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	107	0.0125	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			1.85	0.0261	0.96	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-3_Form1A_SJ636389.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB021 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-3 L
Matrix:	BLOOD	**Sample Size:**	40.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 13:20:45	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1460	73.1	0.78	1.396
13C12-3,4,4',5-TeCB	81L			2000	1480	73.8	0.78	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1480	74.1	1.61	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1520	76.0	1.66	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1470	73.7	1.60	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1490	74.4	1.60	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1460	73.0	1.60	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2560	63.9	1.28	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1290	64.3	1.27	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1170	58.6	1.29	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1180	59.1	1.05	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1230	61.3	1.06	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1330	66.5	1.06	1.257
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1490	74.4	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1380	69.0	1.06	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-3_Form2_SJ636389.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB021 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	40.1 g (wet)	**Lab Sample I.D.:**	L9584-3 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_065 S: 5**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.043	0.0292	0.0001	4.30e-06	4.30e-06	
3,3',4,4'-TeCB	77			0.043	0.0292	0.0001	4.30e-06	4.30e-06	
3,4,4',5-TeCB	81		ND		0.0284	0.0001	0.00e+00	1.42e-06	
3,4,4',5-TeCB	81		ND		0.0284	0.0001	0.00e+00	1.42e-06	
2,3,3',4,4'-PeCB	105			2.99	0.0284	0.0001	2.99e-04	2.99e-04	
2,3,3',4,4'-PeCB	105			2.99	0.0284	0.0001	2.99e-04	2.99e-04	
2,3,4,4',5-PeCB	114			0.734	0.0270	0.0005	3.67e-04	3.67e-04	
2,3,4,4',5-PeCB	114			0.734	0.0270	0.0005	3.67e-04	3.67e-04	
2,3',4,4',5-PeCB	118			11.4	0.0282	0.0001	1.14e-03	1.14e-03	
2,3',4,4',5-PeCB	118			11.4	0.0282	0.0001	1.14e-03	1.14e-03	
2',3,4,4',5-PeCB	123			0.168	0.0283	0.0001	1.68e-05	1.68e-05	
2',3,4,4',5-PeCB	123			0.168	0.0283	0.0001	1.68e-05	1.68e-05	
3,3',4,4',5-PeCB	126			0.093	0.0317	0.1	9.30e-03	9.30e-03	
3,3',4,4',5-PeCB	126			0.093	0.0317	0.1	9.30e-03	9.30e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	10.4	0.0163	0.0005	5.20e-03	5.20e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	10.4	0.0638	0.0005	5.20e-03	5.20e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			2.07	0.0125	0.00001	2.07e-05	2.07e-05	
2,3',4,4',5,5'-HxCB	167			2.07	0.0425	0.00001	2.07e-05	2.07e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.256	0.01	0.00e+00	1.28e-03	
3,3',4,4',5,5'-HxCB	169		ND		0.0486	0.01	0.00e+00	2.43e-04	
2,3,3',4,4',5,5'-HpCB	189			1.85	0.0261	0.0001	1.85e-04	1.85e-04	
2,3,3',4,4',5,5'-HpCB	189			1.85	0.0261	0.0001	1.85e-04	1.85e-04	

					TOTAL TEQ		0.0331	0.0346	
COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.043	0.0292	0.0001	4.30e-06	4.30e-06	
3,3',4,4'-TeCB	77			0.043	0.0292	0.0001	4.30e-06	4.30e-06	
3,4,4',5-TeCB	81		ND		0.0284	0.0003	0.00e+00	4.26e-06	
3,4,4',5-TeCB	81		ND		0.0284	0.0003	0.00e+00	4.26e-06	
2,3,3',4,4'-PeCB	105			2.99	0.0284	0.00003	8.97e-05	8.97e-05	
2,3,3',4,4'-PeCB	105			2.99	0.0284	0.00003	8.97e-05	8.97e-05	
2,3,4,4',5-PeCB	114			0.734	0.0270	0.00003	2.20e-05	2.20e-05	
2,3,4,4',5-PeCB	114			0.734	0.0270	0.00003	2.20e-05	2.20e-05	
2,3',4,4',5-PeCB	118			11.4	0.0282	0.00003	3.42e-04	3.42e-04	
2,3',4,4',5-PeCB	118			11.4	0.0282	0.00003	3.42e-04	3.42e-04	
2',3,4,4',5-PeCB	123			0.168	0.0283	0.00003	5.04e-06	5.04e-06	
2',3,4,4',5-PeCB	123			0.168	0.0283	0.00003	5.04e-06	5.04e-06	
3,3',4,4',5-PeCB	126			0.093	0.0317	0.1	9.30e-03	9.30e-03	
3,3',4,4',5-PeCB	126			0.093	0.0317	0.1	9.30e-03	9.30e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	10.4	0.0163	0.00003	3.12e-04	3.12e-04	
2,3,3',4,4',5-HxCB	156	156 + 157	C	10.4	0.0638	0.00003	3.12e-04	3.12e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						

2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			2.07	0.0125	0.00003	6.21e-05	6.21e-05
2,3',4,4',5,5'-HxCB	167			2.07	0.0425	0.00003	6.21e-05	6.21e-05
3,3',4,4',5,5'-HxCB	169		ND		0.256	0.03	0.00e+00	3.84e-03
3,3',4,4',5,5'-HxCB	169		ND		0.0486	0.03	0.00e+00	7.29e-04
2,3,3',4,4',5,5'-HpCB	189			1.85	0.0261	0.00003	5.55e-05	5.55e-05
2,3,3',4,4',5,5'-HpCB	189			1.85	0.0261	0.00003	5.55e-05	5.55e-05
					TOTAL TEQ		0.0204	0.0250

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-3_TEQ_SJ636389.html; Workgroup: WG21016; Design ID: 594]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB021 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-3 L
Matrix:	BLOOD	**Sample Size:**	0.0560 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 13:20:45	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.14

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			30.8	20.9	0.78	1.000
3,4,4',5-TeCB	81		ND		20.3		
2,3,3',4,4'-PeCB	105			2140	20.3	1.52	1.000
2,3,4,4',5-PeCB	114			525	19.3	1.67	1.001
2,3',4,4',5-PeCB	118			8160	20.2	1.55	1.000
2',3,4,4',5-PeCB	123			120	20.2	1.62	1.000
3,3',4,4',5-PeCB	126			66.5	22.7	1.47	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	7440	11.7	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			1480	8.94	1.24	1.000
3,3',4,4',5,5'-HxCB	169		ND		183		
2,2',3,3',4,4',5-HpCB	170			21200	8.94	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	76500	8.94	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			1320	18.7	0.96	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 26-Apr-2007 18:51:15; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-3_Form1A_PB7C_065S5_SJ636389_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB021 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.0560 g (lipid)	**Lab Sample I.D.:**	L9584-3 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	PB7C_065 S: 5

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			30.8	20.9	0.0001	3.08e-03	3.08e-03	
3,4,4',5-TeCB	81		ND		20.3	0.0001	0.00e+00	1.02e-03	
2,3,3',4,4'-PeCB	105			2140	20.3	0.0001	2.14e-01	2.14e-01	
2,3,4,4',5-PeCB	114			525	19.3	0.0005	2.63e-01	2.63e-01	
2,3',4,4',5-PeCB	118			8160	20.2	0.0001	8.16e-01	8.16e-01	
2',3,4,4',5-PeCB	123			120	20.2	0.0001	1.20e-02	1.20e-02	
3,3',4,4',5-PeCB	126			66.5	22.7	0.1	6.65e+00	6.65e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	7440	11.7	0.0005	3.72e+00	3.72e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1480	8.94	0.00001	1.48e-02	1.48e-02	
3,3',4,4',5,5'-HxCB	169		ND		183	0.01	0.00e+00	9.15e-01	
2,3,3',4,4',5,5'-HpCB	189			1320	18.7	0.0001	1.32e-01	1.32e-01	
					TOTAL TEQ		11.8	12.7	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			30.8	20.9	0.0001	3.08e-03	3.08e-03	
3,4,4',5-TeCB	81		ND		20.3	0.0003	0.00e+00	3.05e-03	
2,3,3',4,4'-PeCB	105			2140	20.3	0.00003	6.42e-02	6.42e-02	
2,3,4,4',5-PeCB	114			525	19.3	0.00003	1.58e-02	1.58e-02	
2,3',4,4',5-PeCB	118			8160	20.2	0.00003	2.45e-01	2.45e-01	
2',3,4,4',5-PeCB	123			120	20.2	0.00003	3.60e-03	3.60e-03	
3,3',4,4',5-PeCB	126			66.5	22.7	0.1	6.65e+00	6.65e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	7440	11.7	0.00003	2.23e-01	2.23e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1480	8.94	0.00003	4.44e-02	4.44e-02	
3,3',4,4',5,5'-HxCB	169		ND		183	0.03	0.00e+00	2.75e+00	
2,3,3',4,4',5,5'-HpCB	189			1320	18.7	0.00003	3.96e-02	3.96e-02	
					TOTAL TEQ		7.29	10.0	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 26-Apr-2007 18:55:11; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-3_TEQ_SJ636389_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB023 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-49 L
Matrix:	BLOOD	**Sample Size:**	49.7 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 15:37:26	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_067A S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.033	0.0124	0.81	1.000
3,4,4',5-TeCB	81		ND		0.0122		
2,3,3',4,4'-PeCB	105			8.81	0.0406	1.54	1.000
2,3,4,4',5-PeCB	114			2.50	0.0422	1.55	1.000
2,3',4,4',5-PeCB	118			40.7	0.0422	1.54	1.000
2',3,4,4',5-PeCB	123			0.686	0.0435	1.57	1.000
3,3',4,4',5-PeCB	126			0.287	0.0444	1.54	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	33.2	0.0412	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			8.83	0.0287	1.26	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.490		
2,2',3,3',4,4',5-HpCB	170			94.2	0.0101	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			5.05	0.0252	1.01	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-49_Form1A_SJ636524.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB023 Composite
Sample Collection:
N/A

Form 2

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-49 L
Matrix:	BLOOD	**Sample Size:**	49.7 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 15:37:26	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_067A S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1770	88.6	0.79	1.395
13C12-3,4,4',5-TeCB	81L			2000	1780	89.1	0.79	1.371
13C12-2,3,3',4,4'-PeCB	105L			2000	1820	90.9	1.57	1.200
13C12-2,3,4,4',5-PeCB	114L			2000	1690	84.3	1.56	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1740	86.8	1.56	1.161
13C12-2',3,4,4',5-PeCB	123L			2000	1740	86.9	1.56	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1790	89.4	1.56	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2710	67.8	1.28	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1340	67.2	1.28	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1290	64.3	1.27	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1270	63.7	1.06	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1240	62.1	1.05	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1290	64.5	1.04	1.257
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1640	81.8	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1470	73.6	1.05	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB023 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-49 LW
Matrix:	BLOOD	**Sample Size:**	49.7 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 05:05:47	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB7C_069E S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB7C_069D S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	365	0.0281	1.04	1.000
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-49_Form1A_SJ636860.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB023 Composite
Sample Collection:
N/A

Form 2

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-49 LW
Matrix:	BLOOD	**Sample Size:**	49.7 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 05:05:47	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB7C_069E S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB7C_069D S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,3',4,4',5-HpCB	170L		X					
13C12-2,2',3,4,4',5,5'-HpCB	180L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L		X					
13C12-2,2',3,3',5,5',6-HpCB	178L		X					

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-49_Form2_SJ636860.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB023 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	49.7 g (wet)	**Lab Sample I.D.:**	L9584-49 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_067A S: 6** **PB7C_069E S: 9**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.033	0.0124	0.0001	3.30e-06	3.30e-06	
3,4,4',5-TeCB	81		ND		0.0122	0.0001	0.00e+00	6.10e-07	
2,3,3',4,4'-PeCB	105			8.81	0.0406	0.0001	8.81e-04	8.81e-04	
2,3,4,4',5-PeCB	114			2.50	0.0422	0.0005	1.25e-03	1.25e-03	
2,3',4,4',5-PeCB	118			40.7	0.0422	0.0001	4.07e-03	4.07e-03	
2',3,4,4',5-PeCB	123			0.686	0.0435	0.0001	6.86e-05	6.86e-05	
3,3',4,4',5-PeCB	126			0.287	0.0444	0.1	2.87e-02	2.87e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	33.2	0.0412	0.0005	1.66e-02	1.66e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			8.83	0.0287	0.00001	8.83e-05	8.83e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.490	0.01	0.00e+00	2.45e-03	
2,3,3',4,4',5,5'-HpCB	189			5.05	0.0252	0.0001	5.05e-04	5.05e-04	
					TOTAL TEQ		0.0522	0.0546	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.033	0.0124	0.0001	3.30e-06	3.30e-06	
3,4,4',5-TeCB	81		ND		0.0122	0.0003	0.00e+00	1.83e-06	
2,3,3',4,4'-PeCB	105			8.81	0.0406	0.00003	2.64e-04	2.64e-04	
2,3,4,4',5-PeCB	114			2.50	0.0422	0.00003	7.50e-05	7.50e-05	
2,3',4,4',5-PeCB	118			40.7	0.0422	0.00003	1.22e-03	1.22e-03	
2',3,4,4',5-PeCB	123			0.686	0.0435	0.00003	2.06e-05	2.06e-05	
3,3',4,4',5-PeCB	126			0.287	0.0444	0.1	2.87e-02	2.87e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	33.2	0.0412	0.00003	9.96e-04	9.96e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			8.83	0.0287	0.00003	2.65e-04	2.65e-04	
3,3',4,4',5,5'-HxCB	169		ND		0.490	0.03	0.00e+00	7.35e-03	
2,3,3',4,4',5,5'-HpCB	189			5.05	0.0252	0.00003	1.52e-04	1.52e-04	
					TOTAL TEQ		0.0317	0.0390	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-49_TEQ_SJ636524.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB023 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-49 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.140 g (lipid)
Extraction Date:	16-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	13-Feb-2007 **Time:** 15:37:26	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_067A S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_065 S: 4
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
		% Lipid *:	0.28

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			11.7	4.40	0.81	1.000
3,4,4',5-TeCB	81		ND		4.33		
2,3,3',4,4'-PeCB	105			3130	14.4	1.54	1.000
2,3,4,4',5-PeCB	114			888	15.0	1.55	1.000
2,3',4,4',5-PeCB	118			14400	15.0	1.54	1.000
2',3,4,4',5-PeCB	123			244	15.4	1.57	1.000
3,3',4,4',5-PeCB	126			102	15.8	1.54	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	11800	14.6	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			3130	10.2	1.26	1.000
3,3',4,4',5,5'-HxCB	169		ND		174		
2,2',3,3',4,4',5-HpCB	170			33400	3.59	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			1790	8.95	1.01	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

NOTE: * Estimated value based on lipid data from 763 Vietnamese Males

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1668lA.xsl; Created: 21-Mar-2007 15:06:52; Application: XMLTransformer-1.7.35; Report Filename: 1668_PCB1668_PCBTOX_L9584-49_Form1A_SJ636524_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB023 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	Project No.	DANDI 1283
Matrix:	BLOOD	Lab Sample I.D.:	L9584-49 LW
Sample Receipt Date:	22-Dec-2006	Sample Size:	0.140 g (lipid)
Extraction Date:	16-Jan-2007	Initial Calibration Date:	02-Jan-2007
Analysis Date:	15-Feb-2007 Time: 05:05:47	Instrument ID:	HR GC/MS
Extract Volume (uL):	100	GC Column ID:	SPB OCTYL
Injection Volume (uL):	1.0	Sample Data Filename:	PB7C_069E S: 9
Dilution Factor:	5	Blank Data Filename:	PB7C_065 S: 4
Concentration Units:	pg/g (lipid weight basis)	Cal. Ver. Data Filename:	PB7C_069D S: 1
		% Lipid:	0.28

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	130000	9.98	1.04	1.000
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

NOTE: * Estimated value based on lipid data from 763 Vietnamese Males

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 30-Apr-2007 10:27:09; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-49_Form1A_PB7C_069ES9_SJ636860_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB023 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.140 g (lipid)	**Lab Sample I.D.:**	L9584-49 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_067A S: 6** **PB7C_069E S: 9**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			11.7	4.40	0.0001	1.17e-03	1.17e-03	
3,4,4',5-TeCB	81		ND		4.33	0.0001	0.00e+00	2.17e-04	
2,3,3',4,4'-PeCB	105			3130	14.4	0.0001	3.13e-01	3.13e-01	
2,3,4,4',5-PeCB	114			888	15.0	0.0005	4.44e-01	4.44e-01	
2,3',4,4',5-PeCB	118			14400	15.0	0.0001	1.44e+00	1.44e+00	
2',3,4,4',5-PeCB	123			244	15.4	0.0001	2.44e-02	2.44e-02	
3,3',4,4',5-PeCB	126			102	15.8	0.1	1.02e+01	1.02e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	11800	14.6	0.0005	5.90e+00	5.90e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			3130	10.2	0.00001	3.13e-02	3.13e-02	
3,3',4,4',5,5'-HxCB	169		ND		174	0.01	0.00e+00	8.70e-01	
2,3,3',4,4',5,5'-HpCB	189			1790	8.95	0.0001	1.79e-01	1.79e-01	
					TOTAL TEQ		18.5	19.4	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			11.7	4.40	0.0001	1.17e-03	1.17e-03	
3,4,4',5-TeCB	81		ND		4.33	0.0003	0.00e+00	6.50e-04	
2,3,3',4,4'-PeCB	105			3130	14.4	0.00003	9.39e-02	9.39e-02	
2,3,4,4',5-PeCB	114			888	15.0	0.00003	2.66e-02	2.66e-02	
2,3',4,4',5-PeCB	118			14400	15.0	0.00003	4.32e-01	4.32e-01	
2',3,4,4',5-PeCB	123			244	15.4	0.00003	7.32e-03	7.32e-03	
3,3',4,4',5-PeCB	126			102	15.8	0.1	1.02e+01	1.02e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	11800	14.6	0.00003	3.54e-01	3.54e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			3130	10.2	0.00003	9.39e-02	9.39e-02	
3,3',4,4',5,5'-HxCB	169		ND		174	0.03	0.00e+00	2.61e+00	
2,3,3',4,4',5,5'-HpCB	189			1790	8.95	0.00003	5.37e-02	5.37e-02	
					TOTAL TEQ		11.3	13.9	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 21-Mar-2007 09:22:03; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-49_TEQ_SJ636524_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB024 Composite
Sample Collection:
N/A

Form 1A

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-15 L
Matrix:	BLOOD	**Sample Size:**	43.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 22:04:39	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.034	0.0187	0.72	1.000
3,4,4',5-TeCB	81		ND		0.0179		
2,3,3',4,4'-PeCB	105			2.85	0.0226	1.61	1.000
2,3,4,4',5-PeCB	114			0.902	0.0210	1.46	1.000
2,3',4,4',5-PeCB	118			10.5	0.0214	1.57	1.000
2',3,4,4',5-PeCB	123			0.145	0.0220	1.67	1.000
3,3',4,4',5-PeCB	126			0.068	0.0237	1.70	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	10.6	0.0302	1.29	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			2.05	0.0198	1.27	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.150		
2,2',3,3',4,4',5-HpCB	170			22.8	0.0116	1.04	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	76.4	0.0116	1.06	1.000
2,3,3',4,4',5,5'-HpCB	189			1.23	0.0231	1.02	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-15_Form1A_SJ636398.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB024 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-15 L
Matrix:	BLOOD	**Sample Size:**	43.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 22:04:39	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1590	79.7	0.78	1.396
13C12-3,4,4',5-TeCB	81L			2000	1640	82.2	0.77	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1630	81.4	1.58	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1660	83.2	1.59	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1690	84.6	1.59	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1680	84.2	1.58	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1670	83.6	1.60	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2760	69.0	1.28	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1420	70.8	1.29	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1250	62.6	1.27	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1260	63.1	1.07	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1290	64.5	1.06	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1500	74.8	1.05	1.257
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1570	78.4	1.59	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1410	70.4	1.06	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-15_Form2_SJ636398.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB024 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	43.2 g (wet)	**Lab Sample I.D.:**	L9584-15 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_066 S: 3**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.034	0.0187	0.0001	3.40e-06	3.40e-06	
3,4,4',5-TeCB	81		ND		0.0179	0.0001	0.00e+00	8.95e-07	
2,3,3',4,4'-PeCB	105			2.85	0.0226	0.0001	2.85e-04	2.85e-04	
2,3,4,4',5-PeCB	114			0.902	0.0210	0.0005	4.51e-04	4.51e-04	
2,3',4,4',5-PeCB	118			10.5	0.0214	0.0001	1.05e-03	1.05e-03	
2',3,4,4',5-PeCB	123			0.145	0.0220	0.0001	1.45e-05	1.45e-05	
3,3',4,4',5-PeCB	126			0.068	0.0237	0.1	6.80e-03	6.80e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	10.6	0.0302	0.0005	5.30e-03	5.30e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			2.05	0.0198	0.00001	2.05e-05	2.05e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.150	0.01	0.00e+00	7.50e-04	
2,3,3',4,4',5,5'-HpCB	189			1.23	0.0231	0.0001	1.23e-04	1.23e-04	
					TOTAL TEQ		0.0140	0.0148	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.034	0.0187	0.0001	3.40e-06	3.40e-06	
3,4,4',5-TeCB	81		ND		0.0179	0.0003	0.00e+00	2.69e-06	
2,3,3',4,4'-PeCB	105			2.85	0.0226	0.00003	8.55e-05	8.55e-05	
2,3,4,4',5-PeCB	114			0.902	0.0210	0.00003	2.71e-05	2.71e-05	
2,3',4,4',5-PeCB	118			10.5	0.0214	0.00003	3.15e-04	3.15e-04	
2',3,4,4',5-PeCB	123			0.145	0.0220	0.00003	4.35e-06	4.35e-06	
3,3',4,4',5-PeCB	126			0.068	0.0237	0.1	6.80e-03	6.80e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	10.6	0.0302	0.00003	3.18e-04	3.18e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			2.05	0.0198	0.00003	6.15e-05	6.15e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.150	0.03	0.00e+00	2.25e-03	
2,3,3',4,4',5,5'-HpCB	189			1.23	0.0231	0.00003	3.69e-05	3.69e-05	
					TOTAL TEQ		0.00765	0.00990	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-15_TEQ_SJ636398.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB024 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-15 L
Matrix:	BLOOD	**Sample Size:**	0.0690 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 22:04:39	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.16

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			21.3	11.7	0.72	1.000
3,4,4',5-TeCB	81		ND		11.2		
2,3,3',4,4'-PeCB	105			1790	14.2	1.61	1.000
2,3,4,4',5-PeCB	114			565	13.2	1.46	1.000
2,3',4,4',5-PeCB	118			6580	13.4	1.57	1.000
2',3,4,4',5-PeCB	123			90.8	13.8	1.67	1.000
3,3',4,4',5-PeCB	126			42.6	14.8	1.70	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	6640	18.9	1.29	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			1280	12.4	1.27	1.000
3,3',4,4',5,5'-HxCB	169		ND		94.0		
2,2',3,3',4,4',5-HpCB	170			14300	7.27	1.04	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	47900	7.27	1.06	1.000
2,3,3',4,4',5,5'-HpCB	189			771	14.5	1.02	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 26-Apr-2007 18:51:15; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-15_Form1A_PB7C_066S3_SJ636398_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB024 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.0690 g (lipid)	**Lab Sample I.D.:**	L9584-15 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_066 S: 3**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			21.3	11.7	0.0001	2.13e-03	2.13e-03	
3,4,4',5-TeCB	81		ND		11.2	0.0001	0.00e+00	5.60e-04	
2,3,3',4,4'-PeCB	105			1790	14.2	0.0001	1.79e-01	1.79e-01	
2,3,4,4',5-PeCB	114			565	13.2	0.0005	2.83e-01	2.83e-01	
2,3',4,4',5-PeCB	118			6580	13.4	0.0001	6.58e-01	6.58e-01	
2',3,4,4',5-PeCB	123			90.8	13.8	0.0001	9.08e-03	9.08e-03	
3,3',4,4',5-PeCB	126			42.6	14.8	0.1	4.26e+00	4.26e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	6640	18.9	0.0005	3.32e+00	3.32e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1280	12.4	0.00001	1.28e-02	1.28e-02	
3,3',4,4',5,5'-HxCB	169		ND		94.0	0.01	0.00e+00	4.70e-01	
2,3,3',4,4',5,5'-HpCB	189			771	14.5	0.0001	7.71e-02	7.71e-02	
					TOTAL TEQ		8.80	9.27	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			21.3	11.7	0.0001	2.13e-03	2.13e-03	
3,4,4',5-TeCB	81		ND		11.2	0.0003	0.00e+00	1.68e-03	
2,3,3',4,4'-PeCB	105			1790	14.2	0.00003	5.37e-02	5.37e-02	
2,3,4,4',5-PeCB	114			565	13.2	0.00003	1.70e-02	1.70e-02	
2,3',4,4',5-PeCB	118			6580	13.4	0.00003	1.97e-01	1.97e-01	
2',3,4,4',5-PeCB	123			90.8	13.8	0.00003	2.72e-03	2.72e-03	
3,3',4,4',5-PeCB	126			42.6	14.8	0.1	4.26e+00	4.26e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	6640	18.9	0.00003	1.99e-01	1.99e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1280	12.4	0.00003	3.84e-02	3.84e-02	
3,3',4,4',5,5'-HxCB	169		ND		94.0	0.03	0.00e+00	1.41e+00	
2,3,3',4,4',5,5'-HpCB	189			771	14.5	0.00003	2.31e-02	2.31e-02	
					TOTAL TEQ		4.79	6.21	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 26-Apr-2007 18:55:11; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-15_TEQ_SJ636398_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB028 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-41 L
Matrix:	BLOOD	**Sample Size:**	60.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 04:30:45	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.046	0.0179	0.88	1.000
3,4,4',5-TeCB	81		ND		0.0172		
2,3,3',4,4'-PeCB	105			9.75	0.0461	1.56	1.000
2,3,4,4',5-PeCB	114			1.34	0.0435	1.54	1.000
2,3',4,4',5-PeCB	118			35.9	0.0446	1.57	1.000
2',3,4,4',5-PeCB	123			0.587	0.0444	1.64	1.000
3,3',4,4',5-PeCB	126		G	0.212	0.0531	1.71	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	11.5	0.0766	1.24	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			4.61	0.0521	1.26	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.186		
2,2',3,3',4,4',5-HpCB	170			32.1	0.0093	1.05	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	117	0.0083	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			1.47	0.0298	1.07	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; G = lock mass interference present; C = co-eluting congener.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-41_Form1A_SJ636404.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB028 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-41 L
Matrix:	BLOOD	**Sample Size:**	60.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 04:30:45	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1510	75.5	0.77	1.396
13C12-3,4,4',5-TeCB	81L			2000	1550	77.5	0.77	1.373
13C12-2,3,3',4,4'-PeCB	105L			2000	1590	79.7	1.61	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1590	79.3	1.60	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1620	80.9	1.59	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1630	81.3	1.59	1.152
13C12-3,3',4,4',5-PeCB	126L		G	2000	1480	73.9	1.58	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2610	65.1	1.28	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1340	66.8	1.27	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1170	58.7	1.28	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1230	61.4	1.06	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1220	60.8	1.06	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1320	65.8	1.05	1.257
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1610	80.7	1.59	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1420	71.1	1.08	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

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Report Filename: 1668_PCB1668_PCBTOX_L9584-41_Form2_SJ636404.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB028 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.2 g (wet)	**Lab Sample I.D.:**	L9584-41 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_066 S: 9**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.046	0.0179	0.0001	4.60e-06	4.60e-06	
3,4,4',5-TeCB	81		ND		0.0172	0.0001	0.00e+00	8.60e-07	
2,3,3',4,4'-PeCB	105			9.75	0.0461	0.0001	9.75e-04	9.75e-04	
2,3,4,4',5-PeCB	114			1.34	0.0435	0.0005	6.70e-04	6.70e-04	
2,3',4,4',5-PeCB	118			35.9	0.0446	0.0001	3.59e-03	3.59e-03	
2',3,4,4',5-PeCB	123			0.587	0.0444	0.0001	5.87e-05	5.87e-05	
3,3',4,4',5-PeCB	126			0.212	0.0531	0.1	2.12e-02	2.12e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	11.5	0.0766	0.0005	5.75e-03	5.75e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			4.61	0.0521	0.00001	4.61e-05	4.61e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.186	0.01	0.00e+00	9.30e-04	
2,3,3',4,4',5,5'-HpCB	189			1.47	0.0298	0.0001	1.47e-04	1.47e-04	
					TOTAL TEQ		0.0324	0.0334	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.046	0.0179	0.0001	4.60e-06	4.60e-06	
3,4,4',5-TeCB	81		ND		0.0172	0.0003	0.00e+00	2.58e-06	
2,3,3',4,4'-PeCB	105			9.75	0.0461	0.00003	2.93e-04	2.93e-04	
2,3,4,4',5-PeCB	114			1.34	0.0435	0.00003	4.02e-05	4.02e-05	
2,3',4,4',5-PeCB	118			35.9	0.0446	0.00003	1.08e-03	1.08e-03	
2',3,4,4',5-PeCB	123			0.587	0.0444	0.00003	1.76e-05	1.76e-05	
3,3',4,4',5-PeCB	126			0.212	0.0531	0.1	2.12e-02	2.12e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	11.5	0.0766	0.00003	3.45e-04	3.45e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			4.61	0.0521	0.00003	1.38e-04	1.38e-04	
3,3',4,4',5,5'-HxCB	169		ND		0.186	0.03	0.00e+00	2.79e-03	
2,3,3',4,4',5,5'-HpCB	189			1.47	0.0298	0.00003	4.41e-05	4.41e-05	
					TOTAL TEQ		0.0232	0.0260	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-41_TEQ_SJ636404.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB028 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-41 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.160 g (lipid)
Extraction Date:	16-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	13-Feb-2007 **Time:** 04:30:45	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_066 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_065 S: 4
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
		% Lipid:	0.27

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			17.3	6.73	0.88	1.000
3,4,4',5-TeCB	81		ND		6.47		
2,3,3',4,4'-PeCB	105			3670	17.3	1.56	1.000
2,3,4,4',5-PeCB	114			504	16.4	1.54	1.000
2,3',4,4',5-PeCB	118			13500	16.8	1.57	1.000
2',3,4,4',5-PeCB	123			221	16.7	1.64	1.000
3,3',4,4',5-PeCB	126		G	79.8	20.0	1.71	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	4330	28.8	1.24	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			1730	19.6	1.26	1.000
3,3',4,4',5,5'-HxCB	169		ND		70.0		
2,2',3,3',4,4',5-HpCB	170			12100	3.50	1.05	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	44000	3.12	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			553	11.2	1.07	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; G = lock mass interference present; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Mar-2007 18:48:37; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_PCBTOX_L9584-41_Form1A_SJ636404_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB028 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.160 g (lipid)	**Lab Sample I.D.:**	L9584-41 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_066 S: 9**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			17.3	6.73	0.0001	1.73e-03	1.73e-03	
3,4,4',5-TeCB	81		ND		6.47	0.0001	0.00e+00	3.24e-04	
2,3,3',4,4'-PeCB	105			3670	17.3	0.0001	3.67e-01	3.67e-01	
2,3,4,4',5-PeCB	114			504	16.4	0.0005	2.52e-01	2.52e-01	
2,3',4,4',5-PeCB	118			13500	16.8	0.0001	1.35e+00	1.35e+00	
2',3,4,4',5-PeCB	123			221	16.7	0.0001	2.21e-02	2.21e-02	
3,3',4,4',5-PeCB	126			79.8	20.0	0.1	7.98e+00	7.98e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	4330	28.8	0.0005	2.17e+00	2.17e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1730	19.6	0.00001	1.73e-02	1.73e-02	
3,3',4,4',5,5'-HxCB	169		ND		70.0	0.01	0.00e+00	3.50e-01	
2,3,3',4,4',5,5'-HpCB	189			553	11.2	0.0001	5.53e-02	5.53e-02	
					TOTAL TEQ		12.2	12.6	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			17.3	6.73	0.0001	1.73e-03	1.73e-03	
3,4,4',5-TeCB	81		ND		6.47	0.0003	0.00e+00	9.71e-04	
2,3,3',4,4'-PeCB	105			3670	17.3	0.00003	1.10e-01	1.10e-01	
2,3,4,4',5-PeCB	114			504	16.4	0.00003	1.51e-02	1.51e-02	
2,3',4,4',5-PeCB	118			13500	16.8	0.00003	4.05e-01	4.05e-01	
2',3,4,4',5-PeCB	123			221	16.7	0.00003	6.63e-03	6.63e-03	
3,3',4,4',5-PeCB	126			79.8	20.0	0.1	7.98e+00	7.98e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	4330	28.8	0.00003	1.30e-01	1.30e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1730	19.6	0.00003	5.19e-02	5.19e-02	
3,3',4,4',5,5'-HxCB	169		ND		70.0	0.03	0.00e+00	1.05e+00	
2,3,3',4,4',5,5'-HpCB	189			553	11.2	0.00003	1.66e-02	1.66e-02	
					TOTAL TEQ		8.72	9.77	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Mar-2007 18:52:36; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-41_TEQ_SJ636404_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB031 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-46 L
Matrix:	BLOOD	**Sample Size:**	60.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 14:32:58	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_067A S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.033	0.0083	0.76	1.000
3,4,4',5-TeCB	81			0.010	0.0083	0.86	1.000
2,3,3',4,4'-PeCB	105			4.91	0.0218	1.55	1.000
2,3,4,4',5-PeCB	114			1.53	0.0221	1.51	1.000
2,3',4,4',5-PeCB	118			19.1	0.0226	1.53	1.000
2',3,4,4',5-PeCB	123			0.234	0.0229	1.47	1.001
3,3',4,4',5-PeCB	126		G	0.087	0.0287	1.72	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	19.2	0.0225	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			4.13	0.0157	1.27	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.240		
2,2',3,3',4,4',5-HpCB	170			39.3	0.0083	1.05	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	130	0.0083	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			2.09	0.0118	1.00	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; G = lock mass interference present; C = co-eluting congener.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-46_Form1A_SJ636522.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB031 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-46 L
Matrix:	BLOOD	**Sample Size:**	60.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 14:32:58	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_067A S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1960	97.9	0.78	1.395
13C12-3,4,4',5-TeCB	81L			2000	1970	98.5	0.78	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1850	92.4	1.57	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1770	88.3	1.57	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1800	90.2	1.56	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1790	89.6	1.56	1.151
13C12-3,3',4,4',5-PeCB	126L		G	2000	1470	73.7	1.57	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2960	74.1	1.28	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1480	74.1	1.28	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1390	69.6	1.27	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1370	68.5	1.05	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1320	65.8	1.06	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1240	61.9	1.04	1.258
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1660	83.1	1.59	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1550	77.3	1.05	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 14:19:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-46_Form2_SJ636522.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB031 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.2 g (wet)	**Lab Sample I.D.:**	L9584-46 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_067A S: 5**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.033	0.0083	0.0001	3.30e-06	3.30e-06	
3,4,4',5-TeCB	81			0.010	0.0083	0.0001	1.00e-06	1.00e-06	
2,3,3',4,4'-PeCB	105			4.91	0.0218	0.0001	4.91e-04	4.91e-04	
2,3,4,4',5-PeCB	114			1.53	0.0221	0.0005	7.65e-04	7.65e-04	
2,3',4,4',5-PeCB	118			19.1	0.0226	0.0001	1.91e-03	1.91e-03	
2',3,4,4',5-PeCB	123			0.234	0.0229	0.0001	2.34e-05	2.34e-05	
3,3',4,4',5-PeCB	126			0.087	0.0287	0.1	8.70e-03	8.70e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	19.2	0.0225	0.0005	9.60e-03	9.60e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			4.13	0.0157	0.00001	4.13e-05	4.13e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.240	0.01	0.00e+00	1.20e-03	
2,3,3',4,4',5,5'-HpCB	189			2.09	0.0118	0.0001	2.09e-04	2.09e-04	
					TOTAL TEQ		0.0217	0.0229	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.033	0.0083	0.0001	3.30e-06	3.30e-06	
3,4,4',5-TeCB	81			0.010	0.0083	0.0003	3.00e-06	3.00e-06	
2,3,3',4,4'-PeCB	105			4.91	0.0218	0.00003	1.47e-04	1.47e-04	
2,3,4,4',5-PeCB	114			1.53	0.0221	0.00003	4.59e-05	4.59e-05	
2,3',4,4',5-PeCB	118			19.1	0.0226	0.00003	5.73e-04	5.73e-04	
2',3,4,4',5-PeCB	123			0.234	0.0229	0.00003	7.02e-06	7.02e-06	
3,3',4,4',5-PeCB	126			0.087	0.0287	0.1	8.70e-03	8.70e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	19.2	0.0225	0.00003	5.76e-04	5.76e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			4.13	0.0157	0.00003	1.24e-04	1.24e-04	
3,3',4,4',5,5'-HxCB	169		ND		0.240	0.03	0.00e+00	3.60e-03	
2,3,3',4,4',5,5'-HpCB	189			2.09	0.0118	0.00003	6.27e-05	6.27e-05	
					TOTAL TEQ		0.0102	0.0138	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-46_TEQ_SJ636522.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB031 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-46 L
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.120 g (lipid)
Extraction Date:	16-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	13-Feb-2007 **Time:** 14:32:58	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_067A S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_065 S: 4
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
		% Lipid:	0.20

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			16.6	4.17	0.76	1.000
3,4,4',5-TeCB	81			5.02	4.17	0.86	1.000
2,3,3',4,4'-PeCB	105			2460	10.9	1.55	1.000
2,3,4,4',5-PeCB	114			768	11.1	1.51	1.000
2,3',4,4',5-PeCB	118			9590	11.3	1.53	1.000
2',3,4,4',5-PeCB	123			117	11.5	1.47	1.001
3,3',4,4',5-PeCB	126		G	43.7	14.4	1.72	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	9640	11.3	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			2070	7.88	1.27	1.000
3,3',4,4',5,5'-HxCB	169		ND		120		
2,2',3,3',4,4',5-HpCB	170			19700	4.17	1.05	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	65200	4.17	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			1050	5.92	1.00	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; G = lock mass interference present; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Mar-2007 18:48:37; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_PCBTOX_L9584-46_Form1A_SJ636522_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB031 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.120 g (lipid)	**Lab Sample I.D.:**	L9584-46 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_067A S: 5**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			16.6	4.17	0.0001	1.66e-03	1.66e-03	
3,4,4',5-TeCB	81			5.02	4.17	0.0001	5.02e-04	5.02e-04	
2,3,3',4,4'-PeCB	105			2460	10.9	0.0001	2.46e-01	2.46e-01	
2,3,4,4',5-PeCB	114			768	11.1	0.0005	3.84e-01	3.84e-01	
2,3',4,4',5-PeCB	118			9590	11.3	0.0001	9.59e-01	9.59e-01	
2',3,4,4',5-PeCB	123			117	11.5	0.0001	1.17e-02	1.17e-02	
3,3',4,4',5-PeCB	126			43.7	14.4	0.1	4.37e+00	4.37e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	9640	11.3	0.0005	4.82e+00	4.82e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			2070	7.88	0.00001	2.07e-02	2.07e-02	
3,3',4,4',5,5'-HxCB	169		ND		120	0.01	0.00e+00	6.00e-01	
2,3,3',4,4',5,5'-HpCB	189			1050	5.92	0.0001	1.05e-01	1.05e-01	
					TOTAL TEQ		10.9	11.5	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			16.6	4.17	0.0001	1.66e-03	1.66e-03	
3,4,4',5-TeCB	81			5.02	4.17	0.0003	1.51e-03	1.51e-03	
2,3,3',4,4'-PeCB	105			2460	10.9	0.00003	7.38e-02	7.38e-02	
2,3,4,4',5-PeCB	114			768	11.1	0.00003	2.30e-02	2.30e-02	
2,3',4,4',5-PeCB	118			9590	11.3	0.00003	2.88e-01	2.88e-01	
2',3,4,4',5-PeCB	123			117	11.5	0.00003	3.51e-03	3.51e-03	
3,3',4,4',5-PeCB	126			43.7	14.4	0.1	4.37e+00	4.37e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	9640	11.3	0.00003	2.89e-01	2.89e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			2070	7.88	0.00003	6.21e-02	6.21e-02	
3,3',4,4',5,5'-HxCB	169		ND		120	0.03	0.00e+00	1.80e+00	
2,3,3',4,4',5,5'-HpCB	189			1050	5.92	0.00003	3.15e-02	3.15e-02	
					TOTAL TEQ		5.14	6.94	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Mar-2007 18:52:36; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-46_TEQ_SJ636522_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB043 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-27 L
Matrix:	BLOOD	**Sample Size:**	55.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 01:17:43	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.046	0.0099	0.76	1.000
3,4,4',5-TeCB	81			0.018	0.0095	0.76	1.000
2,3,3',4,4'-PeCB	105			11.3	0.0544	1.57	1.000
2,3,4,4',5-PeCB	114			1.95	0.0522	1.54	1.000
2,3',4,4',5-PeCB	118			42.6	0.0528	1.56	1.000
2',3,4,4',5-PeCB	123			0.699	0.0545	1.75	1.000
3,3',4,4',5-PeCB	126			0.356	0.0570	1.51	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	17.5	0.0427	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			6.87	0.0288	1.26	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.238		
2,2',3,3',4,4',5-HpCB	170			42.1	0.0091	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	141	0.0091	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			2.14	0.0143	1.08	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-27_Form1A_SJ636401.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB043 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-27 L
Matrix:	BLOOD	**Sample Size:**	55.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 01:17:43	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1700	84.9	0.77	1.396
13C12-3,4,4',5-TeCB	81L			2000	1720	86.2	0.77	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1670	83.5	1.59	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1650	82.7	1.61	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1680	84.0	1.58	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1660	82.9	1.59	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1730	86.6	1.58	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2690	67.2	1.28	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1350	67.4	1.28	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1230	61.4	1.27	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1230	61.6	1.06	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1240	62.1	1.06	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1410	70.4	1.06	1.257
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1490	74.3	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1320	65.9	1.07	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-27_Form2_SJ636401.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB043 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	55.0 g (wet)	**Lab Sample I.D.:**	L9584-27 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_066 S: 6**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.046	0.0099	0.0001	4.60e-06	4.60e-06	
3,4,4',5-TeCB	81			0.018	0.0095	0.0001	1.80e-06	1.80e-06	
2,3,3',4,4'-PeCB	105			11.3	0.0544	0.0001	1.13e-03	1.13e-03	
2,3,4,4',5-PeCB	114			1.95	0.0522	0.0005	9.75e-04	9.75e-04	
2,3',4,4',5-PeCB	118			42.6	0.0528	0.0001	4.26e-03	4.26e-03	
2',3,4,4',5-PeCB	123			0.699	0.0545	0.0001	6.99e-05	6.99e-05	
3,3',4,4',5-PeCB	126			0.356	0.0570	0.1	3.56e-02	3.56e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	17.5	0.0427	0.0005	8.75e-03	8.75e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			6.87	0.0288	0.00001	6.87e-05	6.87e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.238	0.01	0.00e+00	1.19e-03	
2,3,3',4,4',5,5'-HpCB	189			2.14	0.0143	0.0001	2.14e-04	2.14e-04	
					TOTAL TEQ		0.0511	0.0523	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.046	0.0099	0.0001	4.60e-06	4.60e-06	
3,4,4',5-TeCB	81			0.018	0.0095	0.0003	5.40e-06	5.40e-06	
2,3,3',4,4'-PeCB	105			11.3	0.0544	0.00003	3.39e-04	3.39e-04	
2,3,4,4',5-PeCB	114			1.95	0.0522	0.00003	5.85e-05	5.85e-05	
2,3',4,4',5-PeCB	118			42.6	0.0528	0.00003	1.28e-03	1.28e-03	
2',3,4,4',5-PeCB	123			0.699	0.0545	0.00003	2.10e-05	2.10e-05	
3,3',4,4',5-PeCB	126			0.356	0.0570	0.1	3.56e-02	3.56e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	17.5	0.0427	0.00003	5.25e-04	5.25e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			6.87	0.0288	0.00003	2.06e-04	2.06e-04	
3,3',4,4',5,5'-HxCB	169		ND		0.238	0.03	0.00e+00	3.57e-03	
2,3,3',4,4',5,5'-HpCB	189			2.14	0.0143	0.00003	6.42e-05	6.42e-05	
					TOTAL TEQ		0.0381	0.0417	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-27_TEQ_SJ636401.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB043 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-27 L
Matrix:	BLOOD	**Sample Size:**	0.160 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 01:17:43	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.29

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			15.8	3.40	0.76	1.000
3,4,4',5-TeCB	81			6.18	3.26	0.76	1.000
2,3,3',4,4'-PeCB	105			3880	18.7	1.57	1.000
2,3,4,4',5-PeCB	114			670	17.9	1.54	1.000
2,3',4,4',5-PeCB	118			14600	18.1	1.56	1.000
2',3,4,4',5-PeCB	123			240	18.7	1.75	1.000
3,3',4,4',5-PeCB	126			122	19.6	1.51	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	6010	14.7	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			2360	9.89	1.26	1.000
3,3',4,4',5,5'-HxCB	169		ND		81.7		
2,2',3,3',4,4',5-HpCB	170			14500	3.13	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	48400	3.13	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			735	4.91	1.08	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 27-Apr-2007 16:24:24; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-27_Form1A_PB7C_066S6_SJ636401_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB043 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.160 g (lipid)	**Lab Sample I.D.:**	L9584-27 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	PB7C_066 S: 6

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			15.8	3.40	0.0001	1.58e-03	1.58e-03	
3,4,4',5-TeCB	81			6.18	3.26	0.0001	6.18e-04	6.18e-04	
2,3,3',4,4'-PeCB	105			3880	18.7	0.0001	3.88e-01	3.88e-01	
2,3,4,4',5-PeCB	114			670	17.9	0.0005	3.35e-01	3.35e-01	
2,3',4,4',5-PeCB	118			14600	18.1	0.0001	1.46e+00	1.46e+00	
2',3,4,4',5-PeCB	123			240	18.7	0.0001	2.40e-02	2.40e-02	
3,3',4,4',5-PeCB	126			122	19.6	0.1	1.22e+01	1.22e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	6010	14.7	0.0005	3.01e+00	3.01e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			2360	9.89	0.00001	2.36e-02	2.36e-02	
3,3',4,4',5,5'-HxCB	169		ND		81.7	0.01	0.00e+00	4.09e-01	
2,3,3',4,4',5,5'-HpCB	189			735	4.91	0.0001	7.35e-02	7.35e-02	
					TOTAL TEQ		17.5	17.9	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			15.8	3.40	0.0001	1.58e-03	1.58e-03	
3,4,4',5-TeCB	81			6.18	3.26	0.0003	1.85e-03	1.85e-03	
2,3,3',4,4'-PeCB	105			3880	18.7	0.00003	1.16e-01	1.16e-01	
2,3,4,4',5-PeCB	114			670	17.9	0.00003	2.01e-02	2.01e-02	
2,3',4,4',5-PeCB	118			14600	18.1	0.00003	4.38e-01	4.38e-01	
2',3,4,4',5-PeCB	123			240	18.7	0.00003	7.20e-03	7.20e-03	
3,3',4,4',5-PeCB	126			122	19.6	0.1	1.22e+01	1.22e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	6010	14.7	0.00003	1.80e-01	1.80e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			2360	9.89	0.00003	7.08e-02	7.08e-02	
3,3',4,4',5,5'-HxCB	169		ND		81.7	0.03	0.00e+00	1.23e+00	
2,3,3',4,4',5,5'-HpCB	189			735	4.91	0.00003	2.21e-02	2.21e-02	
					TOTAL TEQ		13.1	14.3	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 27-Apr-2007 16:27:04; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-27_TEQ_SJ636401_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB045 Composite
Sample Collection:
N/A

Form 1A

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-44 L
Matrix:	BLOOD	**Sample Size:**	60.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 05:35:02	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.032	0.0122	0.88	1.000
3,4,4',5-TeCB	81		ND		0.0118		
2,3,3',4,4'-PeCB	105			3.66	0.0171	1.57	1.000
2,3,4,4',5-PeCB	114			0.810	0.0163	1.64	1.000
2,3',4,4',5-PeCB	118			13.0	0.0164	1.58	1.000
2',3,4,4',5-PeCB	123			0.204	0.0169	1.53	1.000
3,3',4,4',5-PeCB	126			0.087	0.0186	1.53	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	8.41	0.0280	1.28	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			2.27	0.0192	1.25	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.121		
2,2',3,3',4,4',5-HpCB	170			19.2	0.0083	1.04	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	61.4	0.0083	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			1.05	0.0108	0.99	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-44_Form1A_SJ636405.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB045 Composite
Sample Collection:
N/A

Form 2

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-44 L
Matrix:	BLOOD	**Sample Size:**	60.1 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 05:35:02	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1660	83.1	0.77	1.395
13C12-3,4,4',5-TeCB	81L			2000	1720	85.8	0.76	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1860	93.1	1.59	1.200
13C12-2,3,4,4',5-PeCB	114L			2000	1870	93.3	1.60	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1900	95.1	1.59	1.161
13C12-2',3,4,4',5-PeCB	123L			2000	1900	94.9	1.59	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1840	92.1	1.59	1.300
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	3020	75.5	1.29	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1550	77.5	1.29	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1360	67.9	1.29	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1410	70.6	1.06	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1410	70.6	1.07	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1160	58.2	1.07	1.259
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1790	89.5	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1580	79.1	1.06	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-44_Form2_SJ636405.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB045 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.1 g (wet)	**Lab Sample I.D.:**	L9584-44 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_066 S: 10**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.032	0.0122	0.0001	3.20e-06	3.20e-06	
3,4,4',5-TeCB	81		ND		0.0118	0.0001	0.00e+00	5.90e-07	
2,3,3',4,4'-PeCB	105			3.66	0.0171	0.0001	3.66e-04	3.66e-04	
2,3,4,4',5-PeCB	114			0.810	0.0163	0.0005	4.05e-04	4.05e-04	
2,3',4,4',5-PeCB	118			13.0	0.0164	0.0001	1.30e-03	1.30e-03	
2',3,4,4',5-PeCB	123			0.204	0.0169	0.0001	2.04e-05	2.04e-05	
3,3',4,4',5-PeCB	126			0.087	0.0186	0.1	8.70e-03	8.70e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	8.41	0.0280	0.0005	4.21e-03	4.21e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			2.27	0.0192	0.00001	2.27e-05	2.27e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.121	0.01	0.00e+00	6.05e-04	
2,3,3',4,4',5,5'-HpCB	189			1.05	0.0108	0.0001	1.05e-04	1.05e-04	
					TOTAL TEQ		0.0151	0.0157	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.032	0.0122	0.0001	3.20e-06	3.20e-06	
3,4,4',5-TeCB	81		ND		0.0118	0.0003	0.00e+00	1.77e-06	
2,3,3',4,4'-PeCB	105			3.66	0.0171	0.00003	1.10e-04	1.10e-04	
2,3,4,4',5-PeCB	114			0.810	0.0163	0.00003	2.43e-05	2.43e-05	
2,3',4,4',5-PeCB	118			13.0	0.0164	0.00003	3.90e-04	3.90e-04	
2',3,4,4',5-PeCB	123			0.204	0.0169	0.00003	6.12e-06	6.12e-06	
3,3',4,4',5-PeCB	126			0.087	0.0186	0.1	8.70e-03	8.70e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	8.41	0.0280	0.00003	2.52e-04	2.52e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			2.27	0.0192	0.00003	6.81e-05	6.81e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.121	0.03	0.00e+00	1.82e-03	
2,3,3',4,4',5,5'-HpCB	189			1.05	0.0108	0.00003	3.15e-05	3.15e-05	
					TOTAL TEQ		0.00959	0.0114	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-44_TEQ_SJ636405.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB045 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-44 L
Matrix:	BLOOD	**Sample Size:**	0.110 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 05:35:02	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.19

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			17.5	6.66	0.88	1.000
3,4,4',5-TeCB	81		ND		6.44		
2,3,3',4,4'-PeCB	105			2000	9.34	1.57	1.000
2,3,4,4',5-PeCB	114			442	8.90	1.64	1.000
2,3',4,4',5-PeCB	118			7100	8.95	1.58	1.000
2',3,4,4',5-PeCB	123			111	9.23	1.53	1.000
3,3',4,4',5-PeCB	126			47.5	10.2	1.53	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	4590	15.3	1.28	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			1240	10.5	1.25	1.000
3,3',4,4',5,5'-HxCB	169		ND		66.1		
2,2',3,3',4,4',5-HpCB	170			10500	4.53	1.04	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	33500	4.53	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189			573	5.90	0.99	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Mar-2007 18:48:37; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_PCBTOX_L9584-44_Form1A_SJ636405_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB045 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.110 g (lipid)	**Lab Sample I.D.:**	L9584-44 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_066 S: 10**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			17.5	6.66	0.0001	1.75e-03	1.75e-03	
3,4,4',5-TeCB	81		ND		6.44	0.0001	0.00e+00	3.22e-04	
2,3,3',4,4'-PeCB	105			2000	9.34	0.0001	2.00e-01	2.00e-01	
2,3,4,4',5-PeCB	114			442	8.90	0.0005	2.21e-01	2.21e-01	
2,3',4,4',5-PeCB	118			7100	8.95	0.0001	7.10e-01	7.10e-01	
2',3,4,4',5-PeCB	123			111	9.23	0.0001	1.11e-02	1.11e-02	
3,3',4,4',5-PeCB	126			47.5	10.2	0.1	4.75e+00	4.75e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	4590	15.3	0.0005	2.30e+00	2.30e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1240	10.5	0.00001	1.24e-02	1.24e-02	
3,3',4,4',5,5'-HxCB	169		ND		66.1	0.01	0.00e+00	3.31e-01	
2,3,3',4,4',5,5'-HpCB	189			573	5.90	0.0001	5.73e-02	5.73e-02	
					TOTAL TEQ		8.26	8.59	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			17.5	6.66	0.0001	1.75e-03	1.75e-03	
3,4,4',5-TeCB	81		ND		6.44	0.0003	0.00e+00	9.66e-04	
2,3,3',4,4'-PeCB	105			2000	9.34	0.00003	6.00e-02	6.00e-02	
2,3,4,4',5-PeCB	114			442	8.90	0.00003	1.33e-02	1.33e-02	
2,3',4,4',5-PeCB	118			7100	8.95	0.00003	2.13e-01	2.13e-01	
2',3,4,4',5-PeCB	123			111	9.23	0.00003	3.33e-03	3.33e-03	
3,3',4,4',5-PeCB	126			47.5	10.2	0.1	4.75e+00	4.75e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	4590	15.3	0.00003	1.38e-01	1.38e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1240	10.5	0.00003	3.72e-02	3.72e-02	
3,3',4,4',5,5'-HxCB	169		ND		66.1	0.03	0.00e+00	9.92e-01	
2,3,3',4,4',5,5'-HpCB	189			573	5.90	0.00003	1.72e-02	1.72e-02	
					TOTAL TEQ		5.23	6.23	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Mar-2007 18:52:36; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-44_TEQ_SJ636405_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB049 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-10 L
Matrix:	BLOOD	**Sample Size:**	55.5 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 17:38:09	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.034	0.0159	0.86	1.000
3,4,4',5-TeCB	81		ND		0.0163		
2,3,3',4,4'-PeCB	105			2.70	0.0198	1.57	1.001
2,3,4,4',5-PeCB	114			0.679	0.0183	1.56	1.000
2,3',4,4',5-PeCB	118			10.7	0.0192	1.59	1.000
2',3,4,4',5-PeCB	123			0.196	0.0195	1.56	1.000
3,3',4,4',5-PeCB	126			0.092	0.0196	1.60	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	6.45	0.0523	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			1.73	0.0352	1.21	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.103		
2,2',3,3',4,4',5-HpCB	170			14.1	0.0090	1.07	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	47.5	0.0090	1.04	1.000
2,3,3',4,4',5,5'-HpCB	189			0.742	0.0217	1.07	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-10_Form1A_SJ636393.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB049 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-10 L
Matrix:	BLOOD	**Sample Size:**	55.5 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 17:38:09	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1850	92.6	0.78	1.395
13C12-3,4,4',5-TeCB	81L			2000	1800	90.0	0.79	1.371
13C12-2,3,3',4,4'-PeCB	105L			2000	1700	85.2	1.58	1.200
13C12-2,3,4,4',5-PeCB	114L			2000	1770	88.4	1.65	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1710	85.5	1.57	1.161
13C12-2',3,4,4',5-PeCB	123L			2000	1710	85.4	1.57	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1840	91.9	1.58	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2980	74.5	1.28	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1500	74.8	1.28	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1310	65.7	1.26	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1400	69.9	1.06	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1390	69.7	1.05	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1550	77.6	1.07	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1630	81.3	1.61	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1510	75.6	1.04	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-10_Form2_SJ636393.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB049 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	55.5 g (wet)	**Lab Sample I.D.:**	L9584-10 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_065 S: 9**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.034	0.0159	0.0001	3.40e-06	3.40e-06	
3,3',4,4'-TeCB	77			0.034	0.0159	0.0001	3.40e-06	3.40e-06	
3,4,4',5-TeCB	81		ND		0.0163	0.0001	0.00e+00	8.15e-07	
3,4,4',5-TeCB	81		ND		0.0163	0.0001	0.00e+00	8.15e-07	
2,3,3',4,4'-PeCB	105			2.70	0.0198	0.0001	2.70e-04	2.70e-04	
2,3,3',4,4'-PeCB	105			2.70	0.0198	0.0001	2.70e-04	2.70e-04	
2,3,4,4',5-PeCB	114			0.679	0.0183	0.0005	3.40e-04	3.40e-04	
2,3,4,4',5-PeCB	114			0.679	0.0183	0.0005	3.40e-04	3.40e-04	
2,3',4,4',5-PeCB	118			10.7	0.0192	0.0001	1.07e-03	1.07e-03	
2,3',4,4',5-PeCB	118			10.7	0.0192	0.0001	1.07e-03	1.07e-03	
2',3,4,4',5-PeCB	123			0.196	0.0195	0.0001	1.96e-05	1.96e-05	
2',3,4,4',5-PeCB	123			0.196	0.0195	0.0001	1.96e-05	1.96e-05	
3,3',4,4',5-PeCB	126			0.092	0.0196	0.1	9.20e-03	9.20e-03	
3,3',4,4',5-PeCB	126			0.092	0.0196	0.1	9.20e-03	9.20e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	6.45	0.0523	0.0005	3.23e-03	3.23e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	6.45	0.0523	0.0005	3.23e-03	3.23e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			1.73	0.0352	0.00001	1.73e-05	1.73e-05	
2,3',4,4',5,5'-HxCB	167			1.73	0.0352	0.00001	1.73e-05	1.73e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.103	0.01	0.00e+00	5.15e-04	
3,3',4,4',5,5'-HxCB	169			0.102	0.0415	0.01	1.02e-03	1.02e-03	
2,3,3',4,4',5,5'-HpCB	189			0.742	0.0217	0.0001	7.42e-05	7.42e-05	
2,3,3',4,4',5,5'-HpCB	189			0.742	0.0217	0.0001	7.42e-05	7.42e-05	

					TOTAL TEQ		0.0295	0.0300	
COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.034	0.0159	0.0001	3.40e-06	3.40e-06	
3,3',4,4'-TeCB	77			0.034	0.0159	0.0001	3.40e-06	3.40e-06	
3,4,4',5-TeCB	81		ND		0.0163	0.0003	0.00e+00	2.45e-06	
3,4,4',5-TeCB	81		ND		0.0163	0.0003	0.00e+00	2.45e-06	
2,3,3',4,4'-PeCB	105			2.70	0.0198	0.00003	8.10e-05	8.10e-05	
2,3,3',4,4'-PeCB	105			2.70	0.0198	0.00003	8.10e-05	8.10e-05	
2,3,4,4',5-PeCB	114			0.679	0.0183	0.00003	2.04e-05	2.04e-05	
2,3,4,4',5-PeCB	114			0.679	0.0183	0.00003	2.04e-05	2.04e-05	
2,3',4,4',5-PeCB	118			10.7	0.0192	0.00003	3.21e-04	3.21e-04	
2,3',4,4',5-PeCB	118			10.7	0.0192	0.00003	3.21e-04	3.21e-04	
2',3,4,4',5-PeCB	123			0.196	0.0195	0.00003	5.88e-06	5.88e-06	
2',3,4,4',5-PeCB	123			0.196	0.0195	0.00003	5.88e-06	5.88e-06	
3,3',4,4',5-PeCB	126			0.092	0.0196	0.1	9.20e-03	9.20e-03	
3,3',4,4',5-PeCB	126			0.092	0.0196	0.1	9.20e-03	9.20e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	6.45	0.0523	0.00003	1.94e-04	1.94e-04	
2,3,3',4,4',5-HxCB	156	156 + 157	C	6.45	0.0523	0.00003	1.94e-04	1.94e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						

2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			1.73	0.0352	0.00003	5.19e-05	5.19e-05
2,3',4,4',5,5'-HxCB	167			1.73	0.0352	0.00003	5.19e-05	5.19e-05
3,3',4,4',5,5'-HxCB	169		ND		0.103	0.03	0.00e+00	1.55e-03
3,3',4,4',5,5'-HxCB	169			0.102	0.0415	0.03	3.06e-03	3.06e-03
2,3,3',4,4',5,5'-HpCB	189			0.742	0.0217	0.00003	2.23e-05	2.23e-05
2,3,3',4,4',5,5'-HpCB	189			0.742	0.0217	0.00003	2.23e-05	2.23e-05
					TOTAL TEQ		0.0229	0.0244

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-10_TEQ_SJ636393.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB049 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-10 L
Matrix:	BLOOD	**Sample Size:**	0.140 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 17:38:09	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.26

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			13.5	6.30	0.86	1.000
3,4,4',5-TeCB	81		ND		6.46		
2,3,3',4,4'-PeCB	105			1070	7.84	1.57	1.001
2,3,4,4',5-PeCB	114			269	7.25	1.56	1.000
2,3',4,4',5-PeCB	118			4240	7.61	1.59	1.000
2',3,4,4',5-PeCB	123			77.6	7.72	1.56	1.000
3,3',4,4',5-PeCB	126			36.4	7.76	1.60	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	2560	20.7	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			685	13.9	1.21	1.000
3,3',4,4',5,5'-HxCB	169		ND		40.8		
2,2',3,3',4,4',5-HpCB	170			5590	3.57	1.07	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	18800	3.57	1.04	1.000
2,3,3',4,4',5,5'-HpCB	189			294	8.60	1.07	1.001
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1668IA.xsl; Created: 27-Apr-2007 16:24:24; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-10_Form1A_PB7C_065S9_SJ636393_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB049 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.140 g (lipid)	**Lab Sample I.D.:**	L9584-10 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_065 S: 9**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			13.5	6.30	0.0001	1.35e-03	1.35e-03	
3,4,4',5-TeCB	81		ND		6.46	0.0001	0.00e+00	3.23e-04	
2,3,3',4,4'-PeCB	105			1070	7.84	0.0001	1.07e-01	1.07e-01	
2,3,4,4',5-PeCB	114			269	7.25	0.0005	1.35e-01	1.35e-01	
2,3',4,4',5-PeCB	118			4240	7.61	0.0001	4.24e-01	4.24e-01	
2',3,4,4',5-PeCB	123			77.6	7.72	0.0001	7.76e-03	7.76e-03	
3,3',4,4',5-PeCB	126			36.4	7.76	0.1	3.64e+00	3.64e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	2560	20.7	0.0005	1.28e+00	1.28e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			685	13.9	0.00001	6.85e-03	6.85e-03	
3,3',4,4',5,5'-HxCB	169		ND		40.8	0.01	0.00e+00	2.04e-01	
2,3,3',4,4',5,5'-HpCB	189			294	8.60	0.0001	2.94e-02	2.94e-02	
					TOTAL TEQ		5.63	5.84	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			13.5	6.30	0.0001	1.35e-03	1.35e-03	
3,4,4',5-TeCB	81		ND		6.46	0.0003	0.00e+00	9.69e-04	
2,3,3',4,4'-PeCB	105			1070	7.84	0.00003	3.21e-02	3.21e-02	
2,3,4,4',5-PeCB	114			269	7.25	0.00003	8.07e-03	8.07e-03	
2,3',4,4',5-PeCB	118			4240	7.61	0.00003	1.27e-01	1.27e-01	
2',3,4,4',5-PeCB	123			77.6	7.72	0.00003	2.33e-03	2.33e-03	
3,3',4,4',5-PeCB	126			36.4	7.76	0.1	3.64e+00	3.64e+00	
2,3,3',4,4',5-HxCB	156	156 + 157	C	2560	20.7	0.00003	7.68e-02	7.68e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			685	13.9	0.00003	2.06e-02	2.06e-02	
3,3',4,4',5,5'-HxCB	169		ND		40.8	0.03	0.00e+00	6.12e-01	
2,3,3',4,4',5,5'-HpCB	189			294	8.60	0.00003	8.82e-03	8.82e-03	
					TOTAL TEQ		3.92	4.53	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 27-Apr-2007 16:27:04; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-10_TEQ_SJ636393_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB052 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-7 L
Matrix:	BLOOD	**Sample Size:**	37.6 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 15:29:29	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.108	0.0239	0.88	1.000
3,4,4',5-TeCB	81			0.083	0.0226	0.70	1.000
2,3,3',4,4'-PeCB	105			43.4	0.220	1.57	1.001
2,3,4,4',5-PeCB	114			4.20	0.203	1.54	1.000
2,3',4,4',5-PeCB	118			124	0.209	1.56	1.000
2',3,4,4',5-PeCB	123			2.18	0.211	1.54	1.000
3,3',4,4',5-PeCB	126			1.22	0.235	1.77	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	60.8	0.546	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			35.6	0.372	1.27	1.000
3,3',4,4',5,5'-HxCB	169		ND		5.08		
2,2',3,3',4,4',5-HpCB	170			886	0.0407	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			19.0	0.317	1.04	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-7_Form1A_SJ636391.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB052 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-7 L
Matrix:	BLOOD	**Sample Size:**	37.6 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 15:29:29	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1430	71.5	0.78	1.397
13C12-3,4,4',5-TeCB	81L			2000	1510	75.4	0.78	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1560	77.9	1.60	1.200
13C12-2,3,4,4',5-PeCB	114L			2000	1600	80.0	1.63	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1590	79.7	1.59	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1580	79.0	1.60	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1560	77.8	1.59	1.300
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2630	65.8	1.28	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1320	66.0	1.28	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1270	63.4	1.27	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1230	61.7	1.03	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1360	67.8	1.06	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1390	69.7	1.05	1.257
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1590	79.6	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1460	73.2	1.06	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-7_Form2_SJ636391.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB052 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-7 LW
Matrix:	BLOOD	**Sample Size:**	37.6 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 18:50:26	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	200	**Sample Data Filename:**	**PB7C_067A S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	10	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	4330	0.0733	1.04	1.001
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-7_Form1A_SJ636527.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB052 Composite
Sample Collection:
N/A

Form 2

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-7 LW
Matrix:	BLOOD	**Sample Size:**	37.6 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 18:50:26	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	200	**Sample Data Filename:**	**PB7C_067A S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	10	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,3',4,4',5-HpCB	170L		X					
13C12-2,2',3,4,4',5,5'-HpCB	180L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L		X					
13C12-2,2',3,3',5,5',6-HpCB	178L		X					

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-7_Form2_SJ636527.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB052 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	37.6 g (wet)	**Lab Sample I.D.:**	L9584-7 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_065 S: 7** **PB7C_067A S: 9**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.108	0.0239	0.0001	1.08e-05	1.08e-05	
3,3',4,4'-TeCB	77			0.108	0.0239	0.0001	1.08e-05	1.08e-05	
3,4,4',5-TeCB	81			0.083	0.0226	0.0001	8.30e-06	8.30e-06	
3,4,4',5-TeCB	81			0.083	0.0226	0.0001	8.30e-06	8.30e-06	
2,3,3',4,4'-PeCB	105			43.4	0.220	0.0001	4.34e-03	4.34e-03	
2,3,3',4,4'-PeCB	105			43.4	0.220	0.0001	4.34e-03	4.34e-03	
2,3,4,4',5-PeCB	114			4.20	0.203	0.0005	2.10e-03	2.10e-03	
2,3,4,4',5-PeCB	114			4.20	0.203	0.0005	2.10e-03	2.10e-03	
2,3',4,4',5-PeCB	118			124	0.209	0.0001	1.24e-02	1.24e-02	
2,3',4,4',5-PeCB	118			124	0.209	0.0001	1.24e-02	1.24e-02	
2',3,4,4',5-PeCB	123			2.18	0.211	0.0001	2.18e-04	2.18e-04	
2',3,4,4',5-PeCB	123			2.18	0.211	0.0001	2.18e-04	2.18e-04	
3,3',4,4',5-PeCB	126			1.22	0.235	0.1	1.22e-01	1.22e-01	
3,3',4,4',5-PeCB	126			1.22	0.235	0.1	1.22e-01	1.22e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	60.8	0.546	0.0005	3.04e-02	3.04e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	60.8	2.18	0.0005	3.04e-02	3.04e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			35.6	0.372	0.00001	3.56e-04	3.56e-04	
2,3',4,4',5,5'-HxCB	167			35.6	1.49	0.00001	3.56e-04	3.56e-04	
3,3',4,4',5,5'-HxCB	169		ND		5.08	0.01	0.00e+00	2.54e-02	
3,3',4,4',5,5'-HxCB	169		ND		1.60	0.01	0.00e+00	8.00e-03	
2,3,3',4,4',5,5'-HpCB	189			19.0	0.317	0.0001	1.90e-03	1.90e-03	
2,3,3',4,4',5,5'-HpCB	189			19.0	0.317	0.0001	1.90e-03	1.90e-03	
					TOTAL TEQ		0.347	0.381	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.108	0.0239	0.0001	1.08e-05	1.08e-05	
3,3',4,4'-TeCB	77			0.108	0.0239	0.0001	1.08e-05	1.08e-05	
3,4,4',5-TeCB	81			0.083	0.0226	0.0003	2.49e-05	2.49e-05	
3,4,4',5-TeCB	81			0.083	0.0226	0.0003	2.49e-05	2.49e-05	
2,3,3',4,4'-PeCB	105			43.4	0.220	0.00003	1.30e-03	1.30e-03	
2,3,3',4,4'-PeCB	105			43.4	0.220	0.00003	1.30e-03	1.30e-03	
2,3,4,4',5-PeCB	114			4.20	0.203	0.00003	1.26e-04	1.26e-04	
2,3,4,4',5-PeCB	114			4.20	0.203	0.00003	1.26e-04	1.26e-04	
2,3',4,4',5-PeCB	118			124	0.209	0.00003	3.72e-03	3.72e-03	
2,3',4,4',5-PeCB	118			124	0.209	0.00003	3.72e-03	3.72e-03	
2',3,4,4',5-PeCB	123			2.18	0.211	0.00003	6.54e-05	6.54e-05	
2',3,4,4',5-PeCB	123			2.18	0.211	0.00003	6.54e-05	6.54e-05	
3,3',4,4',5-PeCB	126			1.22	0.235	0.1	1.22e-01	1.22e-01	
3,3',4,4',5-PeCB	126			1.22	0.235	0.1	1.22e-01	1.22e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	60.8	0.546	0.00003	1.82e-03	1.82e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C	60.8	2.18	0.00003	1.82e-03	1.82e-03	

2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			35.6	0.372	0.00003	1.07e-03	1.07e-03
2,3',4,4',5,5'-HxCB	167			35.6	1.49	0.00003	1.07e-03	1.07e-03
3,3',4,4',5,5'-HxCB	169		ND		5.08	0.03	0.00e+00	7.62e-02
3,3',4,4',5,5'-HxCB	169		ND		1.60	0.03	0.00e+00	2.40e-02
2,3,3',4,4',5,5'-HpCB	189			19.0	0.317	0.00003	5.70e-04	5.70e-04
2,3,3',4,4',5,5'-HpCB	189			19.0	0.317	0.00003	5.70e-04	5.70e-04
					TOTAL TEQ		0.261	0.362

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-7_TEQ_SJ636391.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB052 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-7 L
Matrix:	BLOOD	**Sample Size:**	0.0980 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 15:29:29	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.26

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			41.4	9.17	0.88	1.000
3,4,4',5-TeCB	81			31.8	8.67	0.70	1.000
2,3,3',4,4'-PeCB	105			16700	84.4	1.57	1.001
2,3,4,4',5-PeCB	114			1610	77.9	1.54	1.000
2,3',4,4',5-PeCB	118			47600	80.2	1.56	1.000
2',3,4,4',5-PeCB	123			836	81.0	1.54	1.000
3,3',4,4',5-PeCB	126			468	90.2	1.77	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	23300	209	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13700	143	1.27	1.000
3,3',4,4',5,5'-HxCB	169		ND		1950		
2,2',3,3',4,4',5-HpCB	170			340000	15.6	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			7290	122	1.04	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 27-Apr-2007 16:24:24; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-7_Form1A_PB7C_065S7_SJ636391_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB052 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-7 LW
Matrix:	BLOOD	**Sample Size:**	0.0980 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 18:50:26	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	200	**Sample Data Filename:**	**PB7C_067A S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	10	**Cal. Ver. Data Filename:**	PB7C_067A S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.26

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	1660000	28.1	1.04	1.001
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 27-Apr-2007 16:24:24; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-7_Form1A_PB7C_067AS9_SJ636527_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB052 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.0980 g (lipid)	**Lab Sample I.D.:**	L9584-7 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_065 S: 7** **PB7C_067A S: 9**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			41.4	9.17	0.0001	4.14e-03	4.14e-03	
3,4,4',5-TeCB	81			31.8	8.67	0.0001	3.18e-03	3.18e-03	
2,3,3',4,4'-PeCB	105			16700	84.4	0.0001	1.67e+00	1.67e+00	
2,3,4,4',5-PeCB	114			1610	77.9	0.0005	8.05e-01	8.05e-01	
2,3',4,4',5-PeCB	118			47600	80.2	0.0001	4.76e+00	4.76e+00	
2',3,4,4',5-PeCB	123			836	81.0	0.0001	8.36e-02	8.36e-02	
3,3',4,4',5-PeCB	126			468	90.2	0.1	4.68e+01	4.68e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	23300	209	0.0005	1.17e+01	1.17e+01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			13700	143	0.00001	1.37e-01	1.37e-01	
3,3',4,4',5,5'-HxCB	169		ND		1950	0.01	0.00e+00	9.75e+00	
2,3,3',4,4',5,5'-HpCB	189			7290	122	0.0001	7.29e-01	7.29e-01	
					TOTAL TEQ		66.6	76.4	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			41.4	9.17	0.0001	4.14e-03	4.14e-03	
3,4,4',5-TeCB	81			31.8	8.67	0.0003	9.54e-03	9.54e-03	
2,3,3',4,4'-PeCB	105			16700	84.4	0.00003	5.01e-01	5.01e-01	
2,3,4,4',5-PeCB	114			1610	77.9	0.00003	4.83e-02	4.83e-02	
2,3',4,4',5-PeCB	118			47600	80.2	0.00003	1.43e+00	1.43e+00	
2',3,4,4',5-PeCB	123			836	81.0	0.00003	2.51e-02	2.51e-02	
3,3',4,4',5-PeCB	126			468	90.2	0.1	4.68e+01	4.68e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	23300	209	0.00003	6.99e-01	6.99e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			13700	143	0.00003	4.11e-01	4.11e-01	
3,3',4,4',5,5'-HxCB	169		ND		1950	0.03	0.00e+00	2.93e+01	
2,3,3',4,4',5,5'-HpCB	189			7290	122	0.00003	2.19e-01	2.19e-01	
					TOTAL TEQ		50.1	79.4	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 27-Apr-2007 16:27:04; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-7_TEQ_SJ636391_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB053 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-22 L
Matrix:	BLOOD	**Sample Size:**	44.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 23:08:58	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.045	0.0217	0.82	1.000
3,4,4',5-TeCB	81			0.040	0.0202	0.82	1.000
2,3,3',4,4'-PeCB	105			17.3	0.0829	1.55	1.000
2,3,4,4',5-PeCB	114			2.61	0.0781	1.64	1.000
2,3',4,4',5-PeCB	118			56.2	0.0793	1.57	1.000
2',3,4,4',5-PeCB	123			0.913	0.0817	1.62	1.000
3,3',4,4',5-PeCB	126			0.442	0.0878	1.64	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	32.4	0.203	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			14.2	0.135	1.28	1.000
3,3',4,4',5,5'-HxCB	169		ND		1.36		
2,2',3,3',4,4',5-HpCB	170			352	0.0125	1.05	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			7.54	0.116	1.06	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-22_Form1A_SJ636399.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB053 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-22 L
Matrix:	BLOOD	**Sample Size:**	44.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 23:08:58	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1620	81.2	0.77	1.396
13C12-3,4,4',5-TeCB	81L			2000	1730	86.5	0.77	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1730	86.4	1.60	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1740	87.0	1.60	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1770	88.4	1.58	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1760	88.0	1.57	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1770	88.6	1.59	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2810	70.2	1.28	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1440	71.9	1.27	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1310	65.4	1.29	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1280	64.0	1.06	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1360	67.9	1.06	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1500	75.2	1.05	1.257
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1600	80.2	1.61	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1420	70.9	1.05	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

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AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB053 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-22 LW
Matrix:	BLOOD	**Sample Size:**	44.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 00:20:01	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB7C_068 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB7C_068 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	1640	0.0238	1.04	1.000
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-22_Form1A_SJ636593.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB053 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-22 LW
Matrix:	BLOOD	**Sample Size:**	44.0 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 00:20:01	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB7C_068 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB7C_068 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,3',4,4',5-HpCB	170L		X					
13C12-2,2',3,4,4',5,5'-HpCB	180L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L		X					
13C12-2,2',3,3',5,5',6-HpCB	178L		X					

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-22_Form2_SJ636593.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB053 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	44.0 g (wet)	**Lab Sample I.D.:**	L9584-22 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_066 S: 4** **PB7C_068 S: 4**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.045	0.0217	0.0001	4.50e-06	4.50e-06	
3,3',4,4'-TeCB	77		ND		0.104	0.0001	0.00e+00	5.20e-06	
3,4,4',5-TeCB	81			0.040	0.0202	0.0001	4.00e-06	4.00e-06	
3,4,4',5-TeCB	81		ND		0.0895	0.0001	0.00e+00	4.48e-06	
2,3,3',4,4'-PeCB	105			17.3	0.0829	0.0001	1.73e-03	1.73e-03	
2,3,3',4,4'-PeCB	105			16.5	0.186	0.0001	1.65e-03	1.65e-03	
2,3,4,4',5-PeCB	114			2.61	0.0781	0.0005	1.31e-03	1.31e-03	
2,3,4,4',5-PeCB	114			2.48	0.174	0.0005	1.24e-03	1.24e-03	
2,3',4,4',5-PeCB	118			56.2	0.0793	0.0001	5.62e-03	5.62e-03	
2,3',4,4',5-PeCB	118			51.3	0.168	0.0001	5.13e-03	5.13e-03	
2',3,4,4',5-PeCB	123			0.913	0.0817	0.0001	9.13e-05	9.13e-05	
2',3,4,4',5-PeCB	123			0.872	0.173	0.0001	8.72e-05	8.72e-05	
3,3',4,4',5-PeCB	126			0.442	0.0878	0.1	4.42e-02	4.42e-02	
3,3',4,4',5-PeCB	126			0.372	0.185	0.1	3.72e-02	3.72e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	32.4	0.203	0.0005	1.62e-02	1.62e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	31.9	0.131	0.0005	1.60e-02	1.60e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			14.2	0.135	0.00001	1.42e-04	1.42e-04	
2,3',4,4',5,5'-HxCB	167			13.9	0.0902	0.00001	1.39e-04	1.39e-04	
3,3',4,4',5,5'-HxCB	169		ND		1.36	0.01	0.00e+00	6.80e-03	
3,3',4,4',5,5'-HxCB	169		ND		0.0973	0.01	0.00e+00	4.87e-04	
2,3,3',4,4',5,5'-HpCB	189			7.54	0.116	0.0001	7.54e-04	7.54e-04	
2,3,3',4,4',5,5'-HpCB	189			6.73	0.133	0.0001	6.73e-04	6.73e-04	

					TOTAL TEQ		0.132	0.139	
COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.045	0.0217	0.0001	4.50e-06	4.50e-06	
3,3',4,4'-TeCB	77		ND		0.104	0.0001	0.00e+00	5.20e-06	
3,4,4',5-TeCB	81			0.040	0.0202	0.0003	1.20e-05	1.20e-05	
3,4,4',5-TeCB	81		ND		0.0895	0.0003	0.00e+00	1.34e-05	
2,3,3',4,4'-PeCB	105			17.3	0.0829	0.00003	5.19e-04	5.19e-04	
2,3,3',4,4'-PeCB	105			16.5	0.186	0.00003	4.95e-04	4.95e-04	
2,3,4,4',5-PeCB	114			2.61	0.0781	0.00003	7.83e-05	7.83e-05	
2,3,4,4',5-PeCB	114			2.48	0.174	0.00003	7.44e-05	7.44e-05	
2,3',4,4',5-PeCB	118			56.2	0.0793	0.00003	1.69e-03	1.69e-03	
2,3',4,4',5-PeCB	118			51.3	0.168	0.00003	1.54e-03	1.54e-03	
2',3,4,4',5-PeCB	123			0.913	0.0817	0.00003	2.74e-05	2.74e-05	
2',3,4,4',5-PeCB	123			0.872	0.173	0.00003	2.62e-05	2.62e-05	
3,3',4,4',5-PeCB	126			0.442	0.0878	0.1	4.42e-02	4.42e-02	
3,3',4,4',5-PeCB	126			0.372	0.185	0.1	3.72e-02	3.72e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	32.4	0.203	0.00003	9.72e-04	9.72e-04	
2,3,3',4,4',5-HxCB	156	156 + 157	C	31.9	0.131	0.00003	9.57e-04	9.57e-04	

2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			14.2	0.135	0.00003	4.26e-04	4.26e-04
2,3',4,4',5,5'-HxCB	167			13.9	0.0902	0.00003	4.17e-04	4.17e-04
3,3',4,4',5,5'-HxCB	169		ND		1.36	0.03	0.00e+00	2.04e-02
3,3',4,4',5,5'-HxCB	169		ND		0.0973	0.03	0.00e+00	1.46e-03
2,3,3',4,4',5,5'-HpCB	189			7.54	0.116	0.00003	2.26e-04	2.26e-04
2,3,3',4,4',5,5'-HpCB	189			6.73	0.133	0.00003	2.02e-04	2.02e-04
					TOTAL TEQ		0.0891	0.111

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-22_TEQ_SJ636399.html; Workgroup: WG21016; Design ID: 594]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB053 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	L9584-22 L
Matrix:	BLOOD	**Sample Size:**	0.110 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 23:08:58	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_066 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_066 S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.26
Project No.	DANDI 1283		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			18.0	8.68	0.82	1.000
3,4,4',5-TeCB	81			16.0	8.08	0.82	1.000
2,3,3',4,4'-PeCB	105			6920	33.1	1.55	1.000
2,3,4,4',5-PeCB	114			1040	31.2	1.64	1.000
2,3',4,4',5-PeCB	118			22500	31.7	1.57	1.000
2',3,4,4',5-PeCB	123			365	32.7	1.62	1.000
3,3',4,4',5-PeCB	126			177	35.1	1.64	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	13000	81.2	1.27	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			5680	54.0	1.28	1.000
3,3',4,4',5,5'-HxCB	169		ND		544		
2,2',3,3',4,4',5-HpCB	170			141000	5.00	1.05	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			3010	46.4	1.06	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 27-Apr-2007 16:24:24; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-22_Form1A_PB7C_066S4_SJ636399_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB053 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-22 LW
Matrix:	BLOOD	**Sample Size:**	0.110 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 00:20:01	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	100	**Sample Data Filename:**	**PB7C_068 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	5	**Cal. Ver. Data Filename:**	PB7C_068 S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.26

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	656000	9.52	1.04	1.000
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 27-Apr-2007 16:24:24; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-22_Form1A_PB7C_068S4_SJ636593_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB053 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-22 L
Sample Size:	0.110 g (lipid)	**GC Column ID(s):**	SPB OCTYL
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename(s):**	**PB7C_066 S: 4** **PB7C_068 S: 4**
		Sample Collection:	N/A

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			18.0	8.68	0.0001	1.80e-03	1.80e-03	
3,4,4',5-TeCB	81			16.0	8.08	0.0001	1.60e-03	1.60e-03	
2,3,3',4,4'-PeCB	105			6920	33.1	0.0001	6.92e-01	6.92e-01	
2,3,4,4',5-PeCB	114			1040	31.2	0.0005	5.20e-01	5.20e-01	
2,3',4,4',5-PeCB	118			22500	31.7	0.0001	2.25e+00	2.25e+00	
2',3,4,4',5-PeCB	123			365	32.7	0.0001	3.65e-02	3.65e-02	
3,3',4,4',5-PeCB	126			177	35.1	0.1	1.77e+01	1.77e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	13000	81.2	0.0005	6.50e+00	6.50e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			5680	54.0	0.00001	5.68e-02	5.68e-02	
3,3',4,4',5,5'-HxCB	169		ND		544	0.01	0.00e+00	2.72e+00	
2,3,3',4,4',5,5'-HpCB	189			3010	46.4	0.0001	3.01e-01	3.01e-01	
					TOTAL TEQ		28.1	30.8	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			18.0	8.68	0.0001	1.80e-03	1.80e-03	
3,4,4',5-TeCB	81			16.0	8.08	0.0003	4.80e-03	4.80e-03	
2,3,3',4,4'-PeCB	105			6920	33.1	0.00003	2.08e-01	2.08e-01	
2,3,4,4',5-PeCB	114			1040	31.2	0.00003	3.12e-02	3.12e-02	
2,3',4,4',5-PeCB	118			22500	31.7	0.00003	6.75e-01	6.75e-01	
2',3,4,4',5-PeCB	123			365	32.7	0.00003	1.10e-02	1.10e-02	
3,3',4,4',5-PeCB	126			177	35.1	0.1	1.77e+01	1.77e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	13000	81.2	0.00003	3.90e-01	3.90e-01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			5680	54.0	0.00003	1.70e-01	1.70e-01	
3,3',4,4',5,5'-HxCB	169		ND		544	0.03	0.00e+00	8.16e+00	
2,3,3',4,4',5,5'-HpCB	189			3010	46.4	0.00003	9.03e-02	9.03e-02	
					TOTAL TEQ		19.3	27.4	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 27-Apr-2007 16:27:04; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-22_TEQ_SJ636399_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB056 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-4 L
Matrix:	BLOOD	**Sample Size:**	49.9 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 14:25:09	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.122	0.0177	0.73	1.000
3,4,4',5-TeCB	81			0.136	0.0162	0.79	1.000
2,3,3',4,4'-PeCB	105			69.2	0.427	1.56	1.000
2,3,4,4',5-PeCB	114			12.0	0.403	1.58	1.000
2,3',4,4',5-PeCB	118			219	0.417	1.57	1.000
2',3,4,4',5-PeCB	123			3.34	0.431	1.57	1.000
3,3',4,4',5-PeCB	126			2.00	0.461	1.70	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	117	0.425	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			43.7	0.284	1.26	1.000
3,3',4,4',5,5'-HxCB	169		ND		6.43		
2,2',3,3',4,4',5-HpCB	170			1030	0.0321	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			21.2	0.269	1.03	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Brian Watson_____ QA/QC Chemist

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AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB056 Composite
Sample Collection:
N/A

Form 2

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-4 L
Matrix:	BLOOD	**Sample Size:**	49.9 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 14:25:09	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1790	89.7	0.78	1.396
13C12-3,4,4',5-TeCB	81L			2000	1900	95.2	0.78	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1860	93.1	1.60	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1910	95.6	1.64	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1880	94.2	1.58	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1870	93.5	1.59	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1860	93.1	1.59	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2800	70.0	1.27	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1430	71.4	1.27	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1320	66.0	1.27	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1390	69.4	1.05	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1440	72.1	1.05	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1280	64.1	1.05	1.258
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1700	85.0	1.61	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1480	73.9	1.05	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-4_Form2_SJ636390.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB056 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-4 LW
Matrix:	BLOOD	**Sample Size:**	49.9 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 01:24:22	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	400	**Sample Data Filename:**	**PB7C_068 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	20	**Cal. Ver. Data Filename:**	PB7C_068 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	4680	0.106	1.04	1.000
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-4_Form1A_SJ636594.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB056 Composite
Sample Collection:
N/A

Form 2

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-4 LW
Matrix:	BLOOD	**Sample Size:**	49.9 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 01:24:22	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	400	**Sample Data Filename:**	**PB7C_068 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	20	**Cal. Ver. Data Filename:**	PB7C_068 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,3',4,4',5-HpCB	170L		X					
13C12-2,2',3,4,4',5,5'-HpCB	180L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L		X					
13C12-2,2',3,3',5,5',6-HpCB	178L		X					

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_L9584-4_Form2_SJ636594.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB056 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	49.9 g (wet)	**Lab Sample I.D.:**	L9584-4 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_065 S: 6** **PB7C_068 S: 5**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.122	0.0177	0.0001	1.22e-05	1.22e-05	
3,3',4,4'-TeCB	77		ND		0.195	0.0001	0.00e+00	9.75e-06	
3,3',4,4'-TeCB	77			0.122	0.0177	0.0001	1.22e-05	1.22e-05	
3,4,4',5-TeCB	81			0.136	0.0162	0.0001	1.36e-05	1.36e-05	
3,4,4',5-TeCB	81		ND		0.177	0.0001	0.00e+00	8.85e-06	
3,4,4',5-TeCB	81			0.136	0.0162	0.0001	1.36e-05	1.36e-05	
2,3,3',4,4'-PeCB	105			69.2	0.427	0.0001	6.92e-03	6.92e-03	
2,3,3',4,4'-PeCB	105			66.5	0.627	0.0001	6.65e-03	6.65e-03	
2,3,3',4,4'-PeCB	105			69.2	0.427	0.0001	6.92e-03	6.92e-03	
2,3,4,4',5-PeCB	114			12.0	0.403	0.0005	6.00e-03	6.00e-03	
2,3,4,4',5-PeCB	114			11.8	0.603	0.0005	5.90e-03	5.90e-03	
2,3,4,4',5-PeCB	114			12.0	0.403	0.0005	6.00e-03	6.00e-03	
2,3',4,4',5-PeCB	118			219	0.417	0.0001	2.19e-02	2.19e-02	
2,3',4,4',5-PeCB	118			199	0.604	0.0001	1.99e-02	1.99e-02	
2,3',4,4',5-PeCB	118			219	0.417	0.0001	2.19e-02	2.19e-02	
2',3,4,4',5-PeCB	123			3.34	0.431	0.0001	3.34e-04	3.34e-04	
2',3,4,4',5-PeCB	123			2.91	0.611	0.0001	2.91e-04	2.91e-04	
2',3,4,4',5-PeCB	123			3.34	0.431	0.0001	3.34e-04	3.34e-04	
3,3',4,4',5-PeCB	126			2.00	0.461	0.1	2.00e-01	2.00e-01	
3,3',4,4',5-PeCB	126		ND		0.731	0.1	0.00e+00	3.66e-02	
3,3',4,4',5-PeCB	126			2.00	0.461	0.1	2.00e-01	2.00e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	117	0.425	0.0005	5.85e-02	5.85e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	116	0.286	0.0005	5.80e-02	5.80e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	117	1.52	0.0005	5.85e-02	5.85e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			43.7	0.284	0.00001	4.37e-04	4.37e-04	
2,3',4,4',5,5'-HxCB	167			41.0	0.196	0.00001	4.10e-04	4.10e-04	
2,3',4,4',5,5'-HxCB	167			43.7	1.01	0.00001	4.37e-04	4.37e-04	
3,3',4,4',5,5'-HxCB	169		ND		6.43	0.01	0.00e+00	3.22e-02	
3,3',4,4',5,5'-HxCB	169			8.23	0.235	0.01	8.23e-02	8.23e-02	
3,3',4,4',5,5'-HxCB	169		ND		1.25	0.01	0.00e+00	6.25e-03	
2,3,3',4,4',5,5'-HpCB	189			21.2	0.269	0.0001	2.12e-03	2.12e-03	
2,3,3',4,4',5,5'-HpCB	189			19.0	0.386	0.0001	1.90e-03	1.90e-03	
2,3,3',4,4',5,5'-HpCB	189			21.2	0.269	0.0001	2.12e-03	2.12e-03	

TOTAL TEQ		0.768	0.843

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.122	0.0177	0.0001	1.22e-05	1.22e-05	
3,3',4,4'-TeCB	77		ND		0.195	0.0001	0.00e+00	9.75e-06	
3,3',4,4'-TeCB	77			0.122	0.0177	0.0001	1.22e-05	1.22e-05	
3,4,4',5-TeCB	81			0.136	0.0162	0.0003	4.08e-05	4.08e-05	

3,4,4',5-TeCB	81		ND		0.177	0.0003	0.00e+00	2.66e-05
3,4,4',5-TeCB	81			0.136	0.0162	0.0003	4.08e-05	4.08e-05
2,3,3',4,4'-PeCB	105			69.2	0.427	0.00003	2.08e-03	2.08e-03
2,3,3',4,4'-PeCB	105			66.5	0.627	0.00003	2.00e-03	2.00e-03
2,3,3',4,4'-PeCB	105			69.2	0.427	0.00003	2.08e-03	2.08e-03
2,3,4,4',5-PeCB	114			12.0	0.403	0.00003	3.60e-04	3.60e-04
2,3,4,4',5-PeCB	114			11.8	0.603	0.00003	3.54e-04	3.54e-04
2,3,4,4',5-PeCB	114			12.0	0.403	0.00003	3.60e-04	3.60e-04
2,3',4,4',5-PeCB	118			219	0.417	0.00003	6.57e-03	6.57e-03
2,3',4,4',5-PeCB	118			199	0.604	0.00003	5.97e-03	5.97e-03
2,3',4,4',5-PeCB	118			219	0.417	0.00003	6.57e-03	6.57e-03
2',3,4,4',5-PeCB	123			3.34	0.431	0.00003	1.00e-04	1.00e-04
2',3,4,4',5-PeCB	123			2.91	0.611	0.00003	8.73e-05	8.73e-05
2',3,4,4',5-PeCB	123			3.34	0.431	0.00003	1.00e-04	1.00e-04
3,3',4,4',5-PeCB	126			2.00	0.461	0.1	2.00e-01	2.00e-01
3,3',4,4',5-PeCB	126		ND		0.731	0.1	0.00e+00	3.66e-02
3,3',4,4',5-PeCB	126			2.00	0.461	0.1	2.00e-01	2.00e-01
2,3,3',4,4',5-HxCB	156	156 + 157	C	117	0.425	0.00003	3.51e-03	3.51e-03
2,3,3',4,4',5-HxCB	156	156 + 157	C	116	0.286	0.00003	3.48e-03	3.48e-03
2,3,3',4,4',5-HxCB	156	156 + 157	C	117	1.52	0.00003	3.51e-03	3.51e-03
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			43.7	0.284	0.00003	1.31e-03	1.31e-03
2,3',4,4',5,5'-HxCB	167			41.0	0.196	0.00003	1.23e-03	1.23e-03
2,3',4,4',5,5'-HxCB	167			43.7	1.01	0.00003	1.31e-03	1.31e-03
3,3',4,4',5,5'-HxCB	169		ND		6.43	0.03	0.00e+00	9.65e-02
3,3',4,4',5,5'-HxCB	169			8.23	0.235	0.03	2.47e-01	2.47e-01
3,3',4,4',5,5'-HxCB	169		ND		1.25	0.03	0.00e+00	1.88e-02
2,3,3',4,4',5,5'-HpCB	189			21.2	0.269	0.00003	6.36e-04	6.36e-04
2,3,3',4,4',5,5'-HpCB	189			19.0	0.386	0.00003	5.70e-04	5.70e-04
2,3,3',4,4',5,5'-HpCB	189			21.2	0.269	0.00003	6.36e-04	6.36e-04
					TOTAL TEQ		0.690	0.842

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-4_TEQ_SJ636390.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB056 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-4 L
Matrix:	BLOOD	**Sample Size:**	0.160 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 14:25:09	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.33

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			38.0	5.52	0.73	1.000
3,4,4',5-TeCB	81			42.4	5.05	0.79	1.000
2,3,3',4,4'-PeCB	105			21600	133	1.56	1.000
2,3,4,4',5-PeCB	114			3740	126	1.58	1.000
2,3',4,4',5-PeCB	118			68300	130	1.57	1.000
2',3,4,4',5-PeCB	123			1040	134	1.57	1.000
3,3',4,4',5-PeCB	126			624	144	1.70	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	36500	132	1.26	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			13600	88.5	1.26	1.000
3,3',4,4',5,5'-HxCB	169		ND		2000		
2,2',3,3',4,4',5-HpCB	170			321000	10.0	1.05	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			6610	83.9	1.03	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: Teresa Rawsthorne QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 27-Apr-2007 16:24:24; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-4_Form1A_PB7C_065S6_SJ636390_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB056 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.		DANDI 1283	
Contract No.:	2607	**Lab Sample I.D.:**	L9584-4 LW
Matrix:	BLOOD	**Sample Size:**	0.160 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 01:24:22	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	400	**Sample Data Filename:**	**PB7C_068 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	20	**Cal. Ver. Data Filename:**	PB7C_068 S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.33

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	1460000	33.0	1.04	1.000
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 27-Apr-2007 16:24:24; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_L9584-4_Form1A_PB7C_068S5_SJ636594_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB056 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.160 g (lipid)	**Lab Sample I.D.:**	L9584-4 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_065 S: 6** **PB7C_068 S: 5**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			38.0	5.52	0.0001	3.80e-03	3.80e-03	
3,4,4',5-TeCB	81			42.4	5.05	0.0001	4.24e-03	4.24e-03	
2,3,3',4,4'-PeCB	105			21600	133	0.0001	2.16e+00	2.16e+00	
2,3,4,4',5-PeCB	114			3740	126	0.0005	1.87e+00	1.87e+00	
2,3',4,4',5-PeCB	118			68300	130	0.0001	6.83e+00	6.83e+00	
2',3,4,4',5-PeCB	123			1040	134	0.0001	1.04e-01	1.04e-01	
3,3',4,4',5-PeCB	126			624	144	0.1	6.24e+01	6.24e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	36500	132	0.0005	1.83e+01	1.83e+01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			13600	88.5	0.00001	1.36e-01	1.36e-01	
3,3',4,4',5,5'-HxCB	169		ND		2000	0.01	0.00e+00	1.00e+01	
2,3,3',4,4',5,5'-HpCB	189			6610	83.9	0.0001	6.61e-01	6.61e-01	
					TOTAL TEQ		92.4	102	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			38.0	5.52	0.0001	3.80e-03	3.80e-03	
3,4,4',5-TeCB	81			42.4	5.05	0.0003	1.27e-02	1.27e-02	
2,3,3',4,4'-PeCB	105			21600	133	0.00003	6.48e-01	6.48e-01	
2,3,4,4',5-PeCB	114			3740	126	0.00003	1.12e-01	1.12e-01	
2,3',4,4',5-PeCB	118			68300	130	0.00003	2.05e+00	2.05e+00	
2',3,4,4',5-PeCB	123			1040	134	0.00003	3.12e-02	3.12e-02	
3,3',4,4',5-PeCB	126			624	144	0.1	6.24e+01	6.24e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	36500	132	0.00003	1.10e+00	1.10e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			13600	88.5	0.00003	4.08e-01	4.08e-01	
3,3',4,4',5,5'-HxCB	169		ND		2000	0.03	0.00e+00	3.00e+01	
2,3,3',4,4',5,5'-HpCB	189			6610	83.9	0.00003	1.98e-01	1.98e-01	
					TOTAL TEQ		67.0	97.0	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Teresa Rawsthorne_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 27-Apr-2007 16:27:04; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-4_TEQ_SJ636390_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB059 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-11 L
Matrix:	BLOOD	**Sample Size:**	60.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 18:42:33	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.110	0.0277	0.72	1.000
3,4,4',5-TeCB	81			0.052	0.0274	0.76	1.000
2,3,3',4,4'-PeCB	105			65.1	0.313	1.57	1.001
2,3,4,4',5-PeCB	114			6.35	0.297	1.64	1.001
2,3',4,4',5-PeCB	118			210	0.316	1.57	1.000
2',3,4,4',5-PeCB	123			3.54	0.321	1.59	1.001
3,3',4,4',5-PeCB	126			0.901	0.327	1.66	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	75.8	0.253	1.25	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			36.0	0.174	1.27	1.000
3,3',4,4',5,5'-HxCB	169		ND		4.30		
2,2',3,3',4,4',5-HpCB	170			722	0.0252	1.04	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			16.9	0.270	1.04	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-11_Form1A_SJ636394.html; Workgroup: WG21016; Design ID: 594]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB059 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-11 L
Matrix:	BLOOD	**Sample Size:**	60.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 18:42:33	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1620	81.0	0.79	1.396
13C12-3,4,4',5-TeCB	81L			2000	1630	81.5	0.78	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1590	79.4	1.58	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1620	80.9	1.65	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1580	78.8	1.58	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1560	78.0	1.60	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1640	81.9	1.60	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2650	66.2	1.27	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1320	66.0	1.27	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1300	64.9	1.27	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1270	63.7	1.04	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1390	69.7	1.06	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1390	69.7	1.06	1.257
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1470	73.3	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1370	68.3	1.05	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_L9584-11_Form2_SJ636394.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB059 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-11 LW
Matrix:	BLOOD	**Sample Size:**	60.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 23:15:42	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	200	**Sample Data Filename:**	**PB7C_068 S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	10	**Cal. Ver. Data Filename:**	PB7C_068 S: 1
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	3190	0.0445	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: Brian Watson QA/QC Chemist

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Report Filename: 1668_PCB1668_PCBTOX_L9584-11_Form1A_SJ636592.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB059 Composite
Sample Collection:
N/A

Form 2

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-11 LW
Matrix:	BLOOD	**Sample Size:**	60.2 g (wet)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Feb-2007 **Time:** 23:15:42	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	200	**Sample Data Filename:**	**PB7C_068 S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	10	**Cal. Ver. Data Filename:**	PB7C_068 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L		X					
13C12-3,4,4',5-TeCB	81L		X					
13C12-2,3,3',4,4'-PeCB	105L		X					
13C12-2,3,4,4',5-PeCB	114L		X					
13C12-2,3',4,4',5-PeCB	118L		X					
13C12-2',3,4,4',5-PeCB	123L		X					
13C12-3,3',4,4',5-PeCB	126L		X					
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C X					
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L		X					
13C12-3,3',4,4',5,5'-HxCB	169L		X					
13C12-2,2',3,3',4,4',5-HpCB	170L		X					
13C12-2,2',3,4,4',5,5'-HpCB	180L		X					
13C12-2,3,3',4,4',5,5'-HpCB	189L		X					
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L		X					
13C12-2,2',3,3',5,5',6-HpCB	178L		X					

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; X = result reported separately.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

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Report Filename: 1668_PCB1668_PCBTOX_L9584-11_Form2_SJ636592.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB059 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	60.2 g (wet)	**Lab Sample I.D.:**	L9584-11 L
Concentration Units:	pg/g (wet weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_065 S: 10** **PB7C_068 S: 3**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.110	0.0277	0.0001	1.10e-05	1.10e-05	
3,3',4,4'-TeCB	77			0.110	0.0277	0.0001	1.10e-05	1.10e-05	
3,3',4,4'-TeCB	77			0.139	0.103	0.0001	1.39e-05	1.39e-05	
3,4,4',5-TeCB	81			0.052	0.0274	0.0001	5.20e-06	5.20e-06	
3,4,4',5-TeCB	81			0.052	0.0274	0.0001	5.20e-06	5.20e-06	
3,4,4',5-TeCB	81		ND		0.101	0.0001	0.00e+00	5.05e-06	
2,3,3',4,4'-PeCB	105			65.1	0.313	0.0001	6.51e-03	6.51e-03	
2,3,3',4,4'-PeCB	105			65.1	0.313	0.0001	6.51e-03	6.51e-03	
2,3,3',4,4'-PeCB	105			58.7	0.531	0.0001	5.87e-03	5.87e-03	
2,3,4,4',5-PeCB	114			6.35	0.297	0.0005	3.18e-03	3.18e-03	
2,3,4,4',5-PeCB	114			6.35	0.297	0.0005	3.18e-03	3.18e-03	
2,3,4,4',5-PeCB	114			5.72	0.497	0.0005	2.86e-03	2.86e-03	
2,3',4,4',5-PeCB	118			210	0.316	0.0001	2.10e-02	2.10e-02	
2,3',4,4',5-PeCB	118			210	0.316	0.0001	2.10e-02	2.10e-02	
2,3',4,4',5-PeCB	118			192	0.533	0.0001	1.92e-02	1.92e-02	
2',3,4,4',5-PeCB	123			3.54	0.321	0.0001	3.54e-04	3.54e-04	
2',3,4,4',5-PeCB	123			3.54	0.321	0.0001	3.54e-04	3.54e-04	
2',3,4,4',5-PeCB	123			2.91	0.550	0.0001	2.91e-04	2.91e-04	
3,3',4,4',5-PeCB	126			0.901	0.327	0.1	9.01e-02	9.01e-02	
3,3',4,4',5-PeCB	126			0.901	0.327	0.1	9.01e-02	9.01e-02	
3,3',4,4',5-PeCB	126			0.940	0.515	0.1	9.40e-02	9.40e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	75.8	0.253	0.0005	3.79e-02	3.79e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	75.8	0.791	0.0005	3.79e-02	3.79e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	75.3	0.301	0.0005	3.77e-02	3.77e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			36.0	0.174	0.00001	3.60e-04	3.60e-04	
2,3',4,4',5,5'-HxCB	167			36.0	0.544	0.00001	3.60e-04	3.60e-04	
2,3',4,4',5,5'-HxCB	167			34.0	0.209	0.00001	3.40e-04	3.40e-04	
3,3',4,4',5,5'-HxCB	169		ND		4.30	0.01	0.00e+00	2.15e-02	
3,3',4,4',5,5'-HxCB	169		ND		0.589	0.01	0.00e+00	2.95e-03	
3,3',4,4',5,5'-HxCB	169		ND		0.215	0.01	0.00e+00	1.08e-03	
2,3,3',4,4',5,5'-HpCB	189			16.9	0.270	0.0001	1.69e-03	1.69e-03	
2,3,3',4,4',5,5'-HpCB	189			16.9	0.270	0.0001	1.69e-03	1.69e-03	
2,3,3',4,4',5,5'-HpCB	189			15.1	0.218	0.0001	1.51e-03	1.51e-03	
					TOTAL TEQ		0.484	0.509	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.110	0.0277	0.0001	1.10e-05	1.10e-05	
3,3',4,4'-TeCB	77			0.110	0.0277	0.0001	1.10e-05	1.10e-05	
3,3',4,4'-TeCB	77			0.139	0.103	0.0001	1.39e-05	1.39e-05	
3,4,4',5-TeCB	81			0.052	0.0274	0.0003	1.56e-05	1.56e-05	

3,4,4',5-TeCB	81			0.052	0.0274	0.0003	1.56e-05	1.56e-05
3,4,4',5-TeCB	81		ND		0.101	0.0003	0.00e+00	1.52e-05
2,3,3',4,4'-PeCB	105			65.1	0.313	0.00003	1.95e-03	1.95e-03
2,3,3',4,4'-PeCB	105			65.1	0.313	0.00003	1.95e-03	1.95e-03
2,3,3',4,4'-PeCB	105			58.7	0.531	0.00003	1.76e-03	1.76e-03
2,3,4,4',5-PeCB	114			6.35	0.297	0.00003	1.91e-04	1.91e-04
2,3,4,4',5-PeCB	114			6.35	0.297	0.00003	1.91e-04	1.91e-04
2,3,4,4',5-PeCB	114			5.72	0.497	0.00003	1.72e-04	1.72e-04
2,3',4,4',5-PeCB	118			210	0.316	0.00003	6.30e-03	6.30e-03
2,3',4,4',5-PeCB	118			210	0.316	0.00003	6.30e-03	6.30e-03
2,3',4,4',5-PeCB	118			192	0.533	0.00003	5.76e-03	5.76e-03
2',3,4,4',5-PeCB	123			3.54	0.321	0.00003	1.06e-04	1.06e-04
2',3,4,4',5-PeCB	123			3.54	0.321	0.00003	1.06e-04	1.06e-04
2',3,4,4',5-PeCB	123			2.91	0.550	0.00003	8.73e-05	8.73e-05
3,3',4,4',5-PeCB	126			0.901	0.327	0.1	9.01e-02	9.01e-02
3,3',4,4',5-PeCB	126			0.901	0.327	0.1	9.01e-02	9.01e-02
3,3',4,4',5-PeCB	126			0.940	0.515	0.1	9.40e-02	9.40e-02
2,3,3',4,4',5-HxCB	156	156 + 157	C	75.8	0.253	0.00003	2.27e-03	2.27e-03
2,3,3',4,4',5-HxCB	156	156 + 157	C	75.8	0.791	0.00003	2.27e-03	2.27e-03
2,3,3',4,4',5-HxCB	156	156 + 157	C	75.3	0.301	0.00003	2.26e-03	2.26e-03
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			36.0	0.174	0.00003	1.08e-03	1.08e-03
2,3',4,4',5,5'-HxCB	167			36.0	0.544	0.00003	1.08e-03	1.08e-03
2,3',4,4',5,5'-HxCB	167			34.0	0.209	0.00003	1.02e-03	1.02e-03
3,3',4,4',5,5'-HxCB	169		ND		4.30	0.03	0.00e+00	6.45e-02
3,3',4,4',5,5'-HxCB	169		ND		0.589	0.03	0.00e+00	8.84e-03
3,3',4,4',5,5'-HxCB	169		ND		0.215	0.03	0.00e+00	3.23e-03
2,3,3',4,4',5,5'-HpCB	189			16.9	0.270	0.00003	5.07e-04	5.07e-04
2,3,3',4,4',5,5'-HpCB	189			16.9	0.270	0.00003	5.07e-04	5.07e-04
2,3,3',4,4',5,5'-HpCB	189			15.1	0.218	0.00003	4.53e-04	4.53e-04
					TOTAL TEQ		0.311	0.387

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

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AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB059 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	DANDI 1283		
Contract No.:	2607	**Lab Sample I.D.:**	L9584-11 L
Matrix:	BLOOD	**Sample Size:**	0.110 g (lipid)
Sample Receipt Date:	22-Dec-2006	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 18:42:33	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg/g (lipid weight basis)	**% Lipid:**	0.19

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			60.2	15.1	0.72	1.000
3,4,4',5-TeCB	81			28.4	15.0	0.76	1.000
2,3,3',4,4'-PeCB	105			35600	171	1.57	1.001
2,3,4,4',5-PeCB	114			3470	162	1.64	1.001
2,3',4,4',5-PeCB	118			115000	173	1.57	1.000
2',3,4,4',5-PeCB	123			1940	176	1.59	1.001
3,3',4,4',5-PeCB	126			493	179	1.66	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C	41500	138	1.25	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167			19700	95.2	1.27	1.000
3,3',4,4',5,5'-HxCB	169		ND		2350		
2,2',3,3',4,4',5-HpCB	170			395000	13.8	1.04	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C OLR				
2,3,3',4,4',5,5'-HpCB	189			9240	148	1.04	1.000
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; OLR = exceeds calibrated linear range, see dilution data.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Mar-2007 18:48:37; Application: XMLTransformer-1.7.35; Report Filename: 1668_PCB1668_PCBTOX_L9584-11_Form1A_SJ636394_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
06VNB059 Composite
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	DANDI 1283
Matrix:	BLOOD	**Lab Sample I.D.:**	L9584-11 LW
Sample Receipt Date:	22-Dec-2006	**Sample Size:**	0.110 g (lipid)
Extraction Date:	16-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	13-Feb-2007 **Time:** 23:15:42	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	200	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_068 S: 3**
Dilution Factor:	10	**Blank Data Filename:**	PB7C_065 S: 4
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	PB7C_068 S: 1
		% Lipid:	0.19

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		X				
3,4,4',5-TeCB	81		X				
2,3,3',4,4'-PeCB	105		X				
2,3,4,4',5-PeCB	114		X				
2,3',4,4',5-PeCB	118		X				
2',3,4,4',5-PeCB	123		X				
3,3',4,4',5-PeCB	126		X				
2,3,3',4,4',5-HxCB	156	156 + 157	C X				
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		X				
3,3',4,4',5,5'-HxCB	169		X				
2,2',3,3',4,4',5-HpCB	170		X				
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C D	1740000	24.3	1.05	1.000
2,3,3',4,4',5,5'-HpCB	189		X				
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; C = co-eluting congener; X = result reported separately.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Mar-2007 18:48:37; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_PCBTOX_L9584-11_Form1A_SJ636592_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
06VNB059 Composite

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	BLOOD	**Project No.**	DANDI 1283
Sample Size:	0.110 g (lipid)	**Lab Sample I.D.:**	L9584-11 L
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_065 S: 10** **PB7C_068 S: 3**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			60.2	15.1	0.0001	6.02e-03	6.02e-03	
3,4,4',5-TeCB	81			28.4	15.0	0.0001	2.84e-03	2.84e-03	
2,3,3',4,4'-PeCB	105			35600	171	0.0001	3.56e+00	3.56e+00	
2,3,4,4',5-PeCB	114			3470	162	0.0005	1.74e+00	1.74e+00	
2,3',4,4',5-PeCB	118			115000	173	0.0001	1.15e+01	1.15e+01	
2',3,4,4',5-PeCB	123			1940	176	0.0001	1.94e-01	1.94e-01	
3,3',4,4',5-PeCB	126			493	179	0.1	4.93e+01	4.93e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	41500	138	0.0005	2.08e+01	2.08e+01	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			19700	95.2	0.00001	1.97e-01	1.97e-01	
3,3',4,4',5,5'-HxCB	169		ND		2350	0.01	0.00e+00	1.18e+01	
2,3,3',4,4',5,5'-HpCB	189			9240	148	0.0001	9.24e-01	9.24e-01	
					TOTAL TEQ		88.2	99.9	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			60.2	15.1	0.0001	6.02e-03	6.02e-03	
3,4,4',5-TeCB	81			28.4	15.0	0.0003	8.52e-03	8.52e-03	
2,3,3',4,4'-PeCB	105			35600	171	0.00003	1.07e+00	1.07e+00	
2,3,4,4',5-PeCB	114			3470	162	0.00003	1.04e-01	1.04e-01	
2,3',4,4',5-PeCB	118			115000	173	0.00003	3.45e+00	3.45e+00	
2',3,4,4',5-PeCB	123			1940	176	0.00003	5.82e-02	5.82e-02	
3,3',4,4',5-PeCB	126			493	179	0.1	4.93e+01	4.93e+01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	41500	138	0.00003	1.25e+00	1.25e+00	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167			19700	95.2	0.00003	5.91e-01	5.91e-01	
3,3',4,4',5,5'-HxCB	169		ND		2350	0.03	0.00e+00	3.53e+01	
2,3,3',4,4',5,5'-HpCB	189			9240	148	0.00003	2.77e-01	2.77e-01	
					TOTAL TEQ		56.1	91.4	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener; D = dilution data.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 21-Mar-2007 15:58:39; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_HomTotals-TEQs_L9584-11_TEQ_SJ636394_lipid.html; Workgroup: WG21016; Design ID: 594]

A3.4
QA/QC:
Laboratory Batch Sheets, Blanks, Spiked Matrices

BATCH SUMMARY

Batch ID:	WG21086	***Date:***	09-Mar-2007
Analysis Type:	PCB TOXIC	***Matrix Type:***	SOLIDS

BATCH MAKEUP

Contract: 2607 ***Samples:*** L9585-40 K575 L9585-60 L9585-72 L9585-91 L9585-94	***Blank:*** WG21086-101 WG21086-102 ***Reference or Spike:*** WG21086-103 WG21086-104 ***Duplicate:***

Comments:

1. Data are not blank corrected.
2. PCB 180 in the initial analysis of sample 06VN099 (Axys ID: L9585-91) exceeded the linear calibration range of the instrument. The sample was diluted and instrumentally reanalyzed. The data for PCB 180 is reported from the dilution data as indicated by the suffix 'W' add to the Axys ID.
3. Sample 06VN063 (Axys ID: L9585-60) was instrumentally reanalyzed because of the probability of carryover in the initial analysis. Data is reported from the reanalysis as indicated by the suffix 'i' added to the Axys ID.

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 01:52:39	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_069E S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_069E S: 6
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	PB7C_069D S: 1

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		ND		0.0500		
3,4,4',5-TeCB	81		ND		0.0500		
2,3,3',4,4'-PeCB	105		NDR	0.175	0.0500	1.81	1.001
2,3,4,4',5-PeCB	114		ND		0.0500		
2,3',4,4',5-PeCB	118			0.380	0.0500	1.51	1.001
2',3,4,4',5-PeCB	123		ND		0.0500		
3,3',4,4',5-PeCB	126		ND		0.0500		
2,3,3',4,4',5-HxCB	156	156 + 157	C NDR	0.105	0.0500	1.58	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		ND		0.0500		
3,3',4,4',5,5'-HxCB	169		ND		0.0500		
2,2',3,3',4,4',5-HpCB	170			0.358	0.0500	1.14	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	0.939	0.0500	1.12	1.001
2,3,3',4,4',5,5'-HpCB	189		ND		0.0500		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33; Report Filename: 1668_PCB1668_PCBTOX_WG21086-101_Form1A_SJ636992.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21086-101
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 01:52:39	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_069E S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_069D S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1650	82.3	0.78	1.393
13C12-3,4,4',5-TeCB	81L			2000	1650	82.4	0.79	1.369
13C12-2,3,3',4,4'-PeCB	105L			2000	1610	80.5	1.56	1.200
13C12-2,3,4,4',5-PeCB	114L			2000	1540	76.9	1.55	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1570	78.6	1.56	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1550	77.6	1.55	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1570	78.4	1.57	1.300
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	3190	79.7	1.28	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1660	83.2	1.26	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1500	75.1	1.30	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1650	82.6	1.03	1.175
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1690	84.7	1.04	1.142
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1510	75.7	1.05	1.255
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1570	78.6	1.59	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1740	87.0	1.04	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33; Report Filename: 1668_PCB1668_PCBTOX_WG21086-101_Form2_SJ636992.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
Lab Blank

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	N/A
Sample Size:	10.0 g	**Lab Sample I.D.:**	WG21086-101
Concentration Units:	pg/g	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_069E S: 6**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.0500	0.0001	0.00e+00	2.50e-06	
3,4,4',5-TeCB	81		ND		0.0500	0.0001	0.00e+00	2.50e-06	
2,3,3',4,4'-PeCB	105		ND		0.0500	0.0001	0.00e+00	2.50e-06	
2,3,4,4',5-PeCB	114		ND		0.0500	0.0005	0.00e+00	1.25e-05	
2,3',4,4',5-PeCB	118			0.380	0.0500	0.0001	3.80e-05	3.80e-05	
2',3,4,4',5-PeCB	123		ND		0.0500	0.0001	0.00e+00	2.50e-06	
3,3',4,4',5-PeCB	126		ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C ND		0.0500	0.0005	0.00e+00	1.25e-05	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		0.0500	0.00001	0.00e+00	2.50e-07	
3,3',4,4',5,5'-HxCB	169		ND		0.0500	0.01	0.00e+00	2.50e-04	
2,3,3',4,4',5,5'-HpCB	189		ND		0.0500	0.0001	0.00e+00	2.50e-06	
					TOTAL TEQ		0.0000380	0.00283	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.0500	0.0001	0.00e+00	2.50e-06	
3,4,4',5-TeCB	81		ND		0.0500	0.0003	0.00e+00	7.50e-06	
2,3,3',4,4'-PeCB	105		ND		0.0500	0.00003	0.00e+00	7.50e-07	
2,3,4,4',5-PeCB	114		ND		0.0500	0.00003	0.00e+00	7.50e-07	
2,3',4,4',5-PeCB	118			0.380	0.0500	0.00003	1.14e-05	1.14e-05	
2',3,4,4',5-PeCB	123		ND		0.0500	0.00003	0.00e+00	7.50e-07	
3,3',4,4',5-PeCB	126		ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C ND		0.0500	0.00003	0.00e+00	7.50e-07	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		0.0500	0.00003	0.00e+00	7.50e-07	
3,3',4,4',5,5'-HxCB	169		ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,3',4,4',5,5'-HpCB	189		ND		0.0500	0.00003	0.00e+00	7.50e-07	
					TOTAL TEQ		0.0000114	0.00328	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 09-Mar-2007 08:06:35; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_HomTotals-TEQs_WG21086-101_TEQ_SJ636992.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-102
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	15-Feb-2007 **Time:** 14:59:15	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_070E S: 3**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_069E S: 6
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	PB7C_070E S: 1

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		ND		0.452		
3,4,4',5-TeCB	81		ND		0.440		
2,3,3',4,4'-PeCB	105		NDR	1.00	0.468	1.31	1.000
2,3,4,4',5-PeCB	114		ND		0.453		
2,3',4,4',5-PeCB	118			2.99	0.461	1.44	1.000
2',3,4,4',5-PeCB	123		ND		0.481		
3,3',4,4',5-PeCB	126		ND		0.564		
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.10	0.613	1.19	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		ND		0.389		
3,3',4,4',5,5'-HxCB	169		ND		0.482		
2,2',3,3',4,4',5-HpCB	170		NDR	0.775	0.414	0.80	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.67	0.339	1.11	1.000
2,3,3',4,4',5,5'-HpCB	189		ND		0.289		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_WG21086-102_Form1A_SJ637634.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21086-102
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Feb-2007 **Time:** 14:59:15	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_070E S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_070E S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO.[1]	CO-ELUTIONS	LAB FLAG[2]	SPIKE CONC.	CONC. FOUND	R(%)[3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			10000	3590	35.9	0.77	1.394
13C12-3,4,4',5-TeCB	81L			10000	3650	36.5	0.77	1.371
13C12-2,3,3',4,4'-PeCB	105L			10000	4120	41.2	1.56	1.201
13C12-2,3,4,4',5-PeCB	114L			10000	4050	40.5	1.58	1.179
13C12-2,3',4,4',5-PeCB	118L			10000	4050	40.5	1.55	1.161
13C12-2',3,4,4',5-PeCB	123L			10000	4110	41.1	1.56	1.151
13C12-3,3',4,4',5-PeCB	126L			10000	3740	37.4	1.56	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	20000	8250	41.3	1.29	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			10000	4260	42.6	1.29	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			10000	3700	37.0	1.29	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			10000	3650	36.5	1.08	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			10000	3640	36.4	1.09	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			10000	4840	48.4	1.04	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			10000	4000	40.0	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			10000	3870	38.7	1.09	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_WG21086-102_Form2_SJ637634.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
Lab Blank

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-102
Sample Size:	10.0 g	**GC Column ID(s):**	SPB OCTYL
Concentration Units:	pg/g	**Sample Data Filename(s):**	**PB7C_070E S: 3**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.452	0.0001	0.00e+00	2.26e-05	
3,4,4',5-TeCB	81		ND		0.440	0.0001	0.00e+00	2.20e-05	
2,3,3',4,4'-PeCB	105		ND		0.468	0.0001	0.00e+00	2.34e-05	
2,3,4,4',5-PeCB	114		ND		0.453	0.0005	0.00e+00	1.13e-04	
2,3',4,4',5-PeCB	118			2.99	0.461	0.0001	2.99e-04	2.99e-04	
2',3,4,4',5-PeCB	123		ND		0.481	0.0001	0.00e+00	2.41e-05	
3,3',4,4',5-PeCB	126		ND		0.564	0.1	0.00e+00	2.82e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.10	0.613	0.0005	5.50e-04	5.50e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		0.389	0.00001	0.00e+00	1.95e-06	
3,3',4,4',5,5'-HxCB	169		ND		0.482	0.01	0.00e+00	2.41e-03	
2,3,3',4,4',5,5'-HpCB	189		ND		0.289	0.0001	0.00e+00	1.45e-05	
					TOTAL TEQ		0.000849	0.0317	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.452	0.0001	0.00e+00	2.26e-05	
3,4,4',5-TeCB	81		ND		0.440	0.0003	0.00e+00	6.60e-05	
2,3,3',4,4'-PeCB	105		ND		0.468	0.00003	0.00e+00	7.02e-06	
2,3,4,4',5-PeCB	114		ND		0.453	0.00003	0.00e+00	6.80e-06	
2,3',4,4',5-PeCB	118			2.99	0.461	0.00003	8.97e-05	8.97e-05	
2',3,4,4',5-PeCB	123		ND		0.481	0.00003	0.00e+00	7.22e-06	
3,3',4,4',5-PeCB	126		ND		0.564	0.1	0.00e+00	2.82e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.10	0.613	0.00003	3.30e-05	3.30e-05	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		0.389	0.00003	0.00e+00	5.84e-06	
3,3',4,4',5,5'-HxCB	169		ND		0.482	0.03	0.00e+00	7.23e-03	
2,3,3',4,4',5,5'-HpCB	189		ND		0.289	0.00003	0.00e+00	4.34e-06	
					TOTAL TEQ		0.000123	0.0357	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 09-Mar-2007 08:06:35; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_HomTotals-TEQs_WG21086-102_TEQ_SJ637634.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 8A

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21086-103
Matrix:	SOLID	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 20:30:23	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB7C_069E S: 1**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_069D S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
3,3',4,4'-TeCB	77			0.77	50.0	48.5	25.0 - 75.0	97.0
3,4,4',5-TeCB	81			0.77	50.0	49.3	25.0 - 75.0	98.5
2,3,3',4,4'-PeCB	105			1.56	50.0	48.8	25.0 - 75.0	97.7
2,3,4,4',5-PeCB	114			1.53	50.0	48.8	25.0 - 75.0	97.7
2,3',4,4',5-PeCB	118			1.57	50.0	49.1	25.0 - 75.0	98.2
2',3,4,4',5-PeCB	123			1.52	50.0	47.8	25.0 - 75.0	95.5
3,3',4,4',5-PeCB	126			1.55	50.0	49.2	25.0 - 75.0	98.5
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.25	100	101	50.0 - 150	101
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			1.26	50.0	50.8	25.0 - 75.0	102
3,3',4,4',5,5'-HxCB	169			1.26	50.0	50.8	25.0 - 75.0	102
2,2',3,3',4,4',5-HpCB	170			1.05	50.0	50.1	25.0 - 75.0	100
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.04	50.0	50.4	25.0 - 75.0	101
2,3,3',4,4',5,5'-HpCB	189			1.01	50.0	49.1	25.0 - 75.0	98.2
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180					

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16688A.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_WG21086-103_Form8A_SJ636989.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 8B

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21086-103
Matrix:	SOLID	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 20:30:23	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB7C_069E S: 1**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_069D S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-3,3',4,4'-TeCB	77L			0.78	100	84.1	30.0 - 140	84.1
13C12-3,4,4',5-TeCB	81L			0.79	100	83.5	30.0 - 140	83.5
13C12-2,3,3',4,4'-PeCB	105L			1.57	100	80.3	30.0 - 140	80.3
13C12-2,3,4,4',5-PeCB	114L			1.56	100	76.0	30.0 - 140	76.0
13C12-2,3',4,4',5-PeCB	118L			1.57	100	78.4	30.0 - 140	78.4
13C12-2',3,4,4',5-PeCB	123L			1.56	100	78.0	30.0 - 140	78.0
13C12-3,3',4,4',5-PeCB	126L			1.55	100	78.3	30.0 - 140	78.3
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.28	200	159	60.0 - 280	79.3
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			1.26	100	81.2	30.0 - 140	81.2
13C12-3,3',4,4',5,5'-HxCB	169L			1.27	100	78.7	30.0 - 140	78.7
13C12-2,2',3,3',4,4',5-HpCB	170L			1.02	100	81.4	30.0 - 140	81.4
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.04	100	81.6	30.0 - 140	81.6
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.05	100	75.0	30.0 - 140	75.0
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			1.59	100	80.0	40.0 - 125	80.0
13C12-2,2',3,3',5,5',6-HpCB	178L			1.03	100	87.6	40.0 - 125	87.6

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16688B.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_WG21086-103_Form8B_SJ636989.html; Workgroup: WG21086; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 8A

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21086-104
Matrix:	SOLID	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 21:34:53	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB7C_069E S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_069D S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
3,3',4,4'-TeCB	77			0.78	250	241	125 - 375	96.5
3,4,4',5-TeCB	81			0.77	250	243	125 - 375	97.3
2,3,3',4,4'-PeCB	105			1.56	250	242	125 - 375	96.9
2,3,4,4',5-PeCB	114			1.60	250	245	125 - 375	98.1
2,3',4,4',5-PeCB	118			1.59	250	246	125 - 375	98.5
2',3,4,4',5-PeCB	123			1.55	250	247	125 - 375	98.7
3,3',4,4',5-PeCB	126			1.52	250	245	125 - 375	98.0
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.24	500	505	250 - 750	101
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			1.24	250	251	125 - 375	100
3,3',4,4',5,5'-HxCB	169			1.28	250	250	125 - 375	99.9
2,2',3,3',4,4',5-HpCB	170			1.06	250	254	125 - 375	102
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.05	250	247	125 - 375	98.9
2,3,3',4,4',5,5'-HpCB	189			1.02	250	249	125 - 375	99.5
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180					

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

Approved by: Kalai Pillay QA/QC Chemist

AXYS METHOD MLA-013 Rev 06

Form 8B

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21086-104
Matrix:	SOLID	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 21:34:53	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB7C_069E S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_069E S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_069D S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG[2]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-3,3',4,4'-TeCB	77L			0.79	500	249	150 - 700	49.8
13C12-3,4,4',5-TeCB	81L			0.79	500	250	150 - 700	49.9
13C12-2,3,3',4,4'-PeCB	105L			1.55	500	258	150 - 700	51.7
13C12-2,3,4,4',5-PeCB	114L			1.56	500	248	150 - 700	49.7
13C12-2,3',4,4',5-PeCB	118L			1.56	500	250	150 - 700	49.9
13C12-2',3,4,4',5-PeCB	123L			1.54	500	245	150 - 700	49.0
13C12-3,3',4,4',5-PeCB	126L			1.57	500	240	150 - 700	48.0
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.28	1000	492	300 - 1400	49.2
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			1.29	500	254	150 - 700	50.7
13C12-3,3',4,4',5,5'-HxCB	169L			1.32	500	213	150 - 700	42.6
13C12-2,2',3,3',4,4',5-HpCB	170L			1.06	500	246	150 - 700	49.2
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.07	500	253	150 - 700	50.7
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.03	500	236	150 - 700	47.3
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			1.58	500	246	200 - 625	49.1
13C12-2,2',3,3',5,5',6-HpCB	178L			1.05	500	272	200 - 625	54.4

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16688B.xsl; Created: 09-Mar-2007 07:57:40; Application: XMLTransformer-1.7.33;
Report Filename: 1668_PCB1668_PCBTOX_WG21086-104_Form8B_SJ636990.html; Workgroup: WG21086; Design ID: 594]

BATCH SUMMARY

Batch ID:	WG21189	***Date:***	07-Mar-2007
Analysis Type:	PAH	***Matrix Type:***	Solid

BATCH MAKEUP

Contract: 2607	***Samples:*** L9585-40 L9585-60 L9585-72 L9585-91 L9585-94	***Blank:***	WG21189-101
		Reference or Spike:	WG21189-102
		Duplicate:	

Comments:

1. Data are not blank corrected. The levels of alkylated naphthalenes and alkylated flourenes in the lab blank (AXYS ID: WG21189-101) are slightly above method specification. Cautions should be taken when evaluating the concentrations of these compounds in field samples.
2. The recovery of labeled D-8 naphthalene and d-10 2-methylnaphthalene in some samples is slightly below method specification. These compounds have been flagged with a 'V'. Since the isotope dilution method of quantification produces data that are recovery corrected, the slight variances from the method acceptance criteria are deemed not to affect the quantification of these analytes. Percent surrogate recoveries are used as general method performance indicator only.

AXYS METHOD MLA-021 Rev 07

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 1A

POLYAROMATIC HYDROCARBON ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21189-101
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	26-Jan-2007	**Initial Calibration Date:**	BRACKETING CAL
Analysis Date:	08-Feb-2007 **Time:** 15:40:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	500	**GC Column ID:**	RTX5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PH7A0560.D**
Dilution Factor:	N/A	**Blank Data Filename:**	PH7A0560.D
		Opening Cal. Data Filename:	PH7A0556.D
		Closing Cal. Data Filename:	PH7A0570.D
Concentration Units:	ng/g		

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Naphthalene	91-20-3	NDR	3.65	0.419	0.32	1.007
Acenaphthylene	208-96-8	NDR	0.288	0.202	0.40	1.003
Acenaphthene	83-32-9	NDR	0.771	0.411	2.37	1.052
Fluorene	86-73-7	ND		0.201		
Phenanthrene	85-01-8		0.386	0.261	0.19	1.003
Anthracene	120-12-7	ND		0.283		
Fluoranthene	206-44-0	NDR	0.244	0.080	0.43	1.002
Pyrene	129-00-0		0.219	0.081	0.24	1.032
Benz[a]anthracene	56-55-3		0.196	0.049	0.27	1.003
Chrysene [2]	218-01-9		0.317	0.055	0.25	1.003
Benzo[e]pyrene	192-97-2	NDR	0.192	0.111	0.41	0.996
Benzo[a]pyrene	50-32-8	NDR	0.166	0.119	0.41	1.004
Perylene	198-55-0	NDR	0.205	0.113	0.46	1.004
Dibenz[a,h]anthracene [3]	53-70-3	NDR	0.251	0.118	0.31	1.004
Indeno[1,2,3-c,d]-pyrene	193-39-5	NDR	1.07	0.112	2.05	1.000
Benzo[g,h,i]perylene	191-24-2	NDR	0.218	0.092	0.99	1.002
2-Methylnaphthalene	91-57-6		2.07	0.673	0.83	1.009
1-Methylnaphthalene	90-12-0		1.26	0.706	0.94	1.040
C1-Naphthalenes			3.33	0.706		
C2-Naphthalenes			6.60	0.833		
C3-Naphthalenes			12.7	0.325		
2,3,5-Trimethylnaphthalene	2245-38-7	NDR	0.969	0.321	0.55	1.232
C4-Naphthalenes			2.16	0.535		
C1-Fluorenes			4.54	0.716		
C2-Fluorenes			1.51	0.251		
C3-Fluorenes			2.07	0.260		
C4-Fluorenes			0.588	0.318		
Dibenzothiophene	132-65-0	NDR	0.185	0.074	0.54	0.983
C1-Dibenzothiophenes		ND		0.105		
C2-Dibenzothiophenes			1.27	0.273		
C3-Dibenzothiophenes		ND		0.312		
C1 Phenanthrenes/Anthracenes		ND		0.132		
2,6-Dimethylphenanthrene		ND		0.079		
1,5/1,7-Dimethylphenanthrene		NDR	0.166	0.084	0.92	0.993
C2 Phenanthrenes/Anthracenes			0.635	0.079		
C3-Phenanthrenes/Anthracenes			0.382	0.271		
Retene	483-65-8		0.278	0.193	1.63	1.085
C4-Phenanthrenes/Anthracenes			0.845	0.193		

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
C1-Fluoranthenes/Pyrenes		ND		0.150		
C2-Fluoranthenes/Pyrenes		ND		0.227		
C3-Fluoranthenes/Pyrenes			0.162	0.158		
C4-Fluoranthenes/Pyrenes		ND		0.056		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) May co-elute with Triphenylene.
(3) May co-elute with Dibenz[a,c]anthracene.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 07-Mar-2007 15:59:59; Application: XMLTransformer-1.7.32; Report Filename: PAH_PAH_LO_LPAHF_WG21189-101_Form1A_SJ640162.html; Workgroup: WG21189; Design ID: 529]

AXYS METHOD MLA-021 Rev 07

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2

POLYAROMATIC HYDROCARBON ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21189-101
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	26-Jan-2007	**Initial Calibration Date:**	BRACKETING CAL
Analysis Date:	08-Feb-2007 **Time:** 15:40:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	500	**GC Column ID:**	RTX5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PH7A0560.D**
Dilution Factor:	N/A	**Blank Data Filename:**	PH7A0560.D
		Opening Cal. Data Filename:	PH7A0556.D
		Closing Cal. Data Filename:	PH7A0570.D
Concentration Units:	ng absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
Naphthalene d-8	V	2060	267	13.0	0.11	0.607
2-Methylnaphthalene d-10	V	2200	414	18.8	0.18	0.754
2,6-Dimethylnaphthalene d-12		1990	511	25.7	0.67	0.895
Acenaphthylene d-8		2100	766	36.5	0.16	0.961
Phenanthrene d-10		2310	1270	55.1	0.14	0.807
Fluoranthene d-10		2190	1360	62.1	0.17	0.970
Benzo[a]anthracene d-12		2310	1530	66.1	0.23	1.165
Chrysene d-12		2000	1410	70.3	0.26	1.170
Benzo[b]fluoranthene d-12		2270	1350	59.5	0.20	0.957
Benzo[k]fluoranthene d-12		2270	1360	60.1	0.19	0.961
Benzo[a]pyrene d-12		2220	1300	58.7	0.20	1.009
Perylene d-12		2320	1470	63.3	0.23	1.024
Dibenzo[a,h]anthracene d-14		2040	1160	56.7	0.27	1.210
Indeno[1,2,3-cd]pyrene d-12		1870	1030	55.2	0.18	1.205
Benzo[g,h,i]perylene d-12		2390	1550	65.0	0.19	1.236

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.
(2) R% = percent recovery.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 07-Mar-2007 15:59:59; Application: XMLTransformer-1.7.32;
Report Filename: PAH_PAH_LO_LPAHF_WG21189-101_Form2_SJ640162.html; Workgroup: WG21189; Design ID: 529]

AXYS METHOD MLA-021 Rev 07

Form 8A

POLYAROMATIC HYDROCARBON ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607 **OPR Data Filename:** PH7A0557.D

Matrix: SOLID **Lab Sample I.D.:** WG21189-102

Extraction Date: 26-Jan-2007 **Analysis Date:** 08-Feb-2007 **Time:** 13:10:00

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
Naphthalene	91-20-3		0.06	22000	21500	15400 - 28600	97.9
Acenaphthylene	208-96-8		0.21	21600	20100	15100 - 30200	93.2
Acenaphthene	83-32-9		1.16	21600	16600	15100 - 28100	76.6
Fluorene	86-73-7		1.00	21500	16400	15100 - 28000	76.1
Phenanthrene	85-01-8		0.20	21500	19500	15100 - 28000	90.4
Anthracene	120-12-7		0.19	21700	18700	15200 - 28300	85.9
Fluoranthene	206-44-0		0.21	22400	21200	15700 - 29100	94.9
Pyrene	129-00-0		0.21	22200	18700	15500 - 28800	84.5
Chrysene	218-01-9		0.30	22000	21300	15400 - 28600	97.0
Benzo[b,j]fluoranthenes			0.22	21500	20900	15000 - 27900	97.2
Benzo[k]fluoranthene	207-08-9		0.21	22600	22200	15800 - 29400	98.2
Benzo[e]pyrene	192-97-2		0.22	21400	22800	14900 - 27800	107
Benzo[a]pyrene	50-32-8		0.21	21500	20800	15000 - 27900	96.6
Perylene	198-55-0		0.22	21700	21300	15200 - 28200	97.9
Indeno[1,2,3-c,d]-pyrene	193-39-5		0.19	21100	21300	14800 - 27500	101
Benzo[g,h,i]perylene	191-24-2		0.20	21000	20000	14700 - 27300	95.1
2-Methylnaphthalene	91-57-6		0.92	21800	20800	-	95.7
1-Methylnaphthalene	90-12-0		0.95	21900	21500	-	98.2
1,2-Dimethylnaphthalene	573-98-8		1.21	17500	20500	-	117
2,6-Dimethylnaphthalene	581-42-0		0.64	21800	20500	-	94.3
2,3,6-Trimethylnaphthalene	829-26-5		0.86	17600	23300	-	133
2,3,5-Trimethylnaphthalene	2245-38-7		0.84	21800	30100	-	138
Dibenzothiophene	132-65-0		0.08	19900	13500	-	67.8
2-Methylphenanthrene	2531-84-2		0.61	17200	18800	-	109
2-Methylanthracene	613-12-7		0.53	17400	17700	-	102
1-Methylphenanthrene	832-69-9		0.63	21800	24500	-	112
3,6-Dimethylphenanthrene	1576-67-6		0.34	19000	16000	-	84.0
1,5/1,7-Dimethylphenanthrene			0.32	11900	10300	-	86.9
1,2,6-Trimethylphenanthrene			0.59	17600	17400	-	99.0
Retene	483-65-8		1.62	20300	16200	-	79.9
1,4,6,7-Tetramethylnaphthalene			0.02	17400	29600	-	170

(1) Where applicable, custom lab flags have been used on this report.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest8A.xsl; Created: 07-Mar-2007 15:59:59; Application: XMLTransformer-1.7.32; Report Filename: PAH_PAH_LO_LPAHF_WG21189-102_Form8A_SJ639847.html; Workgroup: WG21189; Design ID: 529]

AXYS METHOD MLA-021 Rev 07

Form 8B

POLYAROMATIC HYDROCARBON ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**PH7A0557.D**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21189-102
Extraction Date:	26-Jan-2007	**Analysis Date:**	08-Feb-2007 **Time:** 13:10:00

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

LABELED COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
Naphthalene d-8	1146-65-2		0.11	20600	3100	3090-26800	15.0
2-Methylnaphthalene d-10		V	0.18	22000	3890	4400-28600	17.7
2,6-Dimethylnaphthalene d-12		V	0.67	19900	3910	3980-25900	19.7
Acenaphthylene d-8	93951-97-4		0.16	21000	6230	4200-27300	29.6
Phenanthrene d-10	1517-22-2		0.14	23100	11000	6930-30000	47.7
Fluoranthene d-10	93951-69-0		0.16	21900	14900	6570-28500	67.9
Benzo[a]anthracene d-12			0.23	23100	17200	6930-30000	74.6
Chrysene d-12	1719-03-5		0.25	20000	14700	6000-26000	73.5
Benzo[b]fluoranthene d-12			0.20	22700	16300	6810-29500	71.8
Benzo[k]fluoranthene d-12			0.19	22700	15300	6810-29500	67.6
Benzo[a]pyrene d-12	63466-71-7		0.20	22200	15700	6660-28900	70.6
Perylene d-12			0.23	23200	16500	6960-30200	71.1
Dibenzo[a,h]anthracene d-14			0.24	20400	13300	6120-26500	65.1
Indeno[1,2,3-cd]pyrene d-12			0.18	18700	12100	5610-24300	64.7
Benzo[g,h,i]perylene d-12			0.19	23900	17500	7170-31100	73.4

(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.

Approved by: _____Cynthia Thomas_____ QA/QC Chemist

BATCH SUMMARY

Batch ID:	WG21086	***Date:***	22-Feb-2007
Analysis Type:	E1 Pesticides	***Matrix Type:***	SOLIDS

BATCH MAKEUP

Contract: 2607	***Samples:*** L9585-60 L9585-72 L9585-91 L9585-94	***Blank:***	WG21086-101 WG21086-102
		Reference or Spike:	WG21086-103 WG21086-104

Comments:

1. Data are not blank corrected.
2. Samples 06VN063 and 06VN075 were anticipated to have higher levels, and were prepared usinga smaller sample size, a larger spike of internal standards, and with an upfront dilution of the extract. Procedural blank WG21086-102 and OPR WG21086-104 were prepared analogously.

   Samples 06VN099 and 06VN102 were prepared routinely, and were matched with procedural blank WG21086-101 and OPR WG21086-103. The samples should be evaluated in comparison to their corresponding lab blanks.
3. Sample 06VN040 required re-extraction and is being analyzed in another batch. The data for this sample will be sent when it becomes available.
4. The recovery of ^{13}C-labeled Aldrin in sample 06VN099 fell below the lower method control limit. The labeled compound is flagged "V" on the report Form 2. Note that data are recovery-corrected, and that the only analyte quantified against labeled Aldrin is its authentic analog.

AXYS METHOD MLA-028 Rev 02

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 1A

PESTICIDE ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-101 M
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	15-Feb-2007
Analysis Date:	15-Feb-2007 **Time:** 23:08:05	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL72_066B S: 12**
Dilution Factor:	0.2	**Blank Data Filename:**	CL72_066B S: 12
		Cal. Ver. Data Filename:	CL72_066B S: 3

Concentration Units: ng/g

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1	NDR	0.002	0.0001	1.65	1.001
HCH, alpha	319-84-6	NDR	0.001	0.0006	1.59	0.931
HCH, beta	319-85-7		0.004	0.0006	0.82	1.001
HCH, gamma	58-89-9	NDR	0.002	0.0007	0.93	1.000
HCH, delta	319-86-8	X				
Heptachlor	76-44-8		0.001	0.0005	1.38	1.001
Aldrin	309-00-2		0.001	0.0005	1.29	1.000
Chlordane, oxy-	27304-13-8	ND		0.0013		
Chlordane, gamma (trans)	5103-74-2		0.002	0.0004	1.36	1.001
Chlordane, alpha (cis)	5103-71-9	NDR	0.002	0.0004	0.67	1.026
Nonachlor, trans-	39765-80-5	NDR	0.002	0.0005	0.79	1.001
Nonachlor, cis-	5103-73-1		0.004	0.0010	1.30	1.001
2,4'-DDD	53-19-0	NDR	0.004	0.0026	2.35	0.946
4,4'-DDD	72-54-8		0.008	0.0042	1.57	0.995
2,4'-DDE	3424-82-6		0.002	0.0013	1.74	1.001
4,4'-DDE	72-55-9		0.005	0.0016	1.36	1.001
2,4'-DDT	789-02-6	ND		0.0036		
4,4'-DDT	50-29-3		0.004	0.0041	1.66	0.999
Mirex	2385-85-5		0.001	0.0002	0.43	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_WG21086-101_Form1A_SJ638156.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 2

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-101 M
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	15-Feb-2007
Analysis Date:	15-Feb-2007 **Time:** 23:08:05	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL72_066B S: 12**
Dilution Factor:	0.2	**Blank Data Filename:**	CL72_066B S: 12
Concentration Units:	ng absolute	**Cal. Ver. Data Filename:**	CL72_066B S: 3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		8.00	3.12	39.1	1.29	0.790
13C-beta-HCH		4.60	3.42	74.3	0.73	0.822
13C-gamma-HCH		13.0	7.84	60.3	0.76	0.833
13C-delta-HCH	X					
13C-Heptachlor		8.00	4.06	50.8	1.24	0.965
13C-Aldrin		8.00	4.01	50.1	1.62	1.031
13C-Chlordane, oxy		8.00	5.80	72.6	1.57	1.110
13C-Chlordane, gamma (trans)		8.00	6.57	82.1	1.26	0.840
13C-Nonachlor, trans-		8.00	6.30	78.7	1.27	0.869
13C-Nonachlor, cis-		8.00	6.49	81.2	1.24	0.956
13C-2,4'-DDE		8.00	7.48	93.5	1.57	0.847
13C-4,4'-DDE		8.00	7.41	92.6	1.57	0.891
13C-2,4'-DDT		8.00	6.78	84.8	1.60	0.955
13C-4,4'-DDT		8.00	7.12	89.1	1.57	0.996
13C-Mirex		8.00	5.09	63.7	1.25	1.087

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_WG21086-101_Form2_SJ638156.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 1A

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-102 M
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	15-Feb-2007
Analysis Date:	15-Feb-2007 **Time:** 23:44:59	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL72_066B S: 13**
Dilution Factor:	0.2	**Blank Data Filename:**	CL72_066B S: 13
		Cal. Ver. Data Filename:	CL72_066B S: 3

Concentration Units: ng/g

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Hexachlorobenzene	118-74-1		0.045	0.0026	1.14	1.000
HCH, alpha	319-84-6	NDR	0.029	0.0097	1.32	0.929
HCH, beta	319-85-7	NDR	0.090	0.0135	0.59	1.000
HCH, gamma	58-89-9		0.039	0.0109	0.90	0.999
HCH, delta	319-86-8	X				
Heptachlor	76-44-8	ND		0.0129		
Aldrin	309-00-2	NDR	0.021	0.0105	2.48	1.000
Chlordane, oxy-	27304-13-8	ND		0.0291		
Chlordane, gamma (trans)	5103-74-2		0.041	0.0089	1.41	1.001
Chlordane, alpha (cis)	5103-71-9	NDR	0.043	0.0102	0.72	1.026
Nonachlor, trans-	39765-80-5		0.040	0.0118	1.01	1.001
Nonachlor, cis-	5103-73-1		0.071	0.0238	1.06	1.000
2,4'-DDD	53-19-0		0.104	0.0811	1.76	0.946
4,4'-DDD	72-54-8		0.144	0.129	1.26	0.995
2,4'-DDE	3424-82-6		0.055	0.0245	1.28	1.001
4,4'-DDE	72-55-9		0.110	0.0335	1.83	1.001
2,4'-DDT	789-02-6	ND		0.109		
4,4'-DDT	50-29-3	ND		0.143		
Mirex	2385-85-5		0.019	0.0066	0.51	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_WG21086-102_Form1A_SJ638157.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2

PESTICIDE ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-102 M
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	15-Feb-2007
Analysis Date:	15-Feb-2007 **Time:** 23:44:59	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL72_066B S: 13**
Dilution Factor:	0.2	**Blank Data Filename:**	CL72_066B S: 13
Concentration Units:	ng absolute	**Cal. Ver. Data Filename:**	CL72_066B S: 3

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-Hexachlorobenzene		40.0	15.8	39.5	1.28	0.791
13C-beta-HCH		23.0	14.4	62.8	0.77	0.823
13C-gamma-HCH		65.0	41.0	63.0	0.76	0.834
13C-delta-HCH	X					
13C-Heptachlor		40.0	17.7	44.2	1.21	0.965
13C-Aldrin		40.0	17.4	43.4	1.60	1.032
13C-Chlordane, oxy		40.0	26.1	65.2	1.52	1.111
13C-Chlordane, gamma (trans)		40.0	35.2	88.0	1.27	0.840
13C-Nonachlor, trans-		40.0	32.8	81.9	1.27	0.869
13C-Nonachlor, cis-		40.0	33.0	82.5	1.24	0.956
13C-2,4'-DDE		40.0	38.5	96.1	1.56	0.847
13C-4,4'-DDE		40.0	34.3	85.8	1.55	0.891
13C-2,4'-DDT		40.0	31.9	79.7	1.56	0.955
13C-4,4'-DDT		40.0	29.9	74.8	1.57	0.996
13C-Mirex		40.0	22.6	56.6	1.26	1.087

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) R% = percent recovery.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_WG21086-102_Form2_SJ638157.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 8A

PESTICIDE ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**CL72_066B S: 7**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-103 M
Extraction Date:	25-Jan-2007	**Analysis Date:**	15-Feb-2007 **Time:** 20:03:29

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
Hexachlorobenzene	118-74-1		1.27	80.0	88.6	56.0 - 104	111
HCH, alpha	319-84-6		0.78	160	145	112 - 208	90.6
HCH, beta	319-85-7		0.75	160	166	112 - 208	104
HCH, gamma	58-89-9		0.77	160	173	112 - 208	108
HCH, delta	319-86-8	X					
Heptachlor	76-44-8		1.28	80.0	83.8	56.0 - 104	105
Aldrin	309-00-2		1.54	160	172	112 - 208	107
Chlordane, oxy-	27304-13-8		1.56	160	161	112 - 208	100
Chlordane, gamma (trans)	5103-74-2		1.24	160	168	112 - 208	105
Chlordane, alpha (cis)	5103-71-9		1.23	160	172	112 - 208	108
Nonachlor, trans-	39765-80-5		1.23	160	172	112 - 208	108
Nonachlor, cis-	5103-73-1		1.22	160	171	112 - 208	107
2,4'-DDD	53-19-0		1.50	80.0	91.3	56.0 - 104	114
4,4'-DDD	72-54-8		1.50	101	122	71.0 - 132	121
2,4'-DDE	3424-82-6		1.55	80.0	87.3	56.0 - 104	109
4,4'-DDE	72-55-9		1.54	80.0	84.5	56.0 - 104	106
2,4'-DDT	789-02-6		1.50	86.5	84.8	60.6 - 112	98.0
4,4'-DDT	50-29-3		1.52	80.0	88.2	56.0 - 104	110
Mirex	2385-85-5		0.52	80.0	85.1	56.0 - 104	106

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest8A.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_WG21086-103_Form8A_SJ638151.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 8B

PESTICIDE ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607 **OPR Data Filename:** CL72_066B S: 7

Matrix: SOLID **Lab Sample I.D.:** WG21086-103 M

Extraction Date: 25-Jan-2007 **Analysis Date:** 15-Feb-2007 **Time:** 20:03:29

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

LABELED COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C-Hexachlorobenzene			1.26	80.0	36.5	16.0-120	45.7
13C-beta-HCH			0.80	46.0	37.6	13.8-69.0	81.8
13C-gamma-HCH			0.76	130	85.1	39.0-195	65.5
13C-delta-HCH		X					
13C-Heptachlor			1.28	80.0	45.7	24.0-120	57.1
13C-Aldrin			1.60	80.0	45.5	24.0-120	56.9
13C-Chlordane, oxy			1.69	80.0	67.4	24.0-160	84.3
13C-Chlordane, gamma (trans)			1.27	80.0	61.4	24.0-160	76.7
13C-Nonachlor, trans-			1.25	80.0	57.2	24.0-120	71.5
13C-Nonachlor, cis-			1.23	80.0	62.7	24.0-120	78.4
13C-2,4'-DDE			1.55	80.0	69.0	32.0-120	86.3
13C-4,4'-DDE			1.59	80.0	70.0	32.0-120	87.5
13C-2,4'-DDT			1.55	80.0	65.6	32.0-120	82.1
13C-4,4'-DDT			1.59	80.0	73.5	32.0-120	91.8
13C-Mirex			1.27	80.0	54.2	24.0-120	67.7

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest8B.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30; Report Filename: Pest_PEST_HI_HP12_WG21086-103_Form8B_SJ638151.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 8A

PESTICIDE ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**CL72_066B S: 8**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-104 M
Extraction Date:	25-Jan-2007	**Analysis Date:**	15-Feb-2007 **Time:** 20:40:19

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
Hexachlorobenzene	118-74-1		1.25	400	426	280 - 520	106
HCH, alpha	319-84-6		0.78	800	729	560 - 1040	91.2
HCH, beta	319-85-7		0.74	800	871	560 - 1040	109
HCH, gamma	58-89-9		0.78	800	849	560 - 1040	106
HCH, delta	319-86-8	X					
Heptachlor	76-44-8		1.29	400	409	280 - 520	102
Aldrin	309-00-2		1.55	800	817	560 - 1040	102
Chlordane, oxy-	27304-13-8		1.54	800	781	560 - 1040	97.7
Chlordane, gamma (trans)	5103-74-2		1.21	800	814	560 - 1040	102
Chlordane, alpha (cis)	5103-71-9		1.23	800	828	560 - 1040	103
Nonachlor, trans-	39765-80-5		1.27	800	839	560 - 1040	105
Nonachlor, cis-	5103-73-1		1.23	800	858	560 - 1040	107
2,4'-DDD	53-19-0		1.50	400	467	280 - 520	117
4,4'-DDD	72-54-8		1.51	507	605	355 - 659	119
2,4'-DDE	3424-82-6		1.49	400	426	280 - 520	107
4,4'-DDE	72-55-9		1.52	400	432	280 - 520	108
2,4'-DDT	789-02-6		1.53	433	417	303 - 562	96.3
4,4'-DDT	50-29-3		1.54	400	445	280 - 520	111
Mirex	2385-85-5		0.53	400	410	280 - 520	103

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest8A.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_WG21086-104_Form8A_SJ638153.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 8B

PESTICIDE ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607 **OPR Data Filename:** CL72_066B S: 8

Matrix: SOLID **Lab Sample I.D.:** WG21086-104 M

Extraction Date: 25-Jan-2007 **Analysis Date:** 15-Feb-2007 **Time:** 20:40:19

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

LABELED COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C-Hexachlorobenzene			1.23	400	161	80.0-600	40.3
13C-beta-HCH			0.67	230	161	69.0-345	69.9
13C-gamma-HCH			0.75	650	440	195-975	67.7
13C-delta-HCH		X					
13C-Heptachlor			1.22	400	204	120-600	51.0
13C-Aldrin			1.59	400	187	120-600	46.7
13C-Chlordane, oxy			1.59	400	308	120-800	77.0
13C-Chlordane, gamma (trans)			1.22	400	356	120-800	89.0
13C-Nonachlor, trans-			1.24	400	342	120-600	85.6
13C-Nonachlor, cis-			1.19	400	373	120-600	93.3
13C-2,4'-DDE			1.54	400	371	160-600	92.9
13C-4,4'-DDE			1.57	400	363	160-600	90.6
13C-2,4'-DDT			1.58	400	371	160-600	92.7
13C-4,4'-DDT			1.63	400	364	160-600	91.1
13C-Mirex			1.24	400	284	120-600	71.0

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest8B.xsl; Created: 22-Feb-2007 13:32:22; Application: XMLTransformer-1.7.30;
Report Filename: Pest_PEST_HI_HP12_WG21086-104_Form8B_SJ638153.html; Workgroup: WG21086; Design ID: 595]

BATCH SUMMARY

Batch ID:	WG21086	***Date:***	19-Feb-2007
Analysis Type:	E2 Pesticides	***Matrix Type:***	Solid

BATCH MAKEUP

Contract: 2607

Samples:
L9585-40
L9585-60
L9585-72
L9585-91
L9585-94

Blank:
WG21086-101
WG21086-102

Reference or Spike:
WG21086-103
WG21086-104

Comments:

1. Data are not blank corrected.
2. Two blanks and two OPRs were prepared in this batch.
3. In sample 06VN040 (Axys ID L9585-40), methoxychlor could not be quantified. In the Excel database, the corresponding cell is left blank. On the report Form 1 of this sample the analyte is flagged "NQ" for Not Quantified.
4. In sample 06VN075 (Axys L9585-72), the recovery of ^{13}C-labeled endrin fell below the lower method control limit. This surrogate is flagged "V" on the report Form 2 for this sample.
5. The recovery of endrin aldehyde in one of the OPRs (WG21086-103) was low, and is flagged "N" on the report Form 8A. However, the recovery of endrin aldehyde in the other OPR (WG21086-104) was within the method control limits.

AXYS METHOD MLA-028 Rev 02

Form 1A

PESTICIDE ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21086-101 M
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	13-Feb-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 18:53:00	**GC Column ID:**	DB5
Extract Volume (uL):	40	**Sample Data Filename:**	**CL7B_037A S: 46**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7B_037A S: 46
Dilution Factor:	0.2	**Cal. Ver. Data Filename:**	CL7B_037A S: 40

Concentration Units: ng/g

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
HCH, delta	319-86-8	ND		0.0008		
Heptachlor Epoxide	1024-57-3	ND		0.0004		
alpha-Endosulphan	959-98-8	NDR	0.008	0.0027	0.33	1.000
Dieldrin	60-57-1	ND		0.0008		
Endrin	72-20-8	ND		0.0009		
beta-Endosulphan	33213-65-9	ND		0.0041		
Endosulphan Sulphate	1031-07-8	ND		0.0038		
Endrin Aldehyde	7421-93-4	ND		0.0022		
Endrin Ketone	53494-70-5	ND		0.0006		
Methoxychlor	72-43-5	NDR	0.006	0.0016	0.23	0.999

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29;
Report Filename: Pest_PEST_HI_HP34_WG21086-101_Form1A_SJ637541.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2
PESTICIDE ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21086-101 M
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	13-Feb-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 18:53:00	**GC Column ID:**	DB5
Extract Volume (uL):	40	**Sample Data Filename:**	**CL7B_037A S: 46**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7B_037A S: 46
Dilution Factor:	0.2	**Cal. Ver. Data Filename:**	CL7B_037A S: 40
Concentration Units:	ng absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-delta-HCH		8.00	6.77	84.7	0.79	0.498
13C-Heptachlor-Epoxide		8.20	7.48	91.2	0.81	0.701
13C-alpha-Endosulphan		7.80	7.12	91.2	0.63	0.796
13C-Dieldrin		8.20	7.00	85.4	0.63	0.873
13C-Endrin		7.70	8.02	104	0.64	0.926
13C-beta-Endosulphan		7.80	5.92	75.8	0.66	0.948
13C-Methoxychlor		8.30	5.48	66.1	24.1	1.132

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29;
Report Filename: Pest_PEST_HI_HP34_WG21086-101_Form2_SJ637541.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 1A

PESTICIDE ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21086-102 M
Matrix:	SOLID	**Sample Size:**	5.00 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	13-Feb-2007
Extraction Date:	25-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Feb-2007 **Time:** 19:34:49	**GC Column ID:**	DB5
Extract Volume (uL):	40	**Sample Data Filename:**	**CL7B_037A S: 47**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7B_037A S: 46
Dilution Factor:	0.2	**Cal. Ver. Data Filename:**	CL7B_037A S: 40

Concentration Units: ng/g

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
HCH, delta	319-86-8	ND		0.0161		
Heptachlor Epoxide	1024-57-3	ND		0.0065		
alpha-Endosulphan	959-98-8	ND		0.0610		
Dieldrin	60-57-1	ND		0.0122		
Endrin	72-20-8	ND		0.0142		
beta-Endosulphan	33213-65-9	ND		0.0692		
Endosulphan Sulphate	1031-07-8	ND		0.0633		
Endrin Aldehyde	7421-93-4	ND		0.0443		
Endrin Ketone	53494-70-5	ND		0.0114		
Methoxychlor	72-43-5	ND		0.0200		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29;
Report Filename: Pest_PEST_HI_HP34_WG21086-102_Form1A_SJ637542.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2

PESTICIDE ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-102 M
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	25-Jan-2007	**Initial Calibration Date:**	13-Feb-2007
Analysis Date:	14-Feb-2007 **Time:** 19:34:49	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	40	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL7B_037A S: 47**
Dilution Factor:	0.2	**Blank Data Filename:**	CL7B_037A S: 46
Concentration Units:	ng absolute	**Cal. Ver. Data Filename:**	CL7B_037A S: 40

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO	RRT
13C-delta-HCH		8.00	5.03	62.8	0.79	0.499
13C-Heptachlor-Epoxide		8.20	6.55	79.9	0.81	0.702
13C-alpha-Endosulphan		7.80	6.59	84.5	0.62	0.796
13C-Dieldrin		8.20	7.31	89.1	0.62	0.874
13C-Endrin		7.70	8.01	104	0.68	0.927
13C-beta-Endosulphan		7.80	5.80	74.4	0.70	0.949
13C-Methoxychlor		8.30	5.56	67.0	24.7	1.132

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29;
Report Filename: Pest_PEST_HI_HP34_WG21086-102_Form2_SJ637542.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 8A

PESTICIDE ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**CL7B_037A S: 42**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-103 M
Extraction Date:	25-Jan-2007	**Analysis Date:**	14-Feb-2007 **Time:** 16:05:37

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
HCH, delta	319-86-8		1.72	160	173	96.0 - 208	108
Heptachlor Epoxide	1024-57-3		0.80	80.0	82.8	48.0 - 104	103
alpha-Endosulphan	959-98-8		0.66	80.0	81.6	56.0 - 104	102
Dieldrin	60-57-1		0.66	80.0	84.5	48.0 - 104	106
Endrin	72-20-8		0.65	80.0	85.0	48.0 - 104	106
beta-Endosulphan	33213-65-9		0.60	80.0	84.0	56.0 - 104	105
Endosulphan Sulphate	1031-07-8		0.68	80.0	86.4	56.0 - 104	108
Endrin Aldehyde	7421-93-4	N	0.57	40.0	14.0	20.0 - 52.0	35.0
Endrin Ketone	53494-70-5		0.64	80.0	50.5	48.0 - 104	63.1
Methoxychlor	72-43-5		0.17	80.0	81.8	48.0 - 104	102

(1) Where applicable, custom lab flags have been used on this report; N = authentic recovery is not within method/contract control limits.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest8A.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29;
Report Filename: Pest_PEST_HI_HP34_WG21086-103_Form8A_SJ637537.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 8B

PESTICIDE ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607 **OPR Data Filename:** CL7B_037A S: 42

Matrix: SOLID **Lab Sample I.D.:** WG21086-103 M

Extraction Date: 25-Jan-2007 **Analysis Date:** 14-Feb-2007 **Time:** 16:05:37

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

LABELED COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C-delta-HCH			0.80	80.0	52.4	24.0-120	65.5
13C-Heptachlor-Epoxide			0.76	82.0	73.1	24.6-123	89.2
13C-alpha-Endosulphan			0.64	78.0	73.3	23.4-117	93.9
13C-Dieldrin			0.67	82.0	69.1	24.6-123	84.2
13C-Endrin			0.61	77.0	78.3	23.1-116	102
13C-beta-Endosulphan			0.62	78.0	54.5	23.4-117	69.8
13C-Methoxychlor			24.5	83.0	57.5	24.9-125	69.2

(1) Where applicable, custom lab flags have been used on this report.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest8B.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29; Report Filename: Pest_PEST_HI_HP34_WG21086-103_Form8B_SJ637537.html; Workgroup: WG21086; Design ID: 595]

AXYS METHOD MLA-028 Rev 02

Form 8A

PESTICIDE ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**OPR Data Filename:**	**CL7B_037A S: 43**
Matrix:	SOLID	**Lab Sample I.D.:**	WG21086-104 M
Extraction Date:	25-Jan-2007	**Analysis Date:**	14-Feb-2007 **Time:** 16:47:27

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
HCH, delta	319-86-8		1.70	160	166	96.0 - 208	104
Heptachlor Epoxide	1024-57-3		0.78	80.0	79.2	48.0 - 104	99.0
alpha-Endosulphan	959-98-8		0.62	80.0	83.6	56.0 - 104	105
Dieldrin	60-57-1		0.68	80.0	77.2	48.0 - 104	96.6
Endrin	72-20-8		0.68	80.0	83.4	48.0 - 104	104
beta-Endosulphan	33213-65-9		0.68	80.0	77.1	56.0 - 104	96.4
Endosulphan Sulphate	1031-07-8		0.63	80.0	93.4	56.0 - 104	117
Endrin Aldehyde	7421-93-4		0.63	40.0	22.7	20.0 - 52.0	56.7
Endrin Ketone	53494-70-5		0.64	80.0	53.4	48.0 - 104	66.8
Methoxychlor	72-43-5		0.17	80.0	79.4	48.0 - 104	99.2

(1) Where applicable, custom lab flags have been used on this report.

Approved by: _____Brian Watson_____ QA/QC Chemist

AXYS METHOD MLA-028 Rev 02

Form 8B

PESTICIDE ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607 **OPR Data Filename:** CL7B_037A S: 43

Matrix: SOLID **Lab Sample I.D.:** WG21086-104 M

Extraction Date: 25-Jan-2007 **Analysis Date:** 14-Feb-2007 **Time:** 16:47:27

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

LABELED COMPOUND	CAS NO.	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C-delta-HCH			0.82	80.0	52.1	24.0-120	65.2
13C-Heptachlor-Epoxide			0.78	82.0	68.1	24.6-123	83.0
13C-alpha-Endosulphan			0.67	78.0	69.8	23.4-117	89.5
13C-Dieldrin			0.62	82.0	76.5	24.6-123	93.2
13C-Endrin			0.69	77.0	78.3	23.1-116	102
13C-beta-Endosulphan			0.70	78.0	55.4	23.4-117	71.0
13C-Methoxychlor			24.6	83.0	59.2	24.9-125	71.4

(1) Where applicable, custom lab flags have been used on this report.

Approved by: Brian Watson QA/QC Chemist

For Axys Internal Use Only [XSL Template: Pest8B.xsl; Created: 19-Feb-2007 10:25:28; Application: XMLTransformer-1.7.29;
Report Filename: Pest_PEST_HI_HP34_WG21086-104_Form8B_SJ637538.html; Workgroup: WG21086; Design ID: 595]

BATCH SUMMARY

Batch ID:	WG21089	***Date:***	14-Feb-2007
Analysis Type:	PCB Congeners	***Matrix Type:***	Tissue

BATCH MAKEUP

Contract: 2607	***Samples:*** L9586-21 L9586-22	***Blank:***	WG21089-101
		Reference or Spike:	WG21089-102
		Duplicate:	

Comments:

1. Sample data are not blank corrected.
2. The chromatography observed in the initial analysis of the Lab Blank and both samples did not meet the method criteria. The blank and samples were given additional layered acid/base silica and alumina chromatographic column clean up procedures. Results for the blank and samples were reported from the analysis of the extracts after the additional clean up procedures (indicated by the test suffix "L" added to the AXYS ID). Due to the high concentrations of PCBs observed in the initial analysis of 06VN216 (AXYS ID L9586-21), the extract was submitted for reanalysis with a five times dilution (a test suffix of "W" was added to the AXYS ID).
3. The area responses of PCB 118 and 180 still exceeded the calibrated linear range in the analysis of the extract for L9586-21 after the additional clean up. The extract was further diluted and reanalyzed on the instrument. Results for these congeners are reported from the analysis of the further diluted extract (indicated by the test suffix "LW2" added to the AXYS ID).
4. A deviation, slightly above the method limit, was observed in the mass ion used to monitor the instrument performance at the retention time of native and labelled PCB 126 in 06VN217 (AXYS ID L9586-22); PCB 126 is flagged with a "G" on the analysis report. Since the data are recovery corrected, and deviation was judged to affect both the native and labelled PCB 126 equally, the data were deemed not affected.

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL	**Lab Sample I.D.:**	WG21089-101 L
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	19-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	09-Feb-2007 **Time:** 22:21:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_064 S: 3**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_064 S: 3
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	PB7C_064 S: 1

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		NDR	0.063	0.0500	0.90	1.000
3,4,4',5-TeCB	81		ND		0.0500		
2,3,3',4,4'-PeCB	105			0.219	0.0500	1.43	1.000
2,3,4,4',5-PeCB	114		ND		0.0500		
2,3',4,4',5-PeCB	118			0.570	0.0500	1.37	1.000
2',3,4,4',5-PeCB	123		ND		0.0500		
3,3',4,4',5-PeCB	126		ND		0.0510		
2,3,3',4,4',5-HxCB	156	156 + 157	C NDR	0.180	0.0500	1.50	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		ND		0.0500		
3,3',4,4',5,5'-HxCB	169		ND		0.0500		
2,2',3,3',4,4',5-HpCB	170			0.159	0.0500	1.16	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	0.252	0.0500	1.08	1.000
2,3,3',4,4',5,5'-HpCB	189		ND		0.0500		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

Approved by: Todd Fisher QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 14-Feb-2007 09:43:57; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_WG21089-101_Form1A_SJ635399.html; Workgroup: WG21089; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21089-101 L
Matrix:	CORN OIL	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	09-Feb-2007 **Time:** 22:21:18	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_064 S: 3**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_064 S: 3
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_064 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	2180	109	0.78	1.396
13C12-3,4,4',5-TeCB	81L			2000	2140	107	0.79	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	2100	105	1.58	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	2030	101	1.59	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	2110	105	1.58	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	2070	103	1.58	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1920	96.1	1.57	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	3450	86.3	1.28	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1780	89.1	1.26	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1570	78.6	1.26	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1540	77.1	1.06	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1580	79.1	1.07	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1860	92.9	1.05	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1860	92.9	1.61	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1800	90.0	1.04	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Todd Fisher_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 14-Feb-2007 09:43:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_WG21089-101_Form2_SJ635399.html; Workgroup: WG21089; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
Lab Blank

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL	**Project No.**	N/A
Sample Size:	10.0 g	**Lab Sample I.D.:**	WG21089-101 L
Concentration Units:	pg/g	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_064 S: 3**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.0500	0.0001	0.00e+00	2.50e-06	
3,4,4',5-TeCB	81		ND		0.0500	0.0001	0.00e+00	2.50e-06	
2,3,3',4,4'-PeCB	105			0.219	0.0500	0.0001	2.19e-05	2.19e-05	
2,3,4,4',5-PeCB	114		ND		0.0500	0.0005	0.00e+00	1.25e-05	
2,3',4,4',5-PeCB	118			0.570	0.0500	0.0001	5.70e-05	5.70e-05	
2',3,4,4',5-PeCB	123		ND		0.0500	0.0001	0.00e+00	2.50e-06	
3,3',4,4',5-PeCB	126		ND		0.0510	0.1	0.00e+00	2.55e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C ND		0.0500	0.0005	0.00e+00	1.25e-05	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		0.0500	0.00001	0.00e+00	2.50e-07	
3,3',4,4',5,5'-HxCB	169		ND		0.0500	0.01	0.00e+00	2.50e-04	
2,3,3',4,4',5,5'-HpCB	189		ND		0.0500	0.0001	0.00e+00	2.50e-06	
					TOTAL TEQ		0.0000789	0.00291	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.0500	0.0001	0.00e+00	2.50e-06	
3,4,4',5-TeCB	81		ND		0.0500	0.0003	0.00e+00	7.50e-06	
2,3,3',4,4'-PeCB	105			0.219	0.0500	0.00003	6.57e-06	6.57e-06	
2,3,4,4',5-PeCB	114		ND		0.0500	0.00003	0.00e+00	7.50e-07	
2,3',4,4',5-PeCB	118			0.570	0.0500	0.00003	1.71e-05	1.71e-05	
2',3,4,4',5-PeCB	123		ND		0.0500	0.00003	0.00e+00	7.50e-07	
3,3',4,4',5-PeCB	126		ND		0.0510	0.1	0.00e+00	2.55e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C ND		0.0500	0.00003	0.00e+00	7.50e-07	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		0.0500	0.00003	0.00e+00	7.50e-07	
3,3',4,4',5,5'-HxCB	169		ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,3',4,4',5,5'-HpCB	189		ND		0.0500	0.00003	0.00e+00	7.50e-07	
					TOTAL TEQ		0.0000237	0.00334	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Todd Fisher QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 14-Feb-2007 09:44:52; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_WG21089-101_TEQ_SJ635399.html; Workgroup: WG21089; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 8A

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21089-102
Matrix:	CORN OIL	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2007 **Time:** 21:43:07	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB7C_059 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_064 S: 3
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_059 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
3,3',4,4'-TeCB	77			0.80	50.0	54.9	25.0 - 75.0	110
3,4,4',5-TeCB	81			0.81	50.0	54.6	25.0 - 75.0	109
2,3,3',4,4'-PeCB	105			1.57	50.0	53.7	25.0 - 75.0	107
2,3,4,4',5-PeCB	114			1.58	50.0	53.5	25.0 - 75.0	107
2,3',4,4',5-PeCB	118			1.57	50.0	54.7	25.0 - 75.0	109
2',3,4,4',5-PeCB	123			1.58	50.0	53.5	25.0 - 75.0	107
3,3',4,4',5-PeCB	126			1.58	50.0	54.1	25.0 - 75.0	108
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.27	100	104	50.0 - 150	104
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			1.28	50.0	52.3	25.0 - 75.0	105
3,3',4,4',5,5'-HxCB	169			1.26	50.0	52.1	25.0 - 75.0	104
2,2',3,3',4,4',5-HpCB	170			1.04	50.0	50.3	25.0 - 75.0	101
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.05	50.0	50.7	25.0 - 75.0	101
2,3,3',4,4',5,5'-HpCB	189			1.05	50.0	52.3	25.0 - 75.0	105
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180					

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

Approved by: _____Todd Fisher_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16688A.xsl; Created: 14-Feb-2007 09:43:57; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_WG21089-102_Form8A_SJ633725.html; Workgroup: WG21089; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 8B

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21089-102
Matrix:	CORN OIL	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	19-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	06-Feb-2007 **Time:** 21:43:07	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB7C_059 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_064 S: 3
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_059 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG[2]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-3,3',4,4'-TeCB	77L			0.78	100	86.7	30.0 - 140	86.7
13C12-3,4,4',5-TeCB	81L			0.78	100	88.8	30.0 - 140	88.8
13C12-2,3,3',4,4'-PeCB	105L			1.60	100	98.1	30.0 - 140	98.1
13C12-2,3,4,4',5-PeCB	114L			1.58	100	96.2	30.0 - 140	96.2
13C12-2,3',4,4',5-PeCB	118L			1.60	100	96.5	30.0 - 140	96.5
13C12-2',3,4,4',5-PeCB	123L			1.61	100	99.5	30.0 - 140	99.5
13C12-3,3',4,4',5-PeCB	126L			1.60	100	89.9	30.0 - 140	89.9
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.29	200	160	60.0 - 280	79.9
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			1.27	100	81.2	30.0 - 140	81.2
13C12-3,3',4,4',5,5'-HxCB	169L			1.28	100	74.1	30.0 - 140	74.1
13C12-2,2',3,3',4,4',5-HpCB	170L			1.04	100	74.9	30.0 - 140	74.9
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.04	100	75.3	30.0 - 140	75.3
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.06	100	97.8	30.0 - 140	97.8
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			1.59	100	81.4	40.0 - 125	81.4
13C12-2,2',3,3',5,5',6-HpCB	178L			1.05	100	80.6	40.0 - 125	80.6

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

Approved by: Todd Fisher QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16688B.xsl; Created: 14-Feb-2007 09:43:57; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_WG21089-102_Form8B_SJ633725.html; Workgroup: WG21089; Design ID: 594]

BATCH SUMMARY

Batch ID:	WG21016	***Date:***	16-Feb-2007
Analysis Type:	PCB TOX	***Matrix Type:***	BLOOD

BATCH MAKEUP

Contract: 2607

Samples:
L9584-3
L9584-4
L9584-7
L9584-8
L9584-10
L9584-11
L9584-15
L9584-22
L9584-24
L9584-27
L9584-31
L9584-32
L9584-41
L9584-44
L9584-45
L9584-46
L9584-49
L9584-54

Blank: WG21016-101

Reference or Spike: WG21016-102

Duplicate:

Comments:

1. Data are not blank corrected.
2. The recovery of PCB 180 in the OPR sample exceeded the upper method control limit. The data point will be flagged accordingly on the report Form 8A.
3. Despite additional clean-up steps, LMI persisted under PCB 126 in samples 06VNB002, 06VNB028, 06VNB014, and 06VNB031 (Axys IDs L9584-8, -41, -45, & -46). The affected analytes will be flagged accordingly on the report Forms 1A and 2. The impact on the data is minimal because PCB 126 is quantified against its exact labeled analog.

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL / WATER	**Lab Sample I.D.:**	WG21016-101 L
Sample Receipt Date:	N/A	**Sample Size:**	50.0 g
Extraction Date:	16-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 12:16:20	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_065 S: 4**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_065 S: 4
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	PB7C_065 S: 1

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		NDR	0.015	0.0100	1.01	1.000
3,4,4',5-TeCB	81		ND		0.0100		
2,3,3',4,4'-PeCB	105			0.093	0.0100	1.74	1.000
2,3,4,4',5-PeCB	114		NDR	0.014	0.0100	0.89	1.000
2,3',4,4',5-PeCB	118			0.200	0.0100	1.59	1.000
2',3,4,4',5-PeCB	123		ND		0.0100		
3,3',4,4',5-PeCB	126		ND		0.0100		
2,3,3',4,4',5-HxCB	156	156 + 157	C	0.059	0.0100	1.34	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		NDR	0.011	0.0100	0.36	1.000
3,3',4,4',5,5'-HxCB	169		ND		0.0100		
2,2',3,3',4,4',5-HpCB	170		NDR	0.057	0.0100	1.46	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	0.083	0.0100	0.97	1.000
2,3,3',4,4',5,5'-HpCB	189		ND		0.0100		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_PCBTOX_WG21016-101_Form1A_SJ636388.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2

PCB CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21016-101 L
Matrix:	CORN OIL / WATER	**Sample Size:**	50.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 12:16:20	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_065 S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1630	81.7	0.78	1.396
13C12-3,4,4',5-TeCB	81L			2000	1620	81.1	0.78	1.372
13C12-2,3,3',4,4'-PeCB	105L			2000	1640	81.9	1.60	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1680	83.8	1.64	1.179
13C12-2,3',4,4',5-PeCB	118L			2000	1670	83.4	1.57	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1680	84.1	1.58	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1570	78.5	1.58	1.301
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2800	70.1	1.28	1.107
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1440	71.9	1.28	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1310	65.7	1.29	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1300	65.0	1.07	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1340	66.9	1.07	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1470	73.7	1.05	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1640	82.0	1.60	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1510	75.7	1.04	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_WG21016-101_Form2_SJ636388.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
Lab Blank

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL / WATER	**Project No.**	N/A
Sample Size:	50.0 g	**Lab Sample I.D.:**	WG21016-101 L
Concentration Units:	pg/g	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	**PB7C_065 S: 4**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.0100	0.0001	0.00e+00	5.00e-07	
3,3',4,4'-TeCB	77		ND		0.457	0.0001	0.00e+00	2.29e-05	
3,4,4',5-TeCB	81		ND		0.0100	0.0001	0.00e+00	5.00e-07	
3,4,4',5-TeCB	81		ND		0.456	0.0001	0.00e+00	2.28e-05	
2,3,3',4,4'-PeCB	105			0.093	0.0100	0.0001	9.30e-06	9.30e-06	
2,3,3',4,4'-PeCB	105			4.63	0.329	0.0001	4.63e-04	4.63e-04	
2,3,4,4',5-PeCB	114		ND		0.0100	0.0005	0.00e+00	2.50e-06	
2,3,4,4',5-PeCB	114		ND		0.308	0.0005	0.00e+00	7.70e-05	
2,3',4,4',5-PeCB	118			0.200	0.0100	0.0001	2.00e-05	2.00e-05	
2,3',4,4',5-PeCB	118			10.0	0.320	0.0001	1.00e-03	1.00e-03	
2',3,4,4',5-PeCB	123		ND		0.0100	0.0001	0.00e+00	5.00e-07	
2',3,4,4',5-PeCB	123		ND		0.324	0.0001	0.00e+00	1.62e-05	
3,3',4,4',5-PeCB	126		ND		0.0100	0.1	0.00e+00	5.00e-04	
3,3',4,4',5-PeCB	126		ND		0.376	0.1	0.00e+00	1.88e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	0.059	0.0100	0.0005	2.95e-05	2.95e-05	
2,3,3',4,4',5-HxCB	156	156 + 157	C	2.94	0.331	0.0005	1.47e-03	1.47e-03	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		0.0100	0.00001	0.00e+00	5.00e-08	
2,3',4,4',5,5'-HxCB	167		ND		0.218	0.00001	0.00e+00	1.09e-06	
3,3',4,4',5,5'-HxCB	169		ND		0.0100	0.01	0.00e+00	5.00e-05	
3,3',4,4',5,5'-HxCB	169		ND		0.247	0.01	0.00e+00	1.24e-03	
2,3,3',4,4',5,5'-HpCB	189		ND		0.0100	0.0001	0.00e+00	5.00e-07	
2,3,3',4,4',5,5'-HpCB	189		ND		0.268	0.0001	0.00e+00	1.34e-05	
					TOTAL TEQ		0.00299	0.0237	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.0100	0.0001	0.00e+00	5.00e-07	
3,3',4,4'-TeCB	77		ND		0.457	0.0001	0.00e+00	2.29e-05	
3,4,4',5-TeCB	81		ND		0.0100	0.0003	0.00e+00	1.50e-06	
3,4,4',5-TeCB	81		ND		0.456	0.0003	0.00e+00	6.84e-05	
2,3,3',4,4'-PeCB	105			0.093	0.0100	0.00003	2.79e-06	2.79e-06	
2,3,3',4,4'-PeCB	105			4.63	0.329	0.00003	1.39e-04	1.39e-04	
2,3,4,4',5-PeCB	114		ND		0.0100	0.00003	0.00e+00	1.50e-07	
2,3,4,4',5-PeCB	114		ND		0.308	0.00003	0.00e+00	4.62e-06	
2,3',4,4',5-PeCB	118			0.200	0.0100	0.00003	6.00e-06	6.00e-06	
2,3',4,4',5-PeCB	118			10.0	0.320	0.00003	3.00e-04	3.00e-04	
2',3,4,4',5-PeCB	123		ND		0.0100	0.00003	0.00e+00	1.50e-07	
2',3,4,4',5-PeCB	123		ND		0.324	0.00003	0.00e+00	4.86e-06	
3,3',4,4',5-PeCB	126		ND		0.0100	0.1	0.00e+00	5.00e-04	
3,3',4,4',5-PeCB	126		ND		0.376	0.1	0.00e+00	1.88e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C	0.059	0.0100	0.00003	1.77e-06	1.77e-06	
2,3,3',4,4',5-HxCB	156	156 + 157	C	2.94	0.331	0.00003	8.82e-05	8.82e-05	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						

2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		ND	0.0100	0.00003	0.00e+00	1.50e-07
2,3',4,4',5,5'-HxCB	167		ND	0.218	0.00003	0.00e+00	3.27e-06
3,3',4,4',5,5'-HxCB	169		ND	0.0100	0.03	0.00e+00	1.50e-04
3,3',4,4',5,5'-HxCB	169		ND	0.247	0.03	0.00e+00	3.71e-03
2,3,3',4,4',5,5'-HpCB	189		ND	0.0100	0.00003	0.00e+00	1.50e-07
2,3,3',4,4',5,5'-HpCB	189		ND	0.268	0.00003	0.00e+00	4.02e-06
				TOTAL TEQ		0.000538	0.0238

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 16-Feb-2007 13:03:57; Application: XMLTransformer-1.7.29;
Report Filename: 1668_PCB1668_HomTotals-TEQs_WG21016-101_TEQ_SJ636388.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 8A

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21016-102 L
Matrix:	SERUM	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 10:07:39	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB7C_065 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
3,3',4,4'-TeCB	77			0.80	50.0	55.5	25.0 - 75.0	111
3,4,4',5-TeCB	81			0.79	50.0	55.2	25.0 - 75.0	110
2,3,3',4,4'-PeCB	105			1.56	50.0	54.4	25.0 - 75.0	109
2,3,4,4',5-PeCB	114			1.58	50.0	53.5	25.0 - 75.0	107
2,3',4,4',5-PeCB	118			1.56	50.0	57.4	25.0 - 75.0	115
2',3,4,4',5-PeCB	123			1.57	50.0	52.9	25.0 - 75.0	106
3,3',4,4',5-PeCB	126			1.59	50.0	54.0	25.0 - 75.0	108
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.25	100	108	50.0 - 150	108
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			1.25	50.0	55.0	25.0 - 75.0	110
3,3',4,4',5,5'-HxCB	169			1.29	50.0	54.1	25.0 - 75.0	108
2,2',3,3',4,4',5-HpCB	170			1.04	50.0	56.6	25.0 - 75.0	113
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C N	1.06	50.0	82.6	25.0 - 75.0	165
2,3,3',4,4',5,5'-HpCB	189			1.03	50.0	52.5	25.0 - 75.0	105
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180					

(1) Where applicable, custom lab flags have been used on this report; N = authentic recovery is not within method/contract control limits; C = co-eluting congener.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16688A.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_WG21016-102_Form8A_SJ636386.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 8B

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
P.O. Box 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA
V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21016-102 L
Matrix:	SERUM	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	16-Jan-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Feb-2007 **Time:** 10:07:39	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB7C_065 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_065 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_065 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO.[1]	CO-ELUTIONS	LAB FLAG[2]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-3,3',4,4'-TeCB	77L			0.78	100	77.7	30.0 - 140	77.7
13C12-3,4,4',5-TeCB	81L			0.77	100	81.5	30.0 - 140	81.5
13C12-2,3,3',4,4'-PeCB	105L			1.60	100	78.7	30.0 - 140	78.7
13C12-2,3,4,4',5-PeCB	114L			1.59	100	80.0	30.0 - 140	80.0
13C12-2,3',4,4',5-PeCB	118L			1.57	100	80.8	30.0 - 140	80.8
13C12-2',3,4,4',5-PeCB	123L			1.60	100	80.6	30.0 - 140	80.6
13C12-3,3',4,4',5-PeCB	126L			1.58	100	77.1	30.0 - 140	77.1
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.27	200	149	60.0 - 280	74.4
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			1.27	100	74.7	30.0 - 140	74.7
13C12-3,3',4,4',5,5'-HxCB	169L			1.26	100	65.9	30.0 - 140	65.9
13C12-2,2',3,3',4,4',5-HpCB	170L			1.05	100	68.1	30.0 - 140	68.1
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.05	100	70.0	30.0 - 140	70.0
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.05	100	77.5	30.0 - 140	77.5
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			1.61	100	78.5	40.0 - 125	78.5
13C12-2,2',3,3',5,5',6-HpCB	178L			1.05	100	77.4	40.0 - 125	77.4

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

Approved by: _____Brian Watson_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16688B.xsl; Created: 16-Feb-2007 12:53:12; Application: XMLTransformer-1.7.29; Report Filename: 1668_PCB1668_PCBTOX_WG21016-102_Form8B_SJ636386.html; Workgroup: WG21016; Design ID: 594]

BATCH SUMMARY

Batch ID:	WG21016	***Date:***	19-Mar-2007
Analysis Type:	PCB TOXICS	***Matrix Type:***	BLOOD

BATCH MAKEUP

Contract: 2607

Samples:
L9584-3
L9584-4
L9584-7
L9584-8
L9584-10
L9584-11
L9584-15
L9584-22
L9584-24
L9584-27
L9584-31
L9584-32
L9584-41
L9584-44
L9584-45
L9584-46
L9584-49
L9584-54

Blank: WG21016-101

Reference or Spike: WG21016-102

Duplicate:

Comments:

1. Data are not blank corrected.

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	CORN OIL / WATER	**Lab Sample I.D.:**	WG21016-101 L
Sample Receipt Date:	N/A	**Sample Size:**	0.140 g (lipid)
Extraction Date:	16-Jan-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	12-Feb-2007 **Time:** 12:16:20	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_065 S: 4**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_065 S: 4
Concentration Units:	pg/g (lipid weight basis)	**Cal. Ver. Data Filename:**	PB7C_065 S: 1

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		NDR	5.36	3.57	1.01	1.000
3,4,4',5-TeCB	81		ND		3.57		
2,3,3',4,4'-PeCB	105			33.2	3.57	1.74	1.000
2,3,4,4',5-PeCB	114		NDR	5.00	3.57	0.89	1.000
2,3',4,4',5-PeCB	118			71.4	3.57	1.59	1.000
2',3,4,4',5-PeCB	123		ND		3.57		
3,3',4,4',5-PeCB	126		ND		3.57		
2,3,3',4,4',5-HxCB	156	156 + 157	C	21.1	3.57	1.34	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		NDR	3.93	3.57	0.36	1.000
3,3',4,4',5,5'-HxCB	169		ND		3.57		
2,2',3,3',4,4',5-HpCB	170		NDR	20.4	3.57	1.46	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	29.6	3.57	0.97	1.000
2,3,3',4,4',5,5'-HpCB	189		ND		3.57		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

Approved by: _____Kalai Pillay_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 16-Mar-2007 18:48:37; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_PCBTOX_WG21016-101_Form1A_SJ636388_lipid.html; Workgroup: WG21016; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
Lab Blank

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
		Project No.	N/A
Matrix:	CORN OIL / WATER	**Lab Sample I.D.:**	WG21016-101 L
Sample Size:	0.140 g (lipid)	**GC Column ID(s):**	SPB OCTYL
Concentration Units:	pg/g (lipid weight basis)	**Sample Data Filename(s):**	**PB7C_065 S: 4**

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		3.57	0.0001	0.00e+00	1.79e-04	
3,4,4',5-TeCB	81		ND		3.57	0.0001	0.00e+00	1.79e-04	
2,3,3',4,4'-PeCB	105			33.2	3.57	0.0001	3.32e-03	3.32e-03	
2,3,4,4',5-PeCB	114		ND		3.57	0.0005	0.00e+00	8.93e-04	
2,3',4,4',5-PeCB	118			71.4	3.57	0.0001	7.14e-03	7.14e-03	
2',3,4,4',5-PeCB	123		ND		3.57	0.0001	0.00e+00	1.79e-04	
3,3',4,4',5-PeCB	126		ND		3.57	0.1	0.00e+00	1.79e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	21.1	3.57	0.0005	1.06e-02	1.06e-02	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		3.57	0.00001	0.00e+00	1.79e-05	
3,3',4,4',5,5'-HxCB	169		ND		3.57	0.01	0.00e+00	1.79e-02	
2,3,3',4,4',5,5'-HpCB	189		ND		3.57	0.0001	0.00e+00	1.79e-04	
					TOTAL TEQ		0.0210	0.219	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		3.57	0.0001	0.00e+00	1.79e-04	
3,4,4',5-TeCB	81		ND		3.57	0.0003	0.00e+00	5.36e-04	
2,3,3',4,4'-PeCB	105			33.2	3.57	0.00003	9.96e-04	9.96e-04	
2,3,4,4',5-PeCB	114		ND		3.57	0.00003	0.00e+00	5.36e-05	
2,3',4,4',5-PeCB	118			71.4	3.57	0.00003	2.14e-03	2.14e-03	
2',3,4,4',5-PeCB	123		ND		3.57	0.00003	0.00e+00	5.36e-05	
3,3',4,4',5-PeCB	126		ND		3.57	0.1	0.00e+00	1.79e-01	
2,3,3',4,4',5-HxCB	156	156 + 157	C	21.1	3.57	0.00003	6.33e-04	6.33e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		3.57	0.00003	0.00e+00	5.36e-05	
3,3',4,4',5,5'-HxCB	169		ND		3.57	0.03	0.00e+00	5.36e-02	
2,3,3',4,4',5,5'-HpCB	189		ND		3.57	0.00003	0.00e+00	5.36e-05	
					TOTAL TEQ		0.00377	0.237	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: Kalai Pillay QA/QC Chemist

BATCH SUMMARY

Batch ID: WG21407	***Date:*** 22-Mar-2007
Analysis Type: Toxic PCB Congeners and TEQs	***Matrix Type:*** SOLID

BATCH MAKEUP

Contract: 2607

Samples:

L9585-115	06VN062-1
L9585-116	06VN062-2
L9585-117	06VN062-3

Blank:
WG21407-101

Reference or Spike:
WG21407-102

Duplicate:

Comments:

1. Data are not blank corrected.

AXYS METHOD MLA-013 Rev 06

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21407-101
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	14-Mar-2007 **Time:** 23:12:03	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_119 S: 4**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_119 S: 4
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	PB7C_119 S: 1

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77			0.114	0.100	0.72	1.000
3,4,4',5-TeCB	81		ND		0.100		
2,3,3',4,4'-PeCB	105		NDR	0.382	0.100	1.99	1.000
2,3,4,4',5-PeCB	114		ND		0.100		
2,3',4,4',5-PeCB	118			0.870	0.100	1.78	1.000
2',3,4,4',5-PeCB	123		ND		0.100		
3,3',4,4',5-PeCB	126		ND		0.100		
2,3,3',4,4',5-HxCB	156	156 + 157	C NDR	0.156	0.100	1.89	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		ND		0.100		
3,3',4,4',5,5'-HxCB	169		ND		0.100		
2,2',3,3',4,4',5-HpCB	170		NDR	0.166	0.100	1.34	1.001
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C NDR	0.344	0.100	0.85	1.000
2,3,3',4,4',5,5'-HpCB	189		ND		0.100		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

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AXYS METHOD MLA-013 Rev 06

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG21407-101
Sample Receipt Date:	N/A	**Sample Size:**	5.00 g
Extraction Date:	06-Mar-2007	**Initial Calibration Date:**	02-Jan-2007
Analysis Date:	14-Mar-2007 **Time:** 23:12:03	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	SPB OCTYL
Injection Volume (uL):	1.0	**Sample Data Filename:**	**PB7C_119 S: 4**
Dilution Factor:	N/A	**Blank Data Filename:**	PB7C_119 S: 4
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	PB7C_119 S: 1

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1740	86.9	0.77	1.388
13C12-3,4,4',5-TeCB	81L			2000	1750	87.3	0.77	1.365
13C12-2,3,3',4,4'-PeCB	105L			2000	1490	74.7	1.59	1.200
13C12-2,3,4,4',5-PeCB	114L			2000	1560	78.2	1.58	1.178
13C12-2,3',4,4',5-PeCB	118L			2000	1590	79.6	1.57	1.161
13C12-2',3,4,4',5-PeCB	123L			2000	1580	79.1	1.57	1.150
13C12-3,3',4,4',5-PeCB	126L			2000	1560	78.1	1.57	1.300
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2830	70.9	1.26	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1460	73.0	1.24	1.078
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1240	62.2	1.25	1.191
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1370	68.7	1.05	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1380	68.9	1.04	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1430	71.3	1.06	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1400	70.0	1.59	1.086
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1460	72.8	1.06	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 22-Mar-2007 10:13:00; Application: XMLTransformer-1.7.35; Report Filename: 1668_PCB1668_PCBTOX_WG21407-101_Form2_SJ652685.html; Workgroup: WG21407; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

CLIENT SAMPLE NO.
Lab Blank

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	N/A
Sample Size:	5.00 g	**Lab Sample I.D.:**	WG21407-101
Concentration Units:	pg/g	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	PB7C_119 S: 4

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.114	0.100	0.0001	1.14e-05	1.14e-05	
3,4,4',5-TeCB	81		ND		0.100	0.0001	0.00e+00	5.00e-06	
2,3,3',4,4'-PeCB	105		ND		0.100	0.0001	0.00e+00	5.00e-06	
2,3,4,4',5-PeCB	114		ND		0.100	0.0005	0.00e+00	2.50e-05	
2,3',4,4',5-PeCB	118			0.870	0.100	0.0001	8.70e-05	8.70e-05	
2',3,4,4',5-PeCB	123		ND		0.100	0.0001	0.00e+00	5.00e-06	
3,3',4,4',5-PeCB	126		ND		0.100	0.1	0.00e+00	5.00e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C ND		0.100	0.0005	0.00e+00	2.50e-05	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		0.100	0.00001	0.00e+00	5.00e-07	
3,3',4,4',5,5'-HxCB	169		ND		0.100	0.01	0.00e+00	5.00e-04	
2,3,3',4,4',5,5'-HpCB	189		ND		0.100	0.0001	0.00e+00	5.00e-06	
					TOTAL TEQ		0.0000984	0.00567	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77			0.114	0.100	0.0001	1.14e-05	1.14e-05	
3,4,4',5-TeCB	81		ND		0.100	0.0003	0.00e+00	1.50e-05	
2,3,3',4,4'-PeCB	105		ND		0.100	0.00003	0.00e+00	1.50e-06	
2,3,4,4',5-PeCB	114		ND		0.100	0.00003	0.00e+00	1.50e-06	
2,3',4,4',5-PeCB	118			0.870	0.100	0.00003	2.61e-05	2.61e-05	
2',3,4,4',5-PeCB	123		ND		0.100	0.00003	0.00e+00	1.50e-06	
3,3',4,4',5-PeCB	126		ND		0.100	0.1	0.00e+00	5.00e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C ND		0.100	0.00003	0.00e+00	1.50e-06	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		0.100	0.00003	0.00e+00	1.50e-06	
3,3',4,4',5,5'-HxCB	169		ND		0.100	0.03	0.00e+00	1.50e-03	
2,3,3',4,4',5,5'-HpCB	189		ND		0.100	0.00003	0.00e+00	1.50e-06	
					TOTAL TEQ		0.0000375	0.00656	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 22-Mar-2007 10:13:47; Application: XMLTransformer-1.7.35;
Report Filename: 1668_PCB1668_HomTotals-TEQs_WG21407-101_TEQ_SJ652685.html; Workgroup: WG21407; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 8A

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21407-102
Matrix:	SOLID	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	06-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Mar-2007 **Time:** 21:03:10	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB7C_119 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_119 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_119 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
3,3',4,4'-TeCB	77			0.77	50.0	52.6	25.0 - 75.0	105
3,4,4',5-TeCB	81			0.77	50.0	53.3	25.0 - 75.0	107
2,3,3',4,4'-PeCB	105			1.57	50.0	52.6	25.0 - 75.0	105
2,3,4,4',5-PeCB	114			1.56	50.0	50.4	25.0 - 75.0	101
2,3',4,4',5-PeCB	118			1.58	50.0	52.4	25.0 - 75.0	105
2',3,4,4',5-PeCB	123			1.57	50.0	52.0	25.0 - 75.0	104
3,3',4,4',5-PeCB	126			1.56	50.0	51.3	25.0 - 75.0	103
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.26	100	106	50.0 - 150	106
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			1.26	50.0	52.8	25.0 - 75.0	106
3,3',4,4',5,5'-HxCB	169			1.27	50.0	52.9	25.0 - 75.0	106
2,2',3,3',4,4',5-HpCB	170			1.04	50.0	51.6	25.0 - 75.0	103
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.03	50.0	52.0	25.0 - 75.0	104
2,3,3',4,4',5,5'-HpCB	189			1.01	50.0	51.5	25.0 - 75.0	103
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180					

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16688A.xsl; Created: 22-Mar-2007 10:13:00; Application: XMLTransformer-1.7.35; Report Filename: 1668_PCB1668_PCBTOX_WG21407-102_Form8A_SJ652682.html; Workgroup: WG21407; Design ID: 594]

AXYS METHOD MLA-013 Rev 06

Form 8B

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21407-102
Matrix:	SOLID	**Initial Calibration Date:**	02-Jan-2007
Extraction Date:	06-Mar-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	14-Mar-2007 **Time:** 21:03:10	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB7C_119 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_119 S: 4
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_119 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG[2]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-3,3',4,4'-TeCB	77L			0.79	100	94.4	30.0 - 140	94.4
13C12-3,4,4',5-TeCB	81L			0.79	100	92.9	30.0 - 140	92.9
13C12-2,3,3',4,4'-PeCB	105L			1.56	100	84.8	30.0 - 140	84.8
13C12-2,3,4,4',5-PeCB	114L			1.57	100	83.0	30.0 - 140	83.0
13C12-2,3',4,4',5-PeCB	118L			1.57	100	85.4	30.0 - 140	85.4
13C12-2',3,4,4',5-PeCB	123L			1.58	100	85.5	30.0 - 140	85.5
13C12-3,3',4,4',5-PeCB	126L			1.56	100	83.1	30.0 - 140	83.1
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.26	200	149	60.0 - 280	74.7
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			1.26	100	75.7	30.0 - 140	75.7
13C12-3,3',4,4',5,5'-HxCB	169L			1.25	100	70.7	30.0 - 140	70.7
13C12-2,2',3,3',4,4',5-HpCB	170L			1.04	100	73.4	30.0 - 140	73.4
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.04	100	72.0	30.0 - 140	72.0
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.05	100	77.4	30.0 - 140	77.4
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			1.60	100	76.0	40.0 - 125	76.0
13C12-2,2',3,3',5,5',6-HpCB	178L			1.05	100	76.1	40.0 - 125	76.1

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16688B.xsl; Created: 22-Mar-2007 10:13:00; Application: XMLTransformer-1.7.35; Report Filename: 1668_PCB1668_PCBTOX_WG21407-102_Form8B_SJ652682.html; Workgroup: WG21407; Design ID: 594]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21241-101
Matrix:	CORN OIL / WATER	**Sample Size:**	30.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	12-Apr-2007
Extraction Date:	04-Apr-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Apr-2007 **Time:** 03:43:23	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_165 S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_165 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_165 S: 1
Concentration Units:	pg/g		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		NDR	0.042	0.0167	1.52	1.000
3,4,4',5-TeCB	81		NDR	0.025	0.0167	0.62	1.000
2,3,3',4,4'-PeCB	105		NDR	0.052	0.0167	1.27	1.001
2,3,4,4',5-PeCB	114		ND		0.0167		
2,3',4,4',5-PeCB	118			0.129	0.0167	1.56	1.000
2',3,4,4',5-PeCB	123			0.024	0.0167	1.56	1.000
3,3',4,4',5-PeCB	126			0.023	0.0167	1.76	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C NDR	0.078	0.0167	0.86	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		ND		0.0167		
3,3',4,4',5,5'-HxCB	169		ND		0.0167		
2,2',3,3',4,4',5-HpCB	170		NDR	0.097	0.0167	0.82	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	0.135	0.0167	1.17	1.000
2,3,3',4,4',5,5'-HpCB	189		ND		0.0167		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-Apr-2007 16:50:49; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_WG21241-101_Form1A_PB7C_165S7_SJ664333.html; Workgroup: WG21241; Design ID: 594]

AXYS METHOD MLA-013 Rev 07

CLIENT SAMPLE NO.
Lab Blank

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL / WATER	**Project No.**	N/A
Sample Size:	30.0 g	**Lab Sample I.D.:**	WG21241-101
Concentration Units:	pg/g	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	PB7C_165 S: 7

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.0167	0.0001	0.00e+00	8.35e-07	
3,4,4',5-TeCB	81		ND		0.0167	0.0001	0.00e+00	8.35e-07	
2,3,3',4,4'-PeCB	105		ND		0.0167	0.0001	0.00e+00	8.35e-07	
2,3,4,4',5-PeCB	114		ND		0.0167	0.0005	0.00e+00	4.18e-06	
2,3',4,4',5-PeCB	118			0.129	0.0167	0.0001	1.29e-05	1.29e-05	
2',3,4,4',5-PeCB	123			0.024	0.0167	0.0001	2.40e-06	2.40e-06	
3,3',4,4',5-PeCB	126			0.023	0.0167	0.1	2.30e-03	2.30e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C ND		0.0167	0.0005	0.00e+00	4.18e-06	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		0.0167	0.00001	0.00e+00	8.35e-08	
3,3',4,4',5,5'-HxCB	169		ND		0.0167	0.01	0.00e+00	8.35e-05	
2,3,3',4,4',5,5'-HpCB	189		ND		0.0167	0.0001	0.00e+00	8.35e-07	
					TOTAL TEQ		0.00232	0.00241	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.0167	0.0001	0.00e+00	8.35e-07	
3,4,4',5-TeCB	81		ND		0.0167	0.0003	0.00e+00	2.51e-06	
2,3,3',4,4'-PeCB	105		ND		0.0167	0.00003	0.00e+00	2.51e-07	
2,3,4,4',5-PeCB	114		ND		0.0167	0.00003	0.00e+00	2.51e-07	
2,3',4,4',5-PeCB	118			0.129	0.0167	0.00003	3.87e-06	3.87e-06	
2',3,4,4',5-PeCB	123			0.024	0.0167	0.00003	7.20e-07	7.20e-07	
3,3',4,4',5-PeCB	126			0.023	0.0167	0.1	2.30e-03	2.30e-03	
2,3,3',4,4',5-HxCB	156	156 + 157	C ND		0.0167	0.00003	0.00e+00	2.51e-07	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		0.0167	0.00003	0.00e+00	2.51e-07	
3,3',4,4',5,5'-HxCB	169		ND		0.0167	0.03	0.00e+00	2.51e-04	
2,3,3',4,4',5,5'-HpCB	189		ND		0.0167	0.00003	0.00e+00	2.51e-07	
					TOTAL TEQ		0.00230	0.00256	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 25-Apr-2007 16:52:58; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_HomTotals-TEQs_WG21241-101_TEQ_SJ664333.html; Workgroup: WG21241; Design ID: 594]

AXYS METHOD MLA-013 Rev 07

CLIENT SAMPLE NO.
Lab Blank

Form 1C
PCB CONGENER TEQ ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Sample Collection:**	N/A
Matrix:	CORN OIL / WATER	**Project No.**	N/A
Sample Size:	1.00 g (lipid)	**Lab Sample I.D.:**	WG21241-101
Concentration Units:	pg/g (lipid weight basis)	**GC Column ID(s):**	SPB OCTYL
		Sample Data Filename(s):	PB7C_165 S: 7

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.501	0.0001	0.00e+00	2.51e-05	
3,4,4',5-TeCB	81		ND		0.501	0.0001	0.00e+00	2.51e-05	
2,3,3',4,4'-PeCB	105		ND		0.501	0.0001	0.00e+00	2.51e-05	
2,3,4,4',5-PeCB	114		ND		0.501	0.0005	0.00e+00	1.25e-04	
2,3',4,4',5-PeCB	118			3.87	0.501	0.0001	3.87e-04	3.87e-04	
2',3,4,4',5-PeCB	123			0.720	0.501	0.0001	7.20e-05	7.20e-05	
3,3',4,4',5-PeCB	126			0.690	0.501	0.1	6.90e-02	6.90e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C ND		0.501	0.0005	0.00e+00	1.25e-04	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		0.501	0.00001	0.00e+00	2.51e-06	
3,3',4,4',5,5'-HxCB	169		ND		0.501	0.01	0.00e+00	2.51e-03	
2,3,3',4,4',5,5'-HpCB	189		ND		0.501	0.0001	0.00e+00	2.51e-05	
					TOTAL TEQ		0.0695	0.0723	

COMPOUND	IUPAC NO.	COELUTIONS	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
3,3',4,4'-TeCB	77		ND		0.501	0.0001	0.00e+00	2.51e-05	
3,4,4',5-TeCB	81		ND		0.501	0.0003	0.00e+00	7.52e-05	
2,3,3',4,4'-PeCB	105		ND		0.501	0.00003	0.00e+00	7.52e-06	
2,3,4,4',5-PeCB	114		ND		0.501	0.00003	0.00e+00	7.52e-06	
2,3',4,4',5-PeCB	118			3.87	0.501	0.00003	1.16e-04	1.16e-04	
2',3,4,4',5-PeCB	123			0.720	0.501	0.00003	2.16e-05	2.16e-05	
3,3',4,4',5-PeCB	126			0.690	0.501	0.1	6.90e-02	6.90e-02	
2,3,3',4,4',5-HxCB	156	156 + 157	C ND		0.501	0.00003	0.00e+00	7.52e-06	
2,3,3',4,4',5'-HxCB	157	156 + 157	C156						
2,3',4,4',5,5'-HxCB	167		ND		0.501	0.00003	0.00e+00	7.52e-06	
3,3',4,4',5,5'-HxCB	169		ND		0.501	0.03	0.00e+00	7.52e-03	
2,3,3',4,4',5,5'-HpCB	189		ND		0.501	0.00003	0.00e+00	7.52e-06	
					TOTAL TEQ		0.0691	0.0768	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; C = co-eluting congener.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: 1668TEQ.xsl; Created: 25-Apr-2007 16:52:58; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_HomTotals-TEQs_WG21241-101_TEQ_SJ664333_lipid.html; Workgroup: WG21241; Design ID: 594]

AXYS METHOD MLA-013 Rev 07

Form 1A

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21241-101
Matrix:	CORN OIL / WATER	**Sample Size:**	1.00 g (lipid)
Sample Receipt Date:	N/A	**Initial Calibration Date:**	12-Apr-2007
Extraction Date:	04-Apr-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Apr-2007 **Time:** 03:43:23	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_165 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_165 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_165 S: 1
Concentration Units:	pg/g (lipid weight basis)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
3,3',4,4'-TeCB	77		NDR	1.26	0.501	1.52	1.000
3,4,4',5-TeCB	81		NDR	0.750	0.501	0.62	1.000
2,3,3',4,4'-PeCB	105		NDR	1.56	0.501	1.27	1.001
2,3,4,4',5-PeCB	114		ND		0.501		
2,3',4,4',5-PeCB	118			3.87	0.501	1.56	1.000
2',3,4,4',5-PeCB	123			0.720	0.501	1.56	1.000
3,3',4,4',5-PeCB	126			0.690	0.501	1.76	1.000
2,3,3',4,4',5-HxCB	156	156 + 157	C NDR	2.34	0.501	0.86	1.000
2,3,3',4,4',5'-HxCB	157	156 + 157	C156				
2,3',4,4',5,5'-HxCB	167		ND		0.501		
3,3',4,4',5,5'-HxCB	169		ND		0.501		
2,2',3,3',4,4',5-HpCB	170		NDR	2.91	0.501	0.82	1.000
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	4.05	0.501	1.17	1.000
2,3,3',4,4',5,5'-HpCB	189		ND		0.501		
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-Apr-2007 16:50:49; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_WG21241-101_Form1A_PB7C_165S7_SJ664333_lipid.html; Workgroup: WG21241; Design ID: 594]

AXYS METHOD MLA-013 Rev 07

Form 2

PCB CONGENER ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	2607	**Lab Sample I.D.:**	WG21241-101
Matrix:	CORN OIL / WATER	**Sample Size:**	30.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	12-Apr-2007
Extraction Date:	04-Apr-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	13-Apr-2007 **Time:** 03:43:23	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**Sample Data Filename:**	**PB7C_165 S:** 7
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_165 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_165 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-3,3',4,4'-TeCB	77L			2000	1160	58.2	0.77	1.397
13C12-3,4,4',5-TeCB	81L			2000	1110	55.6	0.75	1.373
13C12-2,3,3',4,4'-PeCB	105L			2000	1230	61.5	1.58	1.201
13C12-2,3,4,4',5-PeCB	114L			2000	1240	62.2	1.62	1.180
13C12-2,3',4,4',5-PeCB	118L			2000	1310	65.5	1.61	1.162
13C12-2',3,4,4',5-PeCB	123L			2000	1320	66.2	1.58	1.151
13C12-3,3',4,4',5-PeCB	126L			2000	1190	59.5	1.59	1.302
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	4000	2530	63.1	1.26	1.108
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			2000	1400	70.2	1.24	1.077
13C12-3,3',4,4',5,5'-HxCB	169L			2000	1120	56.2	1.26	1.192
13C12-2,2',3,3',4,4',5-HpCB	170L			2000	1250	62.4	1.06	1.176
13C12-2,2',3,4,4',5,5'-HpCB	180L			2000	1370	68.4	1.07	1.143
13C12-2,3,3',4,4',5,5'-HpCB	189L			2000	1380	69.2	1.03	1.256
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			2000	1460	73.2	1.59	1.087
13C12-2,2',3,3',5,5',6-HpCB	178L			2000	1560	78.1	1.07	1.012

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) R% = percent recovery of labeled compounds.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-Apr-2007 16:50:49; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_WG21241-101_Form2_PB7C_165S7_SJ664333.html; Workgroup: WG21241; Design ID: 594]

AXYS METHOD MLA-013 Rev 07

Form 8B

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21241-102
Matrix:	MILK	**Initial Calibration Date:**	12-Apr-2007
Extraction Date:	04-Apr-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Apr-2007 **Time:** 22:20:59	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB7C_165 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_165 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_165 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO.[1]	CO-ELUTIONS	LAB FLAG[2]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-3,3',4,4'-TeCB	77L			0.76	100	53.2	30.0 - 140	53.2
13C12-3,4,4',5-TeCB	81L			0.76	100	51.0	30.0 - 140	51.0
13C12-2,3,3',4,4'-PeCB	105L			1.62	100	61.1	30.0 - 140	61.1
13C12-2,3,4,4',5-PeCB	114L			1.60	100	56.4	30.0 - 140	56.4
13C12-2,3',4,4',5-PeCB	118L			1.61	100	59.5	30.0 - 140	59.5
13C12-2',3,4,4',5-PeCB	123L			1.57	100	59.1	30.0 - 140	59.1
13C12-3,3',4,4',5-PeCB	126L			1.60	100	51.9	30.0 - 140	51.9
13C12-2,3,3',4,4',5-HxCB	156L	156L + 157L	C	1.26	200	117	60.0 - 280	58.4
13C12-2,3,3',4,4',5'-HxCB	157L	156L + 157L	C156L					
13C12-2,3',4,4',5,5'-HxCB	167L			1.28	100	63.8	30.0 - 140	63.8
13C12-3,3',4,4',5,5'-HxCB	169L			1.26	100	51.2	30.0 - 140	51.2
13C12-2,2',3,3',4,4',5-HpCB	170L			1.08	100	59.4	30.0 - 140	59.4
13C12-2,2',3,4,4',5,5'-HpCB	180L			1.07	100	64.8	30.0 - 140	64.8
13C12-2,3,3',4,4',5,5'-HpCB	189L			1.03	100	66.4	30.0 - 140	66.4
CLEANUP STANDARD								
13C12-2,3,3',5,5'-PeCB	111L			1.60	100	69.4	40.0 - 125	69.4
13C12-2,2',3,3',5,5',6-HpCB	178L			1.06	100	75.5	40.0 - 125	75.5

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form16688B.xsl; Created: 25-Apr-2007 16:50:49; Application: XMLTransformer-1.8.0;
Report Filename: 1668_PCB1668_PCBTOX_WG21241-102_Form8B_SJ664332.html; Workgroup: WG21241; Design ID: 594]

AXYS METHOD MLA-013 Rev 07

Form 8A

PCB CONGENER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2607	**Lab Sample I.D.:**	WG21241-102
Matrix:	MILK	**Initial Calibration Date:**	12-Apr-2007
Extraction Date:	04-Apr-2007	**Instrument ID:**	HR GC/MS
Analysis Date:	12-Apr-2007 **Time:** 22:20:59	**GC Column ID:**	SPB OCTYL
Extract Volume (uL):	20	**OPR Data Filename:**	**PB7C_165 S: 2**
Injection Volume (uL):	1.0	**Blank Data Filename:**	PB7C_165 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	PB7C_165 S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
3,3',4,4'-TeCB	77			0.79	50.0	56.3	25.0 - 75.0	113
3,4,4',5-TeCB	81			0.79	50.0	56.0	25.0 - 75.0	112
2,3,3',4,4'-PeCB	105			1.61	50.0	55.2	25.0 - 75.0	110
2,3,4,4',5-PeCB	114			1.58	50.0	55.0	25.0 - 75.0	110
2,3',4,4',5-PeCB	118			1.60	50.0	61.2	25.0 - 75.0	122
2',3,4,4',5-PeCB	123			1.60	50.0	56.1	25.0 - 75.0	112
3,3',4,4',5-PeCB	126			1.58	50.0	55.8	25.0 - 75.0	112
2,3,3',4,4',5-HxCB	156	156 + 157	C	1.24	100	111	50.0 - 150	111
2,3,3',4,4',5'-HxCB	157	156 + 157	C156					
2,3',4,4',5,5'-HxCB	167			1.27	50.0	55.1	25.0 - 75.0	110
3,3',4,4',5,5'-HxCB	169			1.26	50.0	54.7	25.0 - 75.0	109
2,2',3,3',4,4',5-HpCB	170			1.05	50.0	57.4	25.0 - 75.0	115
2,2',3,4,4',5,5'-HpCB	180	180 + 193	C	1.03	50.0	58.7	25.0 - 75.0	117
2,3,3',4,4',5,5'-HpCB	189			1.06	50.0	54.5	25.0 - 75.0	109
2,3,3',4',5,5',6-HpCB	193	180 + 193	C180					

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

Appendix A4

Analytical Reports from ALS Environmental (Physical, Hydrocarbons, Chlorophenols, Metals)

A4.1
Soil and Sediment

ALS Environmental

ANALYTICAL REPORT

HATFIELD CONSULTANTS LTD.
ATTN: THOMAS BOIVIN
201 - 1571 BELLEVUE AVE.
WEST VANCOUVER BC V7V 1A6

Reported On: 07-MAR-07 03:30 PM
Revision: 5

Lab Work Order #: L468537 **Date Received:** 09-JAN-07

Project P.O. #:
Job Reference: DANDI 1283
Legal Site Desc:
CofC Numbers:

Other Information:

Comments:
ADDITIONAL 19-FEB-07 12:01
ADDITIONAL 09-FEB-07 11:35
ADDITIONAL 31-JAN-07 16:35
ADDITIONAL 31-JAN-07 15:44

Please note that the surrogate standard recoveries for repeated analyses were only an average of 40% for sample "06VN030". Acceptable recoveries are above 50%. This should be considered when reviewing this data as the target reported analytes may have been affected in a similar way. The detection limits for some of the analytes have been increased for the two samples reported in the following data tables due to sample matrix and analytical interferences.

Joyce Chow
General Manager, Vancouver

For any questions about this report please contact your Account Manager:

HEATHER EASTON

ALS Canada Ltd.
Part of the **ALS Laboratory Group**
1988 Triumph Street, Vancouver, BC V5L 1K5
Phone: +1 604 253 4188 Fax: +1 604 253 6700 www.alsglobal.com
A Campbell Brothers Limited Company

ALS LABORATORY GROUP ANALYTICAL REPORT

Grouping	Analyte	Sample ID	L468537-1	L468537-2	L468537-3	L468537-4	L468537-5
		Description					
		Sampled Date	05-DEC-06	07-DEC-06	07-DEC-06	07-DEC-06	08-DEC-06
		Sampled Time	14:20	14:05	15:20	14:40	08:30
		Client ID	06VN003	06VN023	06VN024	06VN027	06VN030
SOIL							
Physical Tests	% Moisture (%)						0.58
	pH (1:2 soil:water) (pH)		6.6	6.3	6.3	4.5	6.8
Non-Halogenated Volatiles	Benzene (mg/kg)						
	EthylBenzene (mg/kg)						
	Toluene (mg/kg)						
	Xylenes (mg/kg)						
	F1(C6-C10) (mg/kg)						
	F1-BTEX (mg/kg)						
	Surrogate: Toluene d8 (%)						
Extractable Hydrocarbons	F2 (C10-C16) (mg/kg)						
	F3 (C16-C34) (mg/kg)						
	F4 (C34-C50) (mg/kg)						
	Surrogate: 2-Bromobenzotrifluoride (%)						
	Surrogate: Hexatriacontane (%)						
	Chromatogram to baseline at nC50						
Phenolics	Tetrachlorocatechol (mg/kg)						<0.0050
	Tetrachloroguaiacol (mg/kg)						<0.0050
	3,4,5-Trichlorocatechol (mg/kg)						<0.0050
	3,4,5-Trichloroguaiacol (mg/kg)						<0.0050
	2,3,4-Trichlorophenol (mg/kg)						<0.0020
	2,3,5-Trichlorophenol (mg/kg)						<0.0020
	2,3,6-Trichlorophenol (mg/kg)						<0.0050
	2,4,5-Trichlorophenol (mg/kg)						0.0043
	2,4,6-Trichlorophenol (mg/kg)						<0.0020
	2,3,4,5-Tetrachlorophenol (mg/kg)						<0.0020
	2,3,4,6-Tetrachlorophenol (mg/kg)						<0.0020
	2,3,5,6-Tetrachlorophenol (mg/kg)						<0.0020
	Pentachlorophenol (mg/kg)						<0.0020
Organic Parameters	CaCO3 Equivalent (%)		0.7	<0.7	0.8	0.8	<0.7
	Total Organic Carbon (%)		0.5	2.0	2.5	1.1	0.6
	Total Carbon by Combustion (%)		0.5	2.0	2.5	1.1	0.6
	Inorganic Carbon (%)		<0.1	<0.1	<0.1	<0.1	<0.1
Particle Size	% Gravel (>2mm) (%)		<1	<1	<1	<1	<1
	% Sand (2.0mm – 0.063mm) (%)		92	69	58	81	95
	% Silt (0.063mm – 4um) (%)		6	23	27	10	2
	% Clay (<4um) (%)		3	8	15	9	3

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L468537-6	L468537-7	L468537-8	L468537-9
		Description				
		Sampled Date	08-DEC-06	09-DEC-06	10-DEC-06	13-DEC-06
		Sampled Time	16:20	14:55	15:20	15:15
		Client ID	06VN040	06VN052	06VN063	06VN093
Grouping	**Analyte**					
SOIL						
Physical Tests	% Moisture (%)		84		16	
	pH (1:2 soil:water) (pH)			5.9	9.1	7.6
Non-Halogenated Volatiles	Benzene (mg/kg)		<0.005		<0.005	
	EthylBenzene (mg/kg)		<0.01		<0.01	
	Toluene (mg/kg)		<0.01		<0.01	
	Xylenes (mg/kg)		<0.02		<0.02	
	F1(C6-C10) (mg/kg)		<5		<5	
	F1-BTEX (mg/kg)		<5		<5	
	Surrogate: Toluene d8 (%)		61		104	
Extractable Hydrocarbons	F2 (C10-C16) (mg/kg)		<5		<5	
	F3 (C16-C34) (mg/kg)		2700		27	
	F4 (C34-C50) (mg/kg)		2100		36	
	Surrogate: 2-Bromobenzotrifluoride (%)		85		90	
	Surrogate: Hexatriacontane (%)		125		115	
	Chromatogram to baseline at nC50		NO		NO	
Phenolics	Tetrachlorocatechol (mg/kg)				<0.0050	
	Tetrachloroguaiacol (mg/kg)				<0.0050	
	3,4,5-Trichlorocatechol (mg/kg)				<0.0050	
	3,4,5-Trichloroguaiacol (mg/kg)				<0.0050	
	2,3,4-Trichlorophenol (mg/kg)				<0.0020	
	2,3,5-Trichlorophenol (mg/kg)				<0.0020	
	2,3,6-Trichlorophenol (mg/kg)				<0.0030	
	2,4,5-Trichlorophenol (mg/kg)				0.287	
	2,4,6-Trichlorophenol (mg/kg)				0.0113	
	2,3,4,5-Tetrachlorophenol (mg/kg)				<0.0020	
	2,3,4,6-Tetrachlorophenol (mg/kg)				<0.0020	
	2,3,5,6-Tetrachlorophenol (mg/kg)				<0.0020	
	Pentachlorophenol (mg/kg)				<0.0020	
Organic Parameters	CaCO3 Equivalent (%)		4.6	3.1	2.9	9.6
	Total Organic Carbon (%)		14.5	14.8	<0.1	6.1
	Total Carbon by Combustion (%)		15.0	15.2	0.3	7.2
	Inorganic Carbon (%)		0.5	0.3	0.3	1.1
Particle Size	% Gravel (>2mm) (%)		<1	<1	3	<1
	% Sand (2.0mm – 0.063mm) (%)		11	12	73	57
	% Silt (0.063mm – 4um) (%)		63	40	20	25
	% Clay (<4um) (%)		25	48	4	18

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID	L468537-6
	Description	
	Sampled Date	08-DEC-06
	Sampled Time	16:20
	Client ID	06VN040
Grouping	**Analyte**	
WASTE		
Physical Tests	Conductivity (EC) (dS m-1)	0.44
	pH (pH)	6.6

Reference Information

Qualifiers for Individual Samples Listed:

Sample Numbe	Client Sample ID	Qualifier	Description
L468537-6	06VN040	IPC	Instrument performance not showing the C50 response factor within 30% of the average of C10, C16 & C34 response factors. - teh-ccme-ed f2-f4
L468537-8	06VN063	IPC	Instrument performance not showing the C50 response factor within 30% of the average of C10, C16 & C34 response factors. - teh-ccme-ed f2-f4

Qualifiers for Individual Parameters Listed:

Qualifier	Description
RAMB	Result Adjusted For Method Blank

Samples with Qualifiers for Individual Parameters as listed above:

Sample Number	Client Sample ID	Qualifier
L468537-6	06VN040	RAMB
L468537-8	06VN063	RAMB

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
BTX,F1-MS-PT-ED	Soil	BTEX and F1 (C6-C10)	EPA 5030/8015&8260-P&T GC/FID/MSD
C-INORG-ORG-SK	Soil	Inorg/Org Carbon calc needs C-TOT-LECO	SSSA (1996) P455-456
C-TOT-LECO-SK	Soil	Total Carbon by combustion method	SSSA (1996) - Combustion Instrument

Nelson, D.W. and Sommers, L.E. 1996. Total carbon and organic matter. p 961-1010. In: J.M. Bartels et al. (ed.). Methods of Soil Analysis: Part 3 Chemical Methods. (3rd ed.) ASA and SSSA, Madison, WI. Book series no. 5.

The sample is introduced into a quartz tube where it undergoes combustion at 900° C in the presence of oxygen.
Combustion gases are first carried through a catalyst bed in the bottom of the combustion tube, where oxidation is completed and then carried through a reducing agent (copper), where the nitrogen oxides are reduced to elemental nitrogen.
This mixture of N2, CO2, and H2O is then passed through an absorber column containing magnesium perchlorate to remove water. N2 and CO2 gases are then separated in a gas chromatographic column and detected by thermal conductivity.

CP-LL-P&P-SE-MS-VA	Soil	CP-P&P-SE-MS-VA	EPA METHODS 3500B, 8041 & 8270C

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3500B, 8041 & 8270C, published by the United States Environmental Protection Agency (EPA). A sediment/soil sub-sample is extracted with basic methanol or acidified acetone. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS) and/or electron capture detection (GC/ECD).

ETL-TEH-CCME-ED	Soil	CCME Total Extractable Hydrocarbons	CCME CWS-PHC Dec-2000 - Pub# 1310
ETL-TVH,TEH-CCME-ED	Soil	CCME Total Hydrocarbons	CCME CWS-PHC Dec-2000 - Pub# 1310

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)

represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

MOISTURE-VA	Soil	% Moisture	ASTM METHOD D2794-00

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

PH-AG-SK	Soil	pH 1:2 soil to water extration	CSSS 16.3 - pH of 1:2 water extract
PH/EC-SK	Waste	pH and Conductivity	APHA 4500-H,2510
PREP-MOISTURE-ED	Soil	% Moisture	Oven dry 105C-Gravimetric
PSA-PIPET+GRAVEL-SK	Soil	Particle size - Sieve and Pipette	FORESTRY CANADA (1991) P. 46-48 MOD

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.
The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
ED	ALS LABORATORY GROUP - EDMONTON, ALBERTA, CANADA	SK	ALS LABORATORY GROUP - SASKATOON, SASKATCHEWAN, CANADA

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
VA		ALS LABORATORY GROUP - VANCOUVER, BC, CANADA	

GLOSSARY OF REPORT TERMS
Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in enviromental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.
The reported surrogate recovery value provides a measure of method efficiency.
mg/kg (units) - unit of concentration based on mass, parts per million
mg/L (units) - unit of concentration based on volume, parts per million
N/A - Result not available. Refer to qualifier code and definition for explanation

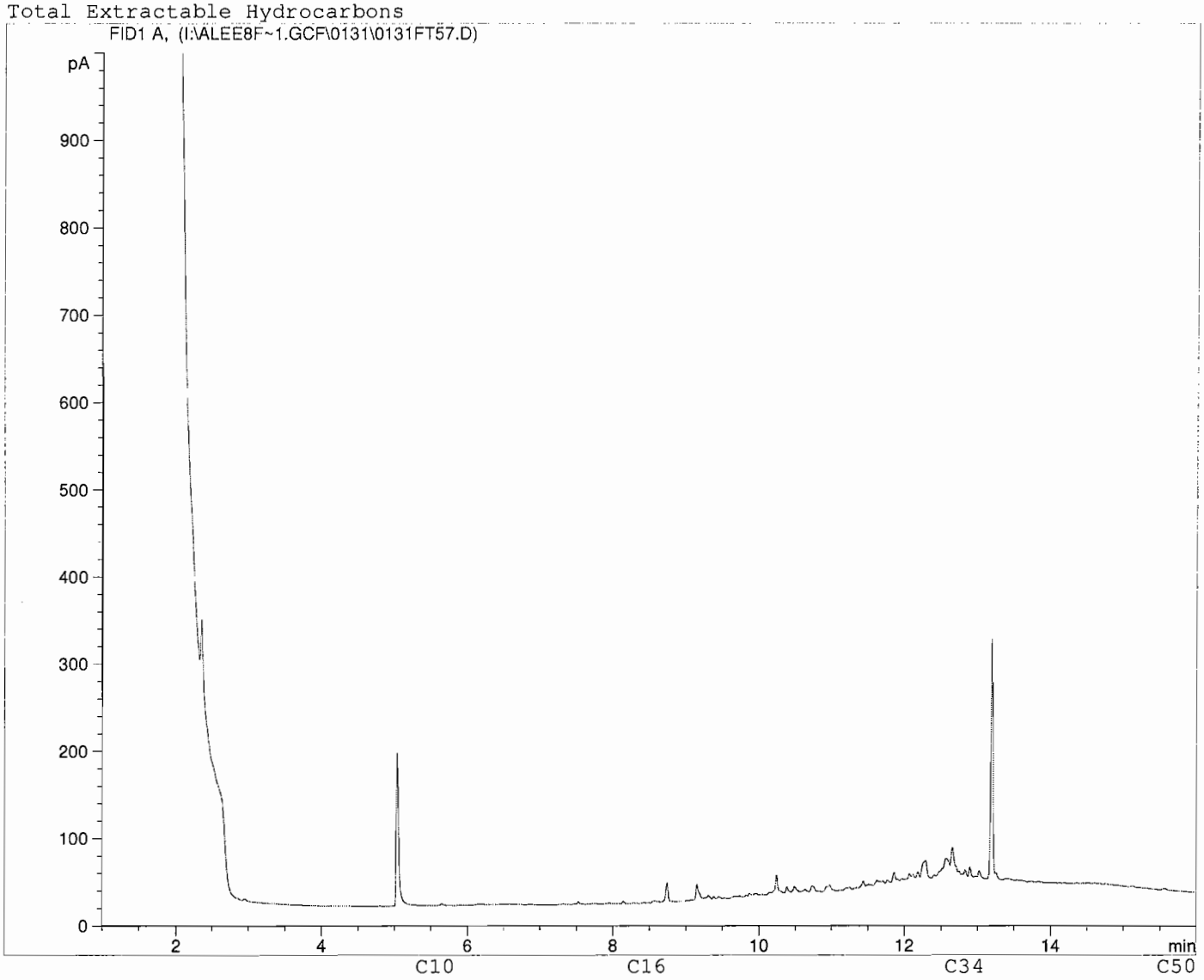
Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

Client ID: 06VN040

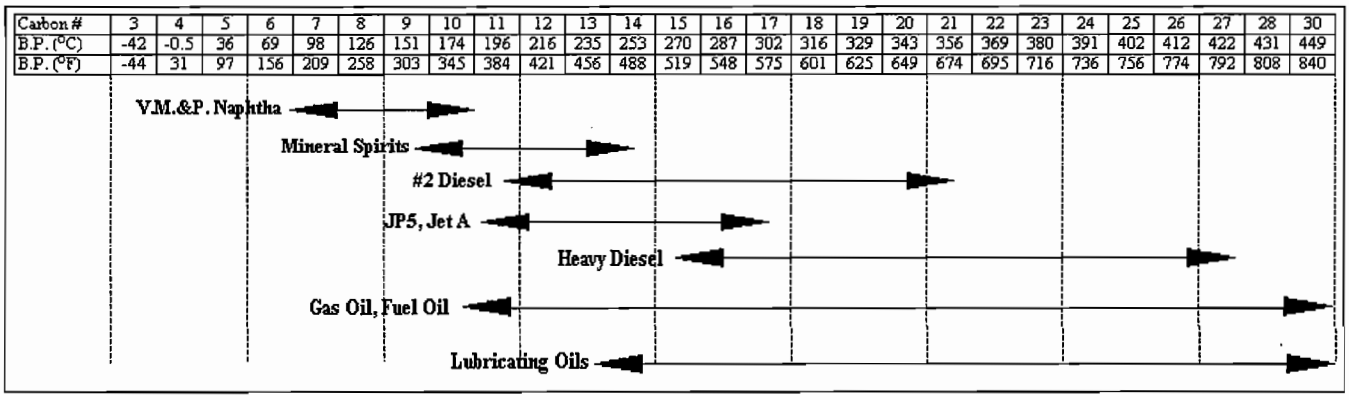
Sample ID: L468537-6 20
Injection Date: 2/1/2007 3:03:44 PM
Instrument: 6890

Total Extractable Hydrocarbons



Boiling Point Distribution Range of Petroleum Based Fuel Products

Carbon #	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30
B.P. (°C)	-42	-0.5	36	69	98	126	151	174	196	216	235	253	270	287	302	316	329	343	356	369	380	391	402	412	422	431	449
B.P. (°F)	-44	31	97	156	209	258	303	345	384	421	456	488	519	548	575	601	625	649	674	695	716	736	756	774	792	808	840

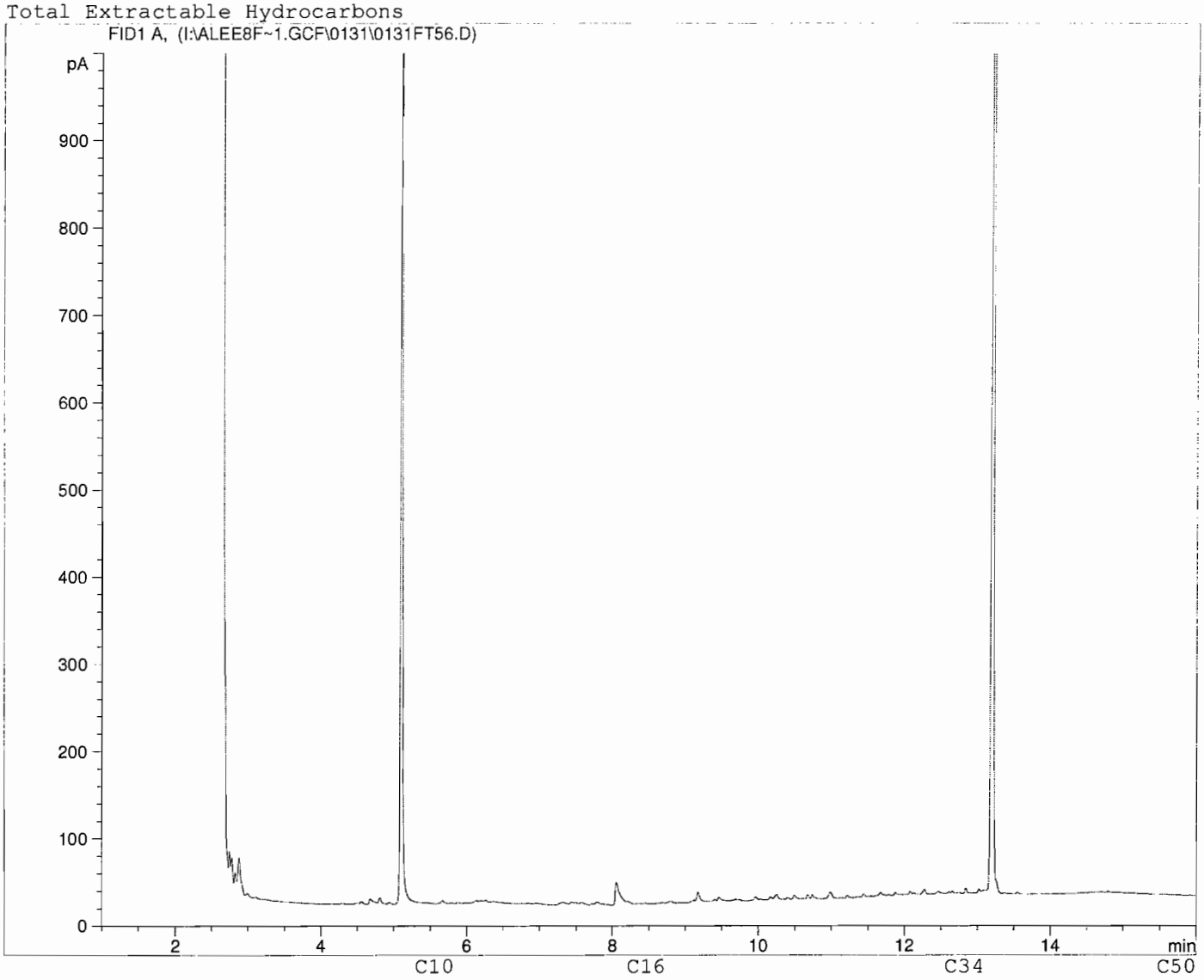


Adapted from: Drews, A.W., ED. Manual on Hydrocarbon Analysis, 4th ed.; American Society for Testing and Materials: Philadelphia, PA., 1989: p XVIII

Client ID: 06VN063

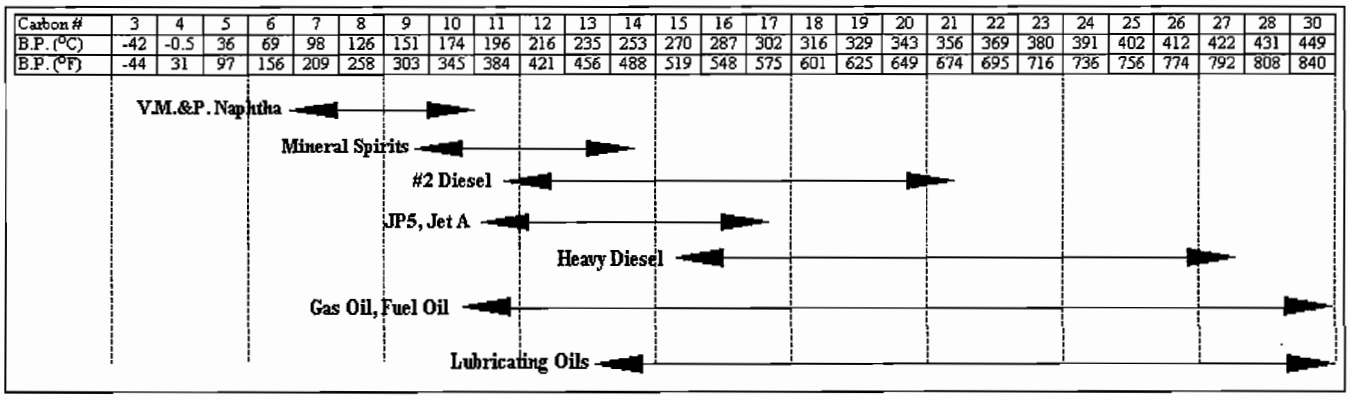
Sample ID: L468537-8 4
Injection Date: 2/1/2007 2:38:47 PM
Instrument: 6890

Total Extractable Hydrocarbons



Boiling Point Distribution Range of Petroleum Based Fuel Products

Carbon #	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30
B.P. (°C)	-42	-0.5	36	69	98	126	151	174	196	216	235	253	270	287	302	316	329	343	356	369	380	391	402	412	422	431	449
B.P. (°F)	-44	31	97	156	209	258	303	345	384	421	456	488	519	548	575	601	625	649	674	695	716	736	756	774	792	808	840



Adapted from: Drews, A.W., ED. Manual on Hydrocarbon Analysis, 4th ed.; American Society for Testing and Materials: Philadelphia, PA., 1989: p XVIII

CHAIN OF CUSTODY / ANALYTICAL REQUEST FORM

PAGE 1 OF 1

CLIENT: HATFIELD
ADDRESS: 201-1571 BELLEVUE AVE
CITY: W. VANCOUVER PROV.: BC POSTAL CODE: V7V 1A6
CONTACT: TOM BOIVIN SAMPLER:
TELEPHONE: 604 926-3261 FAX: 604 926-5389
PROJECT NAME/NO.: DANDI 1283
P.O. NO.: QUOTE NO.:
DATE SUBMITTED: JAN 9, 2007 ALS CONTACT:

ALS Environmental
1988 Triumph Street
Vancouver, BC
Canada V5L 1K5
TEL: 604-253-4188
TOLL FREE: 1-800-665-0243
FAX: 604-253-6700
www.alsenviro.com

L468537

ANALYSIS REQUESTED

FOR LAB USE ONLY

LAB USE ONLY	SAMPLE IDENTIFICATION	DATE / TIME COLLECTED (Y M D)	MATRIX	Total Organic Carbon	Particle Size	pH	CCME 4 Fraction Hydrocarbon/BTEX											NOTES
	06VN003	06 12 5 14:20 AM/PM	SOIL	X	X	X												
	06VN023	06 12 7 14:05 AM/PM	SEDS	X	X	X												
	06VN024	06 12 7 15:20 AM/PM	SEDS	X	X	X												
	06VN027	06 12 7 14:40 AM/PM	SOIL	X	X	X												
	06VN030	06 12 8 08:30 AM/PM	SEDS	X	X	X												
	06VN040	06 12 8 16:20 AM/PM	SEDS	X	X	X	X											
	06VN052	06 12 9 14:55 AM/PM	SEDS	X	X	X												
	06VN063	06 12 10 15:20 AM/PM	SOIL	X	X	X	X											
	06VN093	06 12 13 15:15 AM/PM	SEDS	X	X	X												
		___:___ AM/PM																
		___:___ AM/PM																
		___:___ AM/PM																
		___:___ AM/PM																
		___:___ AM/PM																
		___:___ AM/PM																
		___:___ AM/PM																

TURN AROUND REQUIRED:
☒ ROUTINE (7 - 10 WORKING DAYS) ☐ RUSH (SPECIFY DATE):

SPECIAL INSTRUCTIONS (BILLING DETAILS, QC REPORTING, ETC.):
Please provide a cost estimate to Tom Boivin (tboivin@hatfieldgroup.com)
→ One sample to be shipped from AXYS after they complete dx/fn analysis. 06VN075

RELIQUISHED BY:	DATE	RECEIVED BY:	DATE
	TIME	AM	TIME 13:25
RELIQUISHED BY:	DATE	RECEIVED BY:	DATE
	TIME		TIME

FOR LAB USE ONLY

COOLER SEAL INTACT UPON RECEIPT? ☐ YES ☑ NO ☐ N/A

SAMPLE TEMPERATURE UPON RECEIPT: 11 °C FROZEN? ☑ YES ☐ NO

ALS COPY

ALS Environmental

ANALYTICAL REPORT

HATFIELD CONSULTANTS LTD.
ATTN: THOMAS BOIVIN
201 - 1571 BELLEVUE AVE.
WEST VANCOUVER BC V7V 1A6

Reported On: 04-APR-07 12:25 PM

Lab Work Order #: L480629 **Date Received:** 21-FEB-07

Project P.O. #:
Job Reference: AXYS ANALYTICAL SERVICES
Legal Site Desc:
CofC Numbers:

Other Information:

Comments:

Please note that the Phenolic surrogate standard recoveries for repeated analyses were only approximately 12% for both samples reported in the following data tables. Acceptable recoveries are above 50%. The exact cause of the low recoveries is not know but it is suspected that due to the large amount of background material in the samples that the surrogate standards are not being fully recovered. This should be considered when reviewing this data as the target reported analytes may have been affected in a similiar way. The detection limits for these Phenolic compounds have been increased due to the elevated background and sample matrix interferences.

T. G. Crowther

TIMOTHY GUY CROWTHER
General Manager, Vancouver

For any questions about this report please contact your Account Manager:

HEATHER EASTON

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A Campbell Brothers Limited Company

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L480629-1	L480629-2
		Description		
		Sampled Date		
		Sampled Time		
		Client ID	L9585-72 06VN75	L9585-76 06VN79
Grouping	**Analyte**			
SOIL				
Physical Tests	% Moisture (%)		4.84	10.8
Phenolics	Tetrachlorocatechol (mg/kg)		<0.060	<0.080
	Tetrachloroguaiacol (mg/kg)		<0.050	<0.050
	3,4,5-Trichlorocatechol (mg/kg)		<0.030	<0.0050
	3,4,5-Trichloroguaiacol (mg/kg)		<0.0050	<0.0050
	2,3,4-Trichlorophenol (mg/kg)		<0.20	<5.0
	2,3,5-Trichlorophenol (mg/kg)		<0.0020	<0.020
	2,3,6-Trichlorophenol (mg/kg)		<0.60	<0.10
	2,4,5-Trichlorophenol (mg/kg)		<3.0	<9.0
	2,4,6-Trichlorophenol (mg/kg)		<1.0	<2.0
	2,3,4,5-Tetrachlorophenol (mg/kg)		<0.40	<0.30
	2,3,4,6-Tetrachlorophenol (mg/kg)		<0.40	<0.080
	2,3,5,6-Tetrachlorophenol (mg/kg)		<0.40	<0.30
	Pentachlorophenol (mg/kg)		<0.40	<0.20
Organic Parameters	CaCO3 Equivalent (%)		1.1	0.7
	Total Organic Carbon (%)		0.3	0.6
	Total Carbon by Combustion (%)		0.3	0.6
	Inorganic Carbon (%)		<0.1	<0.1
Particle Size	% Gravel (>2mm) (%)			<1
	% Sand (2.0mm – 0.063mm) (%)			80
	% Silt (0.063mm – 4um) (%)			8
	% Clay (<4um) (%)			12

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
C-INORG-ORG-SK	Soil	Inorg/Org Carbon calc needs C-TOT-LECO	SSSA (1996) P455-456
C-TOT-LECO-SK	Soil	Total Carbon by combustion method	SSSA (1996) - Combustion Instrument

Nelson, D.W. and Sommers, L.E. 1996. Total carbon and organic matter. p 961-1010. In: J.M. Bartels et al. (ed.). Methods of Soil Analysis: Part 3 Chemical Methods. (3rd ed.) ASA and SSSA, Madison, WI. Book series no. 5.

The sample is introduced into a quartz tube where it undergoes combustion at 900° C in the presence of oxygen.
Combustion gases are first carried through a catalyst bed in the bottom of the combustion tube, where oxidation is completed and then carried through a reducing agent (copper), where the nitrogen oxides are reduced to elemental nitrogen.
This mixture of N2, CO2, and H2O is then passed through an absorber column containing magnesium perchlorate to remove water. N2 and CO2 gases are then separated in a gas chromatographic column and detected by thermal conductivity.

CP-LL-P&P-SE-MS-VA	Soil	CP-P&P-SE-MS-VA	EPA METHODS 3500B, 8041 & 8270C

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3500B, 8041 & 8270C, published by the United States Environmental Protection Agency (EPA). A sediment/soil sub-sample is extracted with basic methanol or acidified acetone. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS) and/or electron capture detection (GC/ECD).

MOISTURE-VA	Soil	% Moisture	ASTM METHOD D2794-00

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

PSA-PIPET+GRAVEL-SK	Soil	Particle size - Sieve and Pipette	FORESTRY CANADA (1991) P. 46-48 MOD

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.
The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
SK	ALS LABORATORY GROUP - SASKATOON, SASKATCHEWAN, CANADA	VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA

GLOSSARY OF REPORT TERMS
Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in enviromental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.
The reported surrogate recovery value provides a measure of method efficiency.
mg/kg (units) - unit of concentration based on mass, parts per million
mg/L (units) - unit of concentration based on volume, parts per million
N/A - Result not available. Refer to qualifier code and definition for explanation

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

AXYS | Axys Analytical Services Ltd

Release Chain Of Custody

SHIP TO : ALS Environmental
Telephone : 604-253-4188
Contact Person : Heather Easton

L480629

Project Chemist : Kalai Pillay
Axys Contract No. : 2607
WG21444 (REQ3252)

Axys Analytical Services Ltd., P.O. Box 2219, 2045 Mills Road West, Sidney, BC, Canada V8L 3S8 Tel.(250) 655-5800 Fax.(250) 655-5811

AXYS ID	CLIENT ID	MATRIX	QUANTITY
L9585-72	06VN075	Solid	1
L9585-76	06VN079	Materials	1

No. Item(s):	Date Shipped:	Shipper's Name:	WAY Bill #:	Signature:
2x	20-FEB-07	Bonnie Nassichuk	320322347792	B Nassichuk

Relinquished by (Signature)
Date Time

Received by (Signature)
Date Time

Relinquished by (Signature)
Date Time

Received by (Signature)
Date 07/02/21 Time 11:17

Courier: ~~FedEx~~ Purolator
Waybill No.

Sample Receipt

	#1	Copies: #2	#3
Temp C			
Custody Seal #			
Seal Intact	Y/N		
Sample Tag	Y/N		

Notes :

ALS Environmental

ANALYTICAL REPORT

HATFIELD CONSULTANTS LTD.

ATTN: TOM BOIVIN

Reported On: 14-MAR-07 06:25 PM

201 - 1571 BELLEVUE AVE.

WEST VANCOUVER BC V7V 1A6

Lab Work Order #: **L484754**

Date Received: **08-MAR-07**

Project P.O. #:

Job Reference: WG21583(REQ3275)

Legal Site Desc:

CofC Numbers:

Other Information:

Comments:

The detection limits for some of the metals have been increased for some of the samples reported in the following data tables due to sample matrix interferences.

T. G. Crowther

TIMOTHY GUY CROWTHER
General Manager, Vancouver

For any questions about this report please contact your Account Manager:

HEATHER EASTON

ALS Canada Ltd.
Part of the **ALS Laboratory Group**
1988 Triumph Street, Vancouver, BC V5L 1K5
Phone: +1 604 253 4188 Fax: +1 604 253 6700 www.alsglobal.com
A Campbell Brothers Limited Company

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L484754-1	L484754-2	L484754-3	L484754-4	L484754-5
		Description					
		Sampled Date					
		Sampled Time					
		Client ID	06VN062-1	06VN062-2	06VN062-3	06VN062-4	06VN062-5
Grouping	**Analyte**						
SOIL							
Physical Tests	pH (pH)		5.42	5.02	4.44	4.58	4.75
Metals	Antimony (Sb) (mg/kg)		23	<10	<10	<10	<10
	Arsenic (As) (mg/kg)		1230	180	15.3	5.9	<5.0
	Barium (Ba) (mg/kg)		202	94.1	57.4	51.1	59.4
	Beryllium (Be) (mg/kg)		<1.0	<0.50	<0.50	<0.50	<0.50
	Cadmium (Cd) (mg/kg)		12.8	1.30	<0.50	<0.50	<0.50
	Chromium (Cr) (mg/kg)		62.4	31.3	14.2	11.3	10.4
	Cobalt (Co) (mg/kg)		10.9	4.0	<2.0	<2.0	<2.0
	Copper (Cu) (mg/kg)		52.9	15.1	6.2	4.6	3.5
	Lead (Pb) (mg/kg)		169	46	<30	<30	<30
	Mercury (Hg) (mg/kg)		0.630	0.167	0.0595	0.0471	0.0293
	Molybdenum (Mo) (mg/kg)		<8.0	<4.0	<4.0	<4.0	<4.0
	Nickel (Ni) (mg/kg)		25	10.7	<5.0	<5.0	<5.0
	Selenium (Se) (mg/kg)		<4.0	<5.0	<2.0	<3.0	<2.0
	Silver (Ag) (mg/kg)		<4.0	<2.0	<2.0	<2.0	<2.0
	Thallium (Tl) (mg/kg)		<1.0	<1.0	<1.0	<1.0	<1.0
	Tin (Sn) (mg/kg)		13	<5.0	<5.0	<5.0	<5.0
	Vanadium (V) (mg/kg)		57.2	28.7	17.0	12.8	13.2
	Zinc (Zn) (mg/kg)		2300	265	24.6	15.5	10.4

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L484754-6	L484754-7
		Description		
		Sampled Date		
		Sampled Time		
		Client ID	06VN062-6	06VN062-11
Grouping	**Analyte**			
SOIL				
Physical Tests	pH (pH)		4.24	5.08
Metals	Antimony (Sb) (mg/kg)		<10	<10
	Arsenic (As) (mg/kg)		<5.0	<5.0
	Barium (Ba) (mg/kg)		81.9	79.8
	Beryllium (Be) (mg/kg)		<0.50	0.56
	Cadmium (Cd) (mg/kg)		<0.50	<0.50
	Chromium (Cr) (mg/kg)		13.9	16.3
	Cobalt (Co) (mg/kg)		2.8	2.5
	Copper (Cu) (mg/kg)		5.4	6.4
	Lead (Pb) (mg/kg)		<30	<30
	Mercury (Hg) (mg/kg)		0.0359	0.0384
	Molybdenum (Mo) (mg/kg)		<4.0	<4.0
	Nickel (Ni) (mg/kg)		<5.0	5.9
	Selenium (Se) (mg/kg)		<2.0	<4.0
	Silver (Ag) (mg/kg)		<2.0	<2.0
	Thallium (Tl) (mg/kg)		<1.0	<1.0
	Tin (Sn) (mg/kg)		<5.0	<5.0
	Vanadium (V) (mg/kg)		16.0	21.8
	Zinc (Zn) (mg/kg)		13.5	17.0

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
HG-CCME-CVAFS-VA	Soil	CVAFS Hg in Soil (CCME)	CCME

This analysis is carried out using procedures from CSR Analytical Method 8 "Strong Acid Leachable Metals (SALM) in Soil", BC Ministry of Environment, Lands and Parks, 26 June 2001, and procedures adapted from "Test Methods for Evaluating Solid Waste", SW-846 Method 3050B United States Environmental Protection Agency (EPA). The sample is manually homogenized, dried at 60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve, and a representative subsample of the dry material is weighed. The sample is then digested at 90 degrees Celsius for 2 hours by block digester using a 1:1 ratio of concentrated nitric and hydrochloric acids. Instrumental analysis is by atomic fluorescence spectrophotometry (EPA Method 7000 series).

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

MET-CSR-ICP-VA	Soil	Metals in Soil by ICPOES (CSR SALM)	BCMELP CSR SALM Method 8

This analysis is carried out using procedures from CSR Analytical Method 8 "Strong Acid Leachable Metals (SALM) in Soil", BC Ministry of Environment, Lands and Parks, 26 June 2001, and procedures adapted from "Test Methods for Evaluating Solid Waste", SW-846 Method 3050B United States Environmental Protection Agency (EPA). The sample is manually homogenized, dried at 60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve, and a representative subsample of the dry material is weighed. The sample is then digested at 90 degrees Celsius for 2 hours by block digester using a 1:1 ratio of concentrated nitric and hydrochloric acids. Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

PH-1:2-VA	Soil	CSR pH by 1:2 Water Leach	CSSS "pH Determination"

This analysis is carried out in accordance with procedures described in "Soil Sampling and Methods of Analysis" (CSSS). The procedure involves mixing the air-dried sample with deionized/distilled water. The pH of the solution is then measured using a standard pH probe. A one to two ratio of sediment to water is used for mineral soils and a one to ten ratio is used for highly organic soils.

TL-CSR-MS-VA	Soil	ICPMS Tl in Soil by CSR SALM	BCMELP CSR SALM Method 8

This analysis is carried out using procedures from CSR Analytical Method 8 "Strong Acid Leachable Metals (SALM) in Soil", BC Ministry of Environment, Lands and Parks, 26 June 2001, and procedures adapted from "Test Methods for Evaluating Solid Waste", SW-846 Method 3050B United States Environmental Protection Agency (EPA). The sample is manually homogenized, dried at 60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve, and a representative subsample of the dry material is weighed. The sample is then digested at 90 degrees Celsius for 2 hours by either hotplate or block digester using a 1:1 ratio of concentrated nitric and hydrochloric acids. Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020).

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.
The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA		

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)

GLOSSARY OF REPORT TERMS
Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in enviromental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.
The reported surrogate recovery value provides a measure of method efficiency.
mg/kg (units) - unit of concentration based on mass, parts per million
mg/L (units) - unit of concentration based on volume, parts per million
N/A - Result not available. Refer to qualifier code and definition for explanation

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

AXYS | Axys Analytical Services Ltd

Release Chain Of Custody

SHIP TO : ALS Environmental
Telephone : 604-253-4188
Contact Person : Heather Easton

L484754

Project Chemist : Kalai Pillay
Axys Contract No. : 2607
WG21583 (REQ3275)

Axys Analytical Services Ltd., P.O. Box 2219, 2045 Mills Road West, Sidney, BC, Canada V8L 3S8 Tel.(250) 655-5800 Fax.(250) 655-5811

AXYS ID	CLIENT ID	MATRIX	QUANTITY
L9585-115	06VN062-1	Materials	1
L9585-116	06VN062-2	Materials	1
L9585-117	06VN062-3	Materials	1
L9585-118	06VN062-4	Materials	1
L9585-119	06VN062-5	Materials	1
L9585-120	06VN062-6	Materials	1
L9585-125	06VN062-11	Materials	1

No. Item(s):	Date Shipped:	Shipper's Name:	WAY Bill #:	Signature:
7	01-Mar-07	Bonnie Nassichuk	3203 2197 3550	B Nassichuk

Relinquished by (Signature)	Received by (Signature)	Courier	Waybill No.
Date 02/08/07 Time 11:37	Date Time	Purolator	
Relinquished by (Signature)	Received by (Signature)	Sample Receipt	
Date Time	Date Time		

		Coolers		
		#1	#2	#3
Temp C	9°C			
Custody Seal #				
Seal Intact	Y/N			
Sample Tag	Y/N			

Notes :

A4.2
ALS Analytical Methodologies

ALS TEST CODE	TEST DESCRIPTION AND REFRENCES
PH-AG-SK	Part dry soil and 2 parts de-ionized water (by volume) is mixed. The slurry is allowed to stand with occasional stirring for 30 – 60 minutes. pH of the soil slurry is then measured using a pH meter. Reference: Carter, Martin R., Soil Sampling and Methods of Analysis, Can Soc. Soil Sci. p.142.
PH/EC-SK	Part dry soil and 2 parts de-ionized water (by volume) is mixed. The slurry is allowed to stand with occasional stirring for 30 – 60 minutes. After equilibration, an extract is obtained by gravity filtration. Conductivity of the extract is measured by a conductivity meter. Reference: Carter, Martin R., Soil Sampling and Methods of Analysis, Can Soc. Soil Sci. p.141-142.
MOISTURE-VA	This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours. Reference: ASTM METHOD D2794-00
C-TOT-LECO-SK	The sample is introduced into a quartz tube where it undergoes combustion at 900° C in the presence of oxygen. Combustion gases are first carried through a catalyst bed in the bottom of the combustion tube, where oxidation is completed and then carried through a reducing agent (copper), where the nitrogen oxides are reduced to elemental nitrogen. This mixture of N2, CO2, and H2O is then passed through an absorber column containing magnesium perchlorate to remove water. N2 and CO2 gases are then separated in a gas chromatographic column and detected by thermal conductivity. Reference: Nelson, D.W. and Sommers, L.E. 1996. Total carbon and organic matter. p 961-1010. In: J.M. Bartels et al. (ed.). Methods of Soil Analysis: Part 3 Chemical Methods. (3rd ed.) ASA and SSSA, Madison, WI. Book series no. 5.
C-INORG-ORG-SK	When carbonates are decomposed with acid in an open system, carbon dioxide is released to the atmosphere. The decrease in sample weight resulting from CO2 loss is proportional to the carbonate content of the soil. Reference: Loeppert, R.H. and Suarez, D.L. 1996. Gravimetric Method for Loss of Carbon Dioxide. P. 455-456 In: J.M. Bartels et al. (ed.) Methods of soil analysis: Part 3 Chemical methods. (3rd ed.) ASA and SSSA, Madison, WI. Book series no. 5

BTX,F1-MS-PT-ED	Benzene, toluene, ethylbenzene, xylenes (BTEX), and total volatile hydrocarbons (C6-C10) in soil/sediment samples are extracted with methanol and analysis is by gas chromatography with FID/MSD detection. References: Reference Method for the Canada Wide Standard for Petroleum Hydrocarbons in Soil – Tier 1 Method (2001) EPA SW846 Method 5030/8260
ETL-TEH-CCME-ED	Total extractable hydrocarbons, ranges of C10-C16 (F2), C16-C34 (F3), and C34-C50 (F4), and gravimetric heavy hydrocarbons (F4G) in soil/sediment samples are extracted with acetone/hexane and analysis is by gas chromatography with FID detection. References: Reference Method for the Canada Wide Standard for Petroleum Hydrocarbons in Soil – Tier 1 Method (2001) EPA SW846 methods 3550 or 3580/8000
PREP-MOISTURE-ED	A sample volume of ~10 g weighed in an aluminum tray is placed in a 110°C oven overnight. The dried soil is weighed and the % moisture is calculated. Reference: D 2216-80 Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures. Annual Book of ASTM Standards, Vol 04.08.
CP-LL-P&P-SE-MS-VA	A sediment/soil sub-sample is extracted with basic methanol or acidified acetone. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS) and/or electron capture detection (GC/ECD). Reference: This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3500B, 8041 & 8270C, published by the United States Environmental Protection Agency (EPA)
ETL-TVH,TEH-CCME-ED	Hydrocarbon results are expressed on a dry weight basis. In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons. In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1. Reference: Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference

Method for the CWS PHC.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

PSA-PIPET+GRAVEL-SK

Particle size analysis involves the measurement of the proportions of the various primary soil particle sizes (ie. clay < 0.004 mm, silt 0.004-0.063 mm, sand 0.063-2.0 mm and gravel > 2.0 mm). In this method, the gravel and sand portions are determined by sieving, while the clay portion is determined by sedimentation using Stokes Law, which relates the radius of the particles to the velocity of the sedimentation in water. Silt is calculated as 100% - (sand% + clay%)

Pretreatment of the soil with Calgon (sodium hexametaphosphate) is used to ensure the complete dispersion of the primary soil particles. Additional pretreatment may be necessary to remove cementing materials such as CaCO3 and organic matter.

Reference
Y.P. Kalra, and D.G. Maynard, 1991. Methods Manual For Forest Soil and Plant Analysis,Northwest Region. Forestry Canada (modified sand, silt and clay size ranges)

Appendix A5

Analytical Reports from Flett Research Ltd. (Sen Lake (A) Core Data)

A5.1
Core Data, December 2006

Interpretation of Pb-210 Results

Flett Research Ltd.
440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
Fax/Phone (204) 667-2505
E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

Client: Hatfield Consultants Ltd. - Allan, Andrew

Address: Hatfield Consultants Ltd., Suite 201, 1571 Bellevue Ave., West Vancouver, BC V7V 1A6
Core ID: Lake A-west (core 06VN062)
Transaction ID: 234
PO/Contract No.:
Date(s) Received: December 29, 2006
Analysis Date(s): January 13-14, 2007
Analyst(s): M. Yun
Sampling Date(s): N/A
Project:

Results authorized by Dr. Robert J. Flett, Chief Scientist

INTERPRETATION

Observations:

The core shows an irregular exponential decrease in the Pb-210 activity as a function of depth (Pages 2 and 3). The maximum activity of 5.91 DPM/g is seen in the uppermost section, and this is ~7 times of the lowest activity (0.81 DPM/g) in the deepest section (extrapolated depth 30.0 - 32.0 cm). Moderately changing sediment accumulation rates over time are indicated by the shape of Pb-210 activity profile and CRS model (0.035 - 0.057 g/cm^2/yr) (Pages 2, 3 and 7).

Ra-226 was measured at 1.00 and 0.91 DPM/g in sections 2 (2.0 - 4.0 cm) and 3 (4.0 - 6.0 cm), respectively (Pages 2 & 3; also see 'Ra-226 Hatfield-Vietnam Feb 8-07.xls'), indicating that the the background level of Pb-210 has been achieved in section 5 and downward. It is believed that the varying background activity (0.81 - 1.39 DPM/g) is due to differing Ra-226 in these sections and/or lower dry bulk densities (especially, sections 6 and 10).

Significant Cs-137 was detected in sections 1 - 4 (0.0 - 8.0 cm), with the maximum activity in section 2 (see 'Cs-137 Lake A-west (06VN062) Feb 13-07.xls').

Regression model of Unsupported Pb-210 activity vs. Cumulative Dry Weight(g/cm^2):

The regression model assumes a constant rate of input of both Pb-210 and sediment. Although the sediment accumulation rates appear moderately variable in sections 1 - 4 (mentioned above) where the total activities are significantly above the assumed background, the model was applied to estimate a rough sediment accumulation rate over the modelled range.

The regression results are seen in Pages 4 and 5. The regression model predicts an average sediment accumulation rate of 0.0443 g/cm^2/yr (R^2 = 0.9600) over the modelled range when the background of 1.0620 DPM/g (the closest to the assumed background 1.07 DPM/g) is chosen from the R^2 Table. The age at the bottom of any core section can be estimated by dividing the cumulative dry weight/cm^2 by the accumulation rate. For example, the age at the bottom of section 1 (at 2.0 cm extrapolated depth) is 0.940 / 0.0443 = 21.2 yr. The age estimate at the bottom of each section is shown on Page 2 (column AL). Plot of age vs. depth is seen in Page 6.

CRS model of Age at bottom of Extrapolated section in years vs. Depth of bottom edge of current section in cm:

The CRS model includes sections 1 - 5. It assumes constant input of Pb-210 and a core that is long enough to include all of the measurable atmospheric source Pb-210. If one assumes that the activity of section 5 (1.07 DPM/g) is the background Pb-210 level, then the CRS model can be applied.

The measured total activity results (DPM/g) are shown in column AE of the main data table on Page 2. The estimated age at the bottom of each section is shown in column AH, also shown on Page 2. The average sediment accumulation rate, from core surface to the extrapolated bottom depth of any section, can be calculated by dividing the cumulative dry mass at the bottom of the extrapolated section by the calculated age at that depth. For example, the average sediment accumulation rate at the bottom of section 2 (extrapolated depth 2.0 - 4.0 cm) can be calculated as: 2.269 / 62.2 = 0.0365 g/cm^2/yr. The individual sedimentation rate for each section is shown in column AK in data sheet. Plots of age vs. depth and sediment accumulation rate vs. depth are seen in Pages 6 and 7, respectively.

Conclusion:

The estimated average sediment accumulation rates calculated by both CRS and Regression model applications are very close (0.0437 vs. 0.0443 g/cm2/yr, respectively), giving some confidence that both models are functioning correctly. In general, the CRS model is to be preferred because it can provide valid age predictions even though the sediment accumulation rate is changing with time.

The Cs-137 profile is compatible with the ages estimated by CRS model. If the Cs-137 were from above ground nuclear testing, the first detectable Cs-137 would probably be seen at about 1954 or later, and the maximum Cs-137 would probably be seen at about 1963. In this core, the maximum Cs-137 was detected between CRS dates 1945 and 1983 [2007 - 62.2 = 1944.8 and 2007 - 24.2 = 1982.8] in section 2. The presence of Cs-137 in the deeper sections 3 - 4 (prior to Pb-210 date 1945) is believed due to diffusion of the isotope downward into the sediments, a very common observation in cores.

An alternate interpretation of the Pb-210 data [see "Pb-210 alternate - not used" XL sheet], assuming that section 8 was the shallowest section at Pb-210 background, found the Cs-137 peak to have accumulated between 16 and 32 years before present (1974 - 1990). The poor prediction of the Cs-137 deposition date, as well as poor agreement with the Linear Regression model, caused this interpretation to be discarded.

Overall, the analytical quality of the Pb-210 data is considered good, based upon the duplicates and blank determinations. It is cautioned that predicted ages greater than 80 years are approximations only.

Results of Pb-210 Analysis

Flett Research Ltd.

440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7

Fax/Phone (204) 667-2505

E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

Client: Hatfield Consultants Ltd. - Allan, Andrew

Address: Hatfield Consultants Ltd., Suite 201, 1571 Bellevue Ave., West Vancouver, BC V7V 1A6

Core ID: Lake A-west (core 06VN062) **Transaction ID:** 234

Date(s) Received: 29-Dec-06 **PO/Contract No.:**

Sampling Date(s): **Date(s) Analysed:** January 13-14, 2007

Project: **Analyst(s):** M. Yun

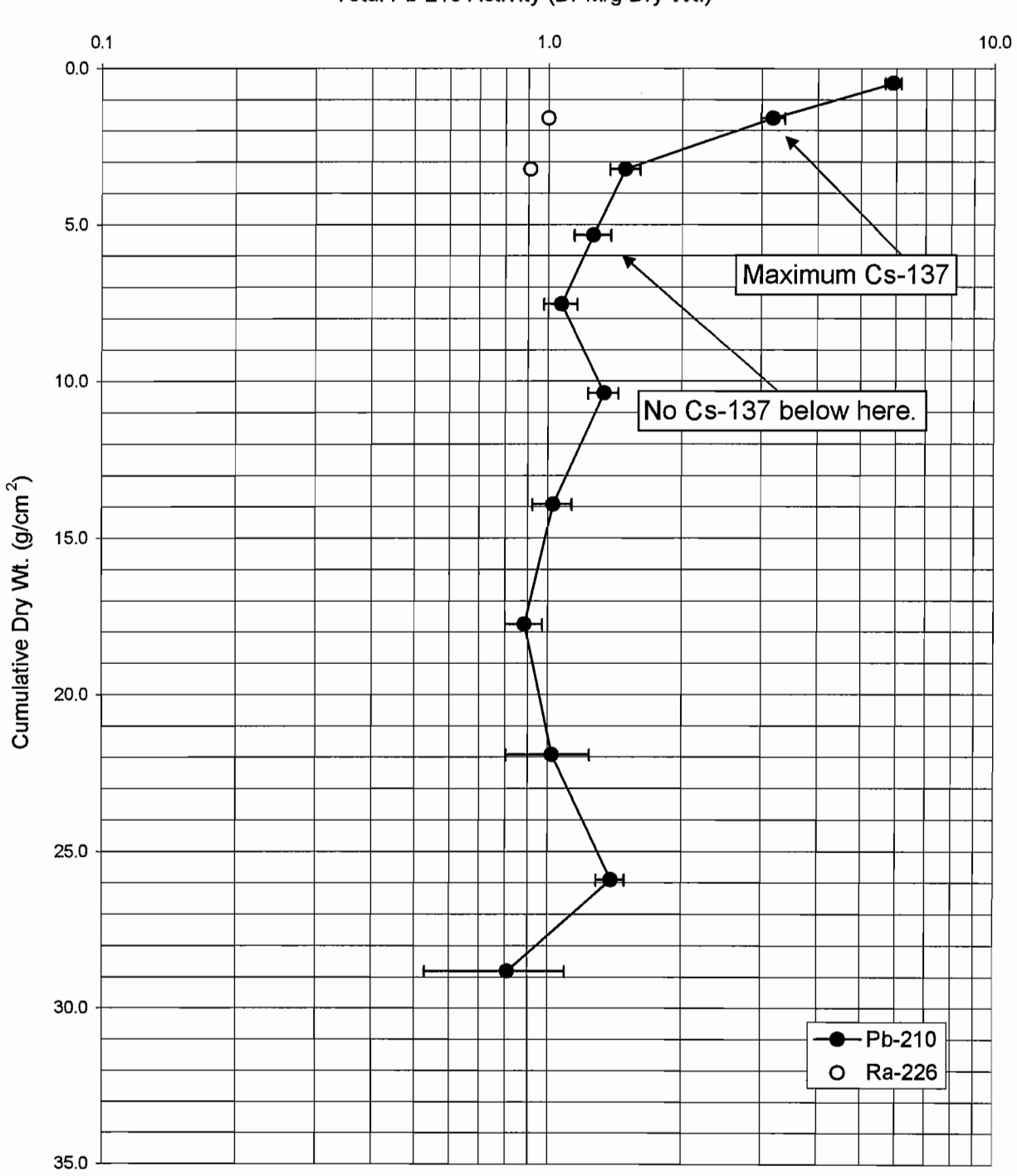
Results authorized by Dr. Robert J. Flett, Chief Scientist

Section Number	Sample ID	Upper Depth (cm)	Lower Depth (cm)	Extrapolated Upper Section Depth (cm)	Extrapolated Lower Section Depth (cm)	Dry Wt./ Wet cc. (g/cm^3)	Mass in extrapolated section (g/cm^2)	Cumulative Mass to Bottom of Current Section (g/cm^2)	Plot-point of cumulative mass in current section (g/cm^2)	Po-209 counts less detector background	Po-210 counts less detector background	Weight of Sample Counted (g)	Count Time (sec)	Po-210 Total Activity (DPM/g)	Error Po-210 +/- 1 S.D. (DPM/g)	Po-210 Unsupported Activity (DPM/g)	Age at Bottom of Extrapolated Section in Years (CRS Model Estimate)	Depth of bottom edge of current section (cm)	CRS Sediment Accumulation Rate ($g/cm^2/yr$)
1	06VN062-1	0.0	2.0	0.00	2.00	0.470	0.940	0.940	0.470	2264	629	0.477	60000	**5.91**	0.24	4.84	**24.2**	2.0	0.0388
2	06VN062-2	2.0	4.0	2.00	4.00	0.664	1.328	2.269	1.604	1799	304	0.524	60000	**3.18**	0.19	2.11	**62.2**	4.0	0.0350
3	06VN062-3	4.0	6.0	4.00	6.00	0.974	1.948	4.216	3.243	2117	182	0.585	60000	**1.49**	0.12	0.42	**96.5**	6.0	0.0567
4	06VN062-4	6.0	8.0	6.00	8.00	1.123	2.246	6.463	5.340	1772	125	0.567	60000	**1.26**	0.12	0.19		8.0	
5	06VN062-5	8.0	10.0	8.00	10.00	1.071	2.142	8.604	7.534	2395	148	0.585	60000	**1.07**	0.09	0.00		10.0	
6	06VN062-6	10.0	14.0	10.00	14.00	0.892	3.567	12.172	10.388	2343	173	0.560	60000	**1.34**	0.11	0.27		14.0	
7	06VN062-7	14.0	18.0	14.00	18.00	0.881	3.522	15.694	13.933	2035	110	0.534	60000	**1.03**	0.10	-0.04		18.0	
8	06VN062-8	18.0	22.0	18.00	22.00	1.034	4.134	19.828	17.761	2127	114	0.613	60000	**0.89**	0.09	-0.18		22.0	
9	06VN062-9	22.0	26.0	22.00	26.00	1.045	4.179	24.007	21.918	769	45	0.580	60000	**1.02**	0.22	-0.05		26.0	
10	06VN062-10	26.0	30.0	26.00	30.00	0.948	3.791	27.799	25.903	2418	200	0.604	60000	**1.39**	0.10	0.32		30.0	
11	06VN062-11	30.0	32.0	30.00	32.00	1.022	2.045	29.843	28.821	369	17	0.576	60000	**0.81**	0.28	-0.26		32.0	
Blank	Blank									4	7	0.000	60000						
Blank	Blank									848	7	0.000	60000						
2	06VN062-2									1799	304	0.524	60000	**3.27**	0.19				
Dup 2	06VN062-2									2220	338	0.500	60000	**3.09**	0.17				
																Total DPM/cm^2 in core		8.60	
																Average Sedimentation Rate in Section			0.0437

*: See 'Comments' section on 'Interpretation' sheet for discussion.

Total Pb-210 Activity vs. Accumulated Sediment

Lake A-west (core 06VN062)



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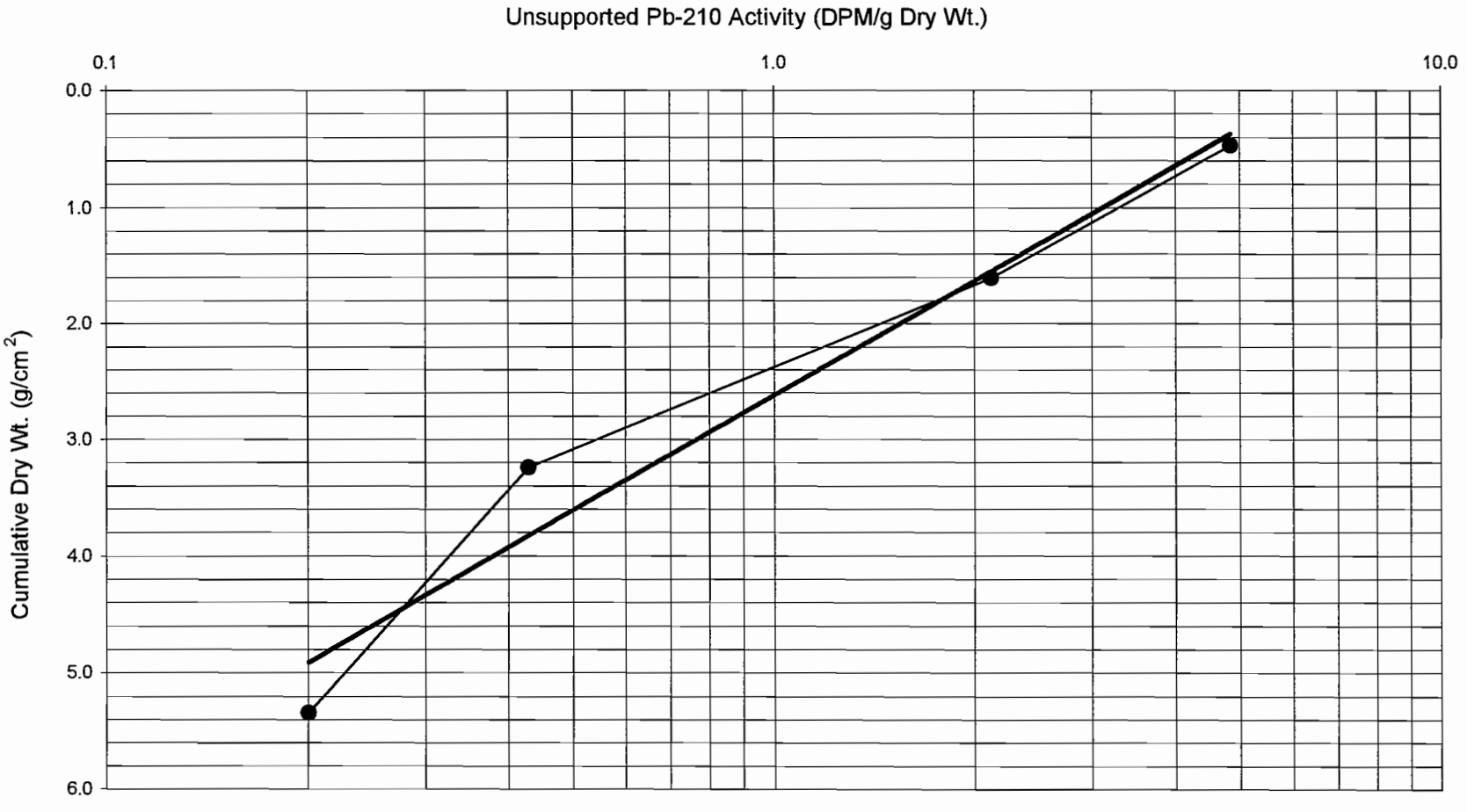
r^2 fit as a function of background subtracted				
bkg (DPM/g)	r^2	Sediment Accumu-lation Rate ($g/cm^2/yr$)	Slope 'm'	Y inter-cept 'b'
0.0000	0.8876	0.0867	-2.791	5.152
0.0625	0.8896	0.0846	-2.723	5.008
0.1249	0.8918	0.0825	-2.655	4.863
0.1874	0.8941	0.0804	-2.586	4.719
0.2498	0.8965	0.0782	-2.516	4.574
0.3123	0.8990	0.0760	-2.445	4.430
0.3747	0.9018	0.0737	-2.373	4.286
0.4372	0.9047	0.0715	-2.299	4.141
0.4996	0.9079	0.0691	-2.225	3.996
0.5621	0.9113	0.0668	-2.149	3.851
0.6245	0.9151	0.0644	-2.071	3.705
0.6870	0.9193	0.0619	-1.991	3.558
0.7495	0.9239	0.0593	-1.908	3.409
0.8120	0.9291	0.0566	-1.822	3.259
0.8745	0.9350	0.0539	-1.733	3.107
0.9370	0.9419	0.0509	-1.638	2.951
0.9995	0.9501	0.0478	-1.537	2.789
1.0620	0.9600	0.0443	-1.425	2.620
1.1245	0.9723	0.0403	-1.296	2.439
1.1870	0.9873	0.0351	-1.130	2.232
1.2495	0.9907	0.0251	-0.806	1.947
Note: Used Column BV for Background Subtraction.				

Regression of Unsupported Pb-210 Activity vs. Accumulated Sediment Using Background = 1.0620 DPM/g

Lake A-west (core 06VN062)



$y = -1.4247\ln(x) + 2.6203$

$R^2 = 0.96$

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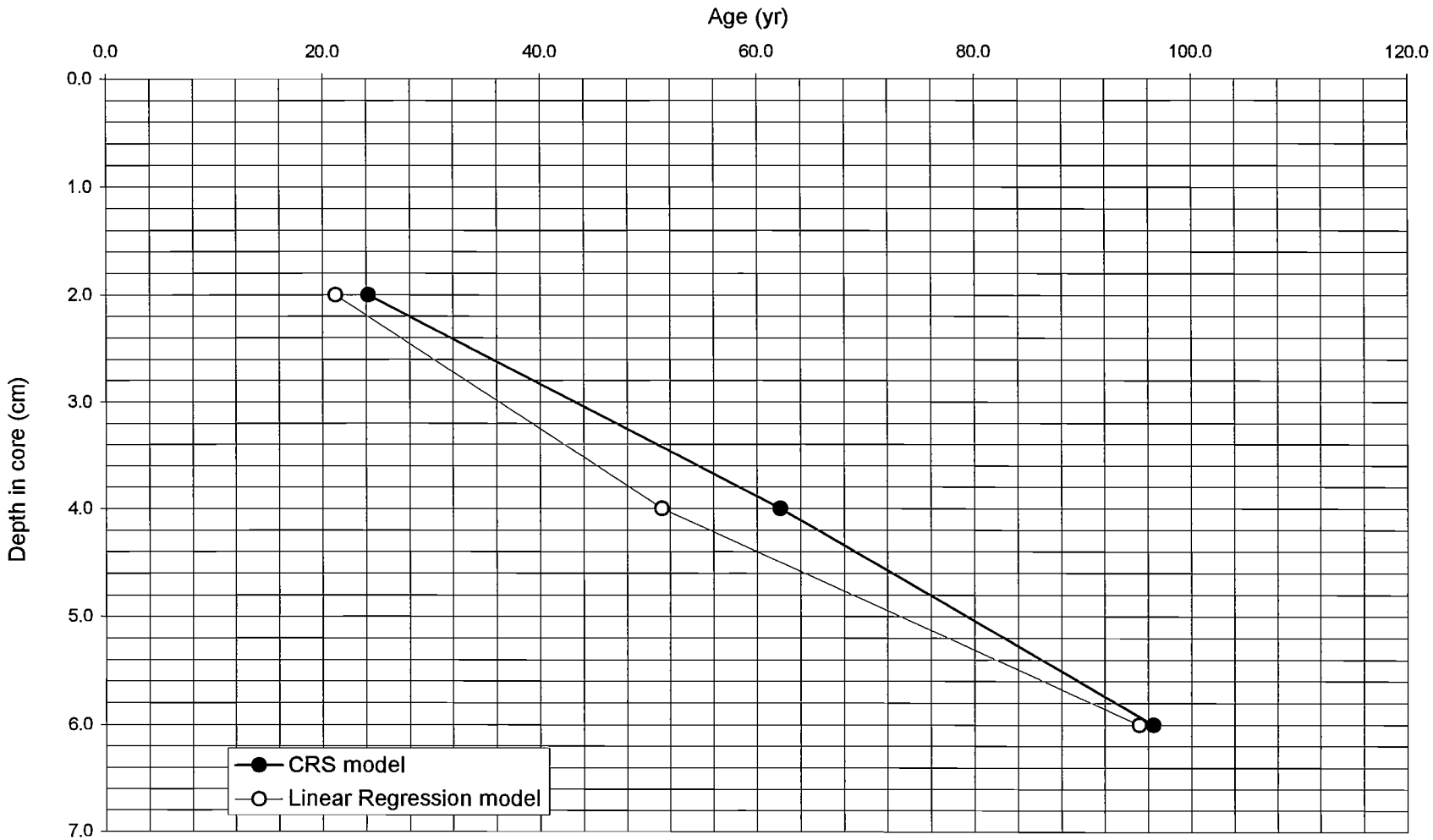
Age (yr) vs. Depth (cm)
CRS Model vs. Linear Regression Model

Lake A-west (core 06VN062)



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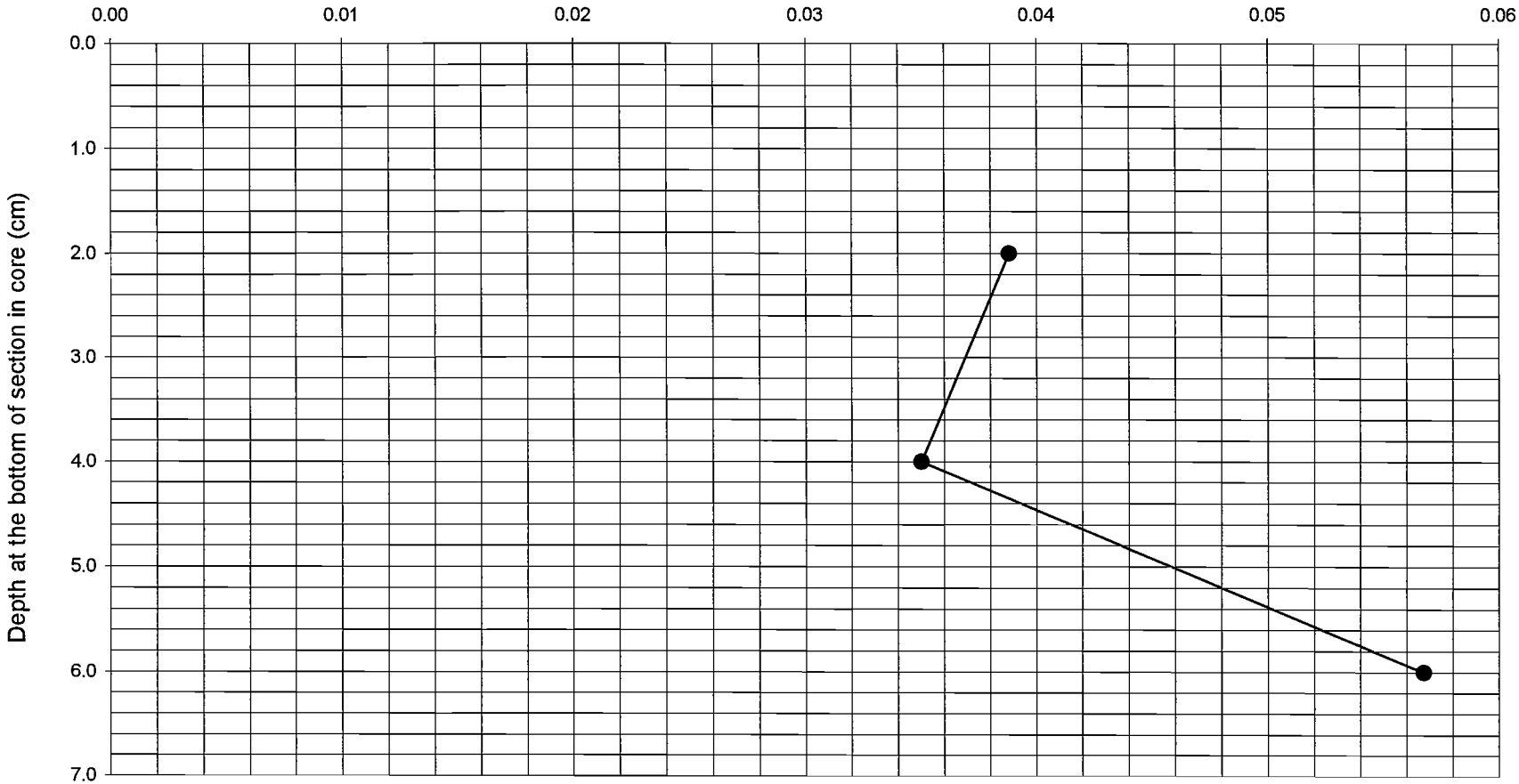
CRS Sediment accumulation rate (g/cm^2/year) vs. Depth at the bottom of section in core (cm)

Lake A-west (core 06VN062)



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Results of Ra-226 Analysis

Flett Research Ltd.
440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
Fax/Phone (204) 667-2505
E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

Client: Hatfield Consultants Ltd. - Allan, Andrew

Address: Hatfield Consultants Ltd., Suite 201, 1571 Bellevue Ave., West Vancouver, BC V7V 1A6

Core ID: Lake A-west (core 06VN062)
Date(s) Received: 29-Dec-06
Sampling Dates(s):
Project:

Transaction ID: 234
PO/Contract No.:
Date(s) Analysed:
Analyst(s): M. Yun

Results authorized by Dr. Robert J. Flett, Chief Scientist

Core ID	Sample ID	Ra-226 Activity (DPM/g dry wt.)	Counting Error: 1 SD (DPM/g dry wt.)
Lake A - west (core 06VN062)	06VN062 - 2	1.00	0.02
Lake A - west (core 06VN062)	06VN062 - 3	0.91	0.01

* : See comments section above for discussion.

SAMPLE ID	06VN062 - 2										
Lucas Cell No.	3										
Number of days since Rn board last run	1										
Sediment dry mass	1.026										
Total Count in Period	3318										
Cell BKG count cpm	0.419										
System Blank (DPM) corresponding to the number of days since Rn board last used.	0.89										
System Efficiency [Obtain from most recent efficiency calibration sheet for same Lucas cell].	0.857										
Count duration (minutes)	1000										
		year	month	day		hour	min	sec	In growth time (days)	Ingrowth factor	Decay Correction
	When sample last stripped	2007	1	24	39106	18	43	0	12.79	0.90168	0.92561
	When cell filled	2007	2	6	39119	13	44	46			
	Beginning time of count	2007	2	6	39119	15	39	3			
Counts/min. (gross)	3.32										
CPM less Cell BKG	2.90										
CPM (decay during count corrected)	3.13										
DPM Sample + System (efficiency corrected)	3.65										
DPM Sample	3.07										
DPM/g	2.99										
Ra-226 DPM/g	1.00	Error	0.017293	DPM/g		1 SD					
Ra-226 pCi/g ⟶	0.45										
Chemist Name	Misuk Yun/R. Flett										
PMT High Voltage +ve	779										
HV Power supply	Model 3002 Canberra										
Alpha Counter	Aptec										
Region of Interest Ch. #s	66-1023										
PMT	6655A - #1										
Preamp	Canberra 2007P tube base										
C:\Documents and Settings\boitom\Local Settings\Temporary Internet Files\OLK1D\[Ra-226 Hatfield-Vietnam Feb 8-07.xls]06VN062-2											
8-Feb-07											
Page 2 of 3											

SAMPLE ID	06VN062 - 3										
Lucas Cell No.	3										
Number of days since Rn board last run	1										
Sediment dry mass	2.199										
Total Count in Period	5499										
Cell BKG count cpm	0.419										
System Blank (DPM) corresponding to the number of days since Rn board last used.	0.89										
System Efficiency [Obtain from most recent efficiency calibration sheet for same Lucas cell].	0.857										
Count duration (minutes)	1000										
		year	month	day		hour	min	sec	In growth time (days)	Ingrowth factor	Decay Correction
	When sample last stripped	2007	1	24	39106	18	43	0	13.82	0.91839	0.92572
	When cell filled	2007	2	7	39120	14	25	3			
	Beginning time of count	2007	2	7	39120	16	18	24			
Counts/min. (gross)	5.50										
CPM less Cell BKG	5.08										
CPM (decay during count corrected)	5.49										
DPM Sample + System (efficiency corrected)	6.40										
DPM Sample	6.00										
DPM/g	2.73										
Ra-226 DPM/g	0.91	Error	0.012271	DPM/g		1 SD					
Ra-226 pCi/g ⟶	0.41										
Chemist Name	Misuk Yun/R. Flett										
PMT High Voltage +ve	779										
HV Power supply	Model 3002 Canberra										
Alpha Counter	Aptec										
Region of Interest Ch. #s	66-1023										
PMT	6655A - #1										
Preamp	Canberra 2007P tube base										
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8-Feb-07											
Page 3 of 3											

Results of Cs-137 Analysis

Flett Research Ltd.

440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
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E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

Client: Hatfield Consultants Ltd. - Allan, Andrew

Transaction ID: 234

Address: Suite 201, 1571 Bellevue Ave., West Vancouver, BC V7V 1A6

PO/Contract No.:

Core ID: Lake A-west (core 06VN062)
Date(s) Received: **29-Dec-06**
Sampling Date(s):
Project:

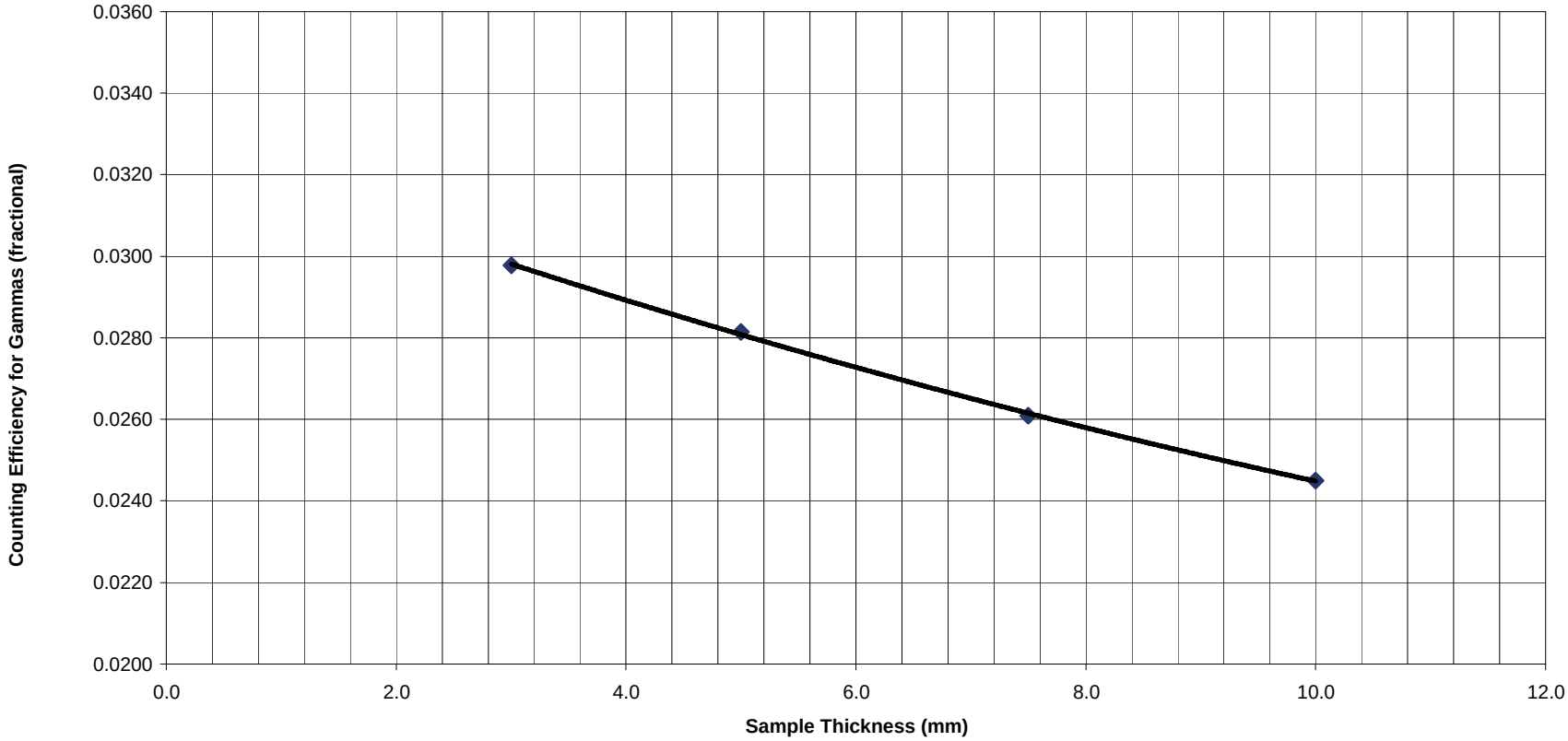
Date(s) Analysed: Jan. 21 - Feb. 11, 2007
Analyst(s): M. Yun/ B. Flett

Results authorized by Dr. Robert J. Flett, Chief Scientist

Sample ID	Upper Depth (cm)	Lower Depth (cm)	Day sample Counted	Month Sample Counted	Year Sample Counted	Integral NET Cs-137 peak	Counting Error 1 STD (counts)	Count time (seconds)	Dry sample weight (g)	Sample thickness (mm)	CPM/g	Efficiency for Gammas fractional	Gammas per min. per gram	DPM/g	Approx. Error DPM/g	Activity pCi/g	Detector Used
06VN062-1	0.00	2.00	22	1	2007	136	62	80000	11.222	3.65	0.01	0.0270	0.3361	0.40	0.18	0.18	GEM
06VN062-2	2.00	4.00	2	2	2007	297	58	80000	10.546	3.53	0.02	0.0293	0.7199	0.85	0.17	0.38	GMX
06VN062-3	4.00	6.00	22	1	2007	165	65	80000	13.583	4.03	0.01	0.0289	0.3152	0.37	0.15	0.17	GMX
06VN062-4	6.00	8.00	21	1	2007	175	56	80000	19.333	5.43	0.01	0.0277	0.2448	0.29	0.09	0.13	GMX
06VN062-5	8.00	10.00	11	2	2007	15	60	80000	26.187	7.30	0.00	0.0263	0.0163	0.02	0.08	0.01	GMX
06VN062-6	10.00	14.00	11	2	2007	20	64	80000	36.603	10.15	0.00	0.0225	0.0182	0.02	0.07	0.01	GEM
Cs-137 Standards																	
GMX 32g 10mm			1	12	2006	27299	170	5000	32.00	10.0	10.237	0.0245	417.74	491.46	3.06	222.38	
GMX 24g 7.5mm			1	12	2006	21795	151	5000	24.00	7.5	10.898	0.0261	417.74	491.46	3.40	222.38	
GMX 15g 5mm			1	12	2006	14700	126	5000	15.00	5.0	11.760	0.0282	417.74	491.46	4.21	222.38	
GMX 9g 3mm			1	12	2006	9331	99	5000	9.00	3.0	12.441	0.0298	417.74	491.46	5.21	222.38	
GEM 32g 10mm			1	12	2006	25155	164	5000	32.00	10.0	9.43	0.0226	417.74	491.46	3.20	222.38	
GEM 24g 7.5mm			1	12	2006	20307	147	5000	24.00	7.5	10.15	0.0243	417.74	491.46	3.56	222.38	
GEM 15g 5mm			1	12	2006	13560	121	5000	15.00	5.0	10.85	0.0260	417.74	491.46	4.39	222.38	
GEM 9g 3mm			1	12	2006	8638	97	5000	9.00	3.0	11.52	0.0276	417.74	491.46	5.52	222.38	

* : See 'Comments' section above for discussion.

Cs-137 Counting Efficiency of Gammas
vs. Sample Thickness (mm) GMX 25% Detector
(December 1, 2006)



$y = 0.0000210x^2 - 0.0010340x + 0.0327238$

$R^2 = 0.9993414$

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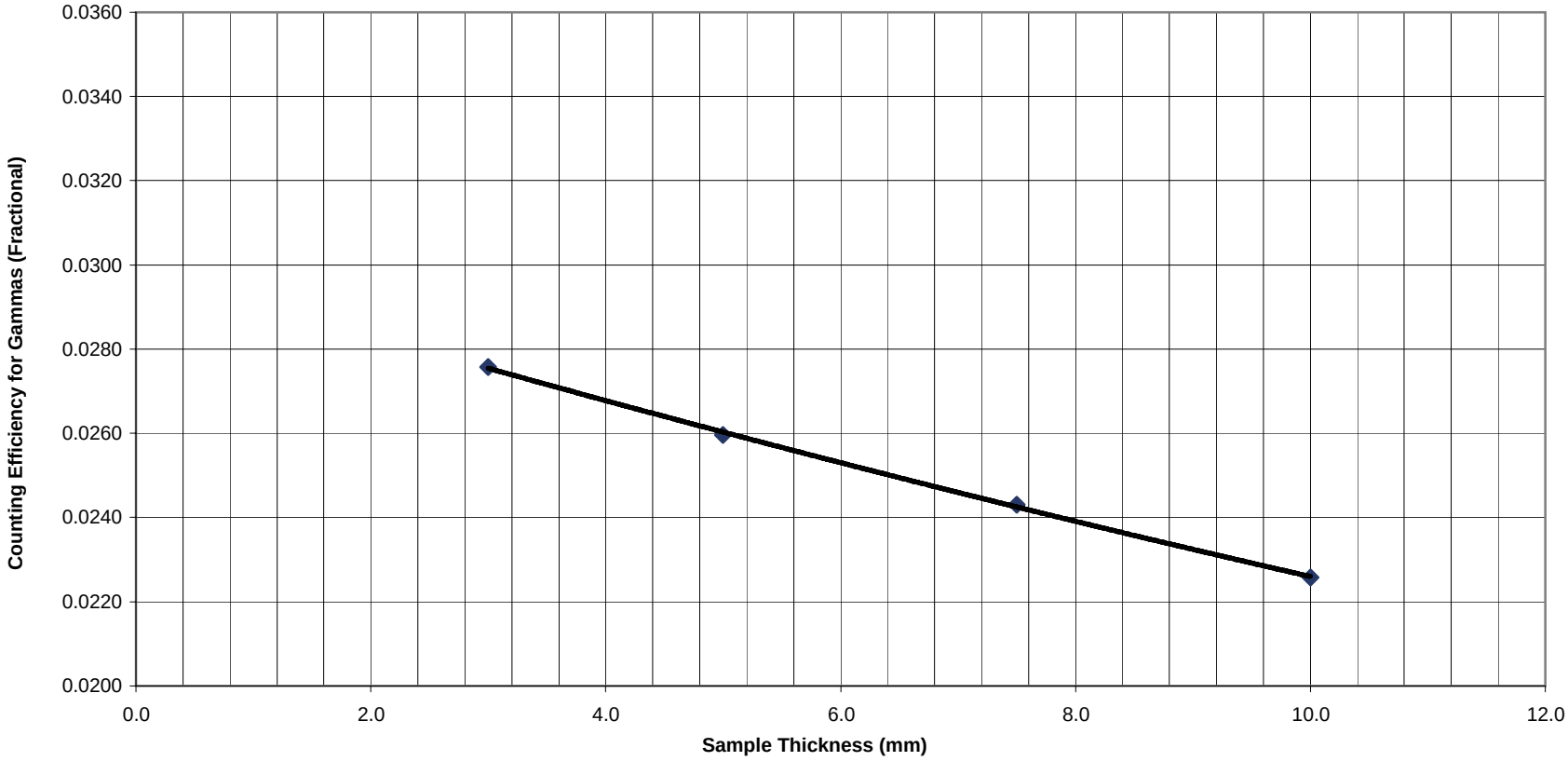
Cs-137 Counting Efficiency of Gammas
vs. Sample Thickness (mm) GEM 19% Detector
(December 1, 2006)



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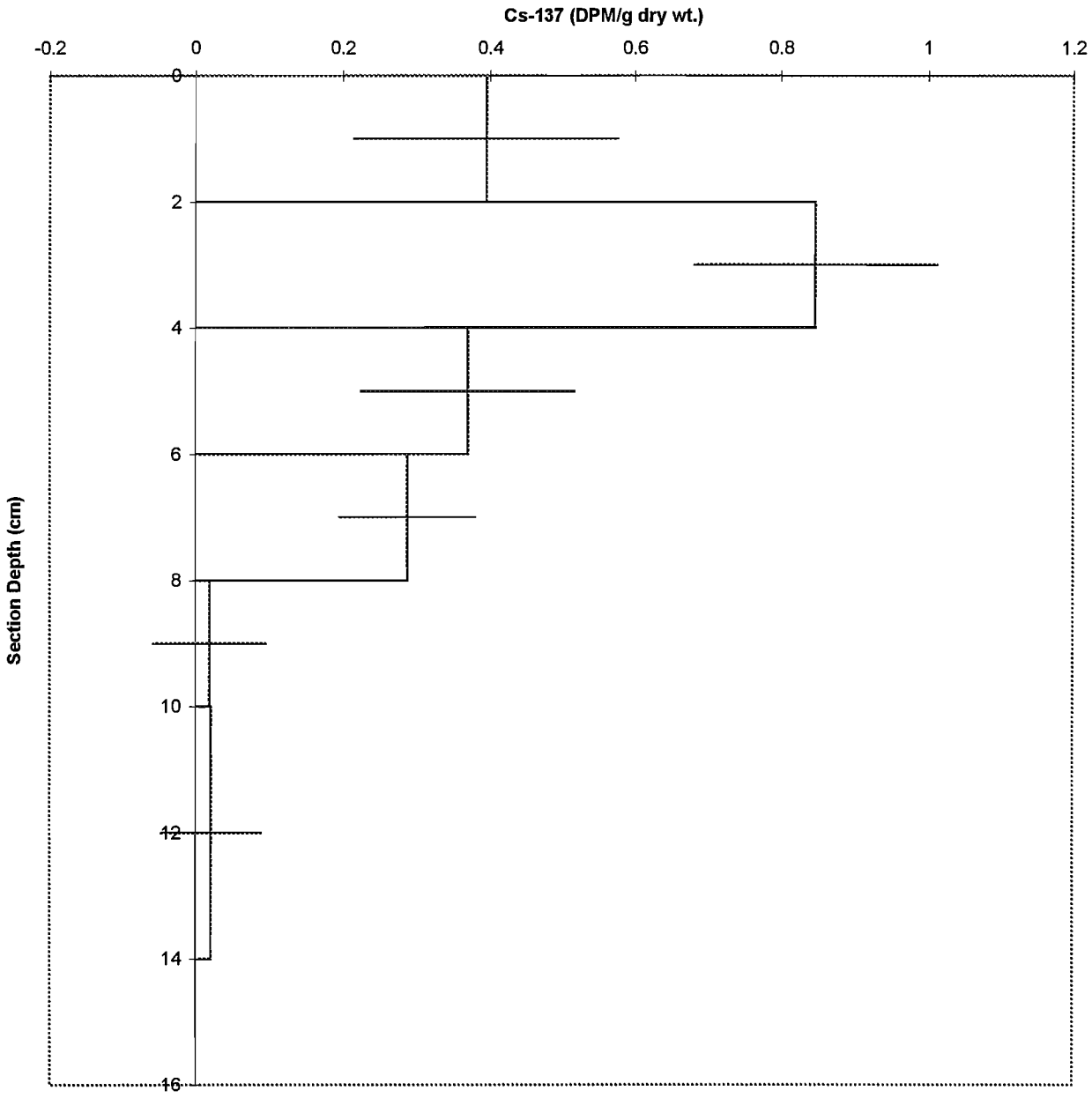
$y = 0.0000102x^2 - 0.0008397x + 0.0299727$

$R^2 = 0.9994367$

Cs-137 in Sediments

Lake A-west (core 06VN062)



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Data by Flett Research Ltd.
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Winnipeg, MB
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3/23/2007

A5.2
Flett Research Ltd.
Methodologies

Flett Research Limited **440 DeSalaberry Avenue** **Winnipeg, Manitoba** **R2L 0Y7**	**Method Summary**	**Dec. 21, 2005**

Overview of the Pb-210 Method as Performed at Flett Research Ltd, Winnipeg, Canada (2004)

Last Modified by R. Flett Dec. 21, 2005

This method is based upon the method of Eakins and Morrison (1978) wherein polonium-210 (the granddaughter of Pb-210) is distilled out of sediments at high temperature, acid digested and finally plated onto silver disks for analysis by alpha spectrometry. It is assumed that Po-210 is in secular equilibrium (i.e. at the same activity) with the Pb-210, a situation expected when sediments are > 2 years old.

Distillation:

A 0.1 - 0.5 g sample of dry sediment (or wet sample providing the equivalent amount of dry sediment) is put into a test tube, treated with hydrochloric acid and spiked with a precisely known aliquot (10 - 20 DPM) of Po-209 tracer (NIST SRM 4326). The sample is dried over night in a heating block at about 120 C. A small Pyrex wool plug is pushed down the test tube on top of the sample and a second Pyrex plug, dampened with water, is inserted in the top most portion of the test tube. The tube is then placed horizontally in a tube furnace at about 500 C for 1 hour (only the bottom half of the tube is actually in the furnace). The volatile chloride form of polonium distils out of the sediment and condenses on the cooler Pyrex plug in the portion of the tube out of the furnace.

Acid Digestion:

After the tubes have cooled, the tube is etched 2 in. from the bottom and the lower section, which contains the sediment, is broken off and discarded. The upper section is placed into a 400 ml tall form beaker, the Pyrex wool forced out of the tube onto the floor of the beaker with a clean glass rod, and 25 ml of conc. HNO_3 is added to the beaker. The beaker, covered with a watch glass, is heated on a hotplate so that it gently refluxes for about 3 hours, or until all brown colouration has disappeared. When cool, the HNO_3 and Pyrex wool is poured into a funnel into a 200 ml beaker. The 400 ml beaker is rinsed 3 times with about 5 ml of 1.5 N HNO_3 and the rinses are poured over the Pyrex wool in the funnel so that any polonium absorbed to the wool is washed into the beaker. The wool in the funnel, following several more rinses with 1.5 N HNO_3, is then squeezed mostly dry with a glass stirring rod, the funnel removed and the wool discarded.

Plating onto Silver:

The acid polonium solution is evaporated to dryness, and then made up to 20 ml with 1.5 N HCl and heated gently until any precipitate is dissolved. The warm solution is poured into a 25 ml beaker which already contains a silver disk and the 200 ml beaker is rinsed with 3 X 2 ml rinses of ascorbic acid solution which are poured into the small beaker. The 25 ml beaker is heated just to boiling for a period of 3 hours. After cooling, the fluid is poured out of the beaker and the disks are rinsed with distilled water and then methanol. They are placed on a paper towel and oven dry for 1 hour at 60 C.

Counting by Octet PC Alpha Spectrometer:

The silver disks are placed into an Ortec 'Octet' alpha spectrometer (one silver disk in an evacuated chamber at a time) for a 30,000 second counting period. The samples are monitored for Po-210 and Po-209 isotopes with a 300 mm^2 PIPS or surface barrier detectors.

Data Handling:

The data are then entered into an Excel spreadsheet which plots the activity vs. depth (actually cumulative mass) and which also models the data to select the most probable sedimentation accumulation rate. The Po-209 counts allow precise measurement of the overall chemical yield and thereby permits calculation of the specific activity of the Po-210 in the original sediment sample. The Appleby and Blais publications (see below) are useful references describing the modelling procedures.

Detection Limit:

The minimum detection limit (MDL) for a 0.5 g dry sample is approx. 0.2 DPM Po-210 /g dry sample at a 95 % confidence level for a 30,000 sec counting time. This can vary slightly and depends upon the system blanks, detector and the recovery efficiency of each sample.

Quality Assurance:

A duplicate is run every 10^{th} sample provided sufficient material is available. A blank is run every 20^{th} sample. Detector blanks are run every 90 days. All data are reviewed by chief scientist before release.

References:

1. Eakins, J.D. and R.T. Morrison. 1978. A new procedure for the determination of Lead-210 in lake and marine sediments. International Journal of Applied Radiation and Isotopes. 29: 531 - 536.

2. Appleby, P.G. and F. Oldfield , 1978. The calculation of Lead-210 dates assuming a constant rate of supply of unsupported Pb-210 to the sediment Catena 5: 1-8

3. Flynn, W.W. 1968. The determination of low levels of Polonium-210 in environmental materials. Anal. Chim. Acta . 43: 221 – 227.

4. Blais, Jules M., Jacob Kalff, R. Jack Cornett & R. Douglas Evans. 1995. Evaluation of Pb-210 dating in lake sediments using stable Pb, Ambrosia pollen, and Cs-137. J. Paleolimnol. 13: 169 – 178.

Flett Research Limited **440 DeSalaberry Avenue** **Winnipeg, Manitoba** **R2L 0Y7**	**Method Summary**	**June 12, 2006**

Overview of the Ra-226 Determination by Rn-222 Emanation as Performed at Flett Research Ltd, Winnipeg, Canada (2006)

Last Modified by R. Flett June 12, 2006

The method follows that of Mathieu et al.(1998)[1]. A 0.5 – 2 g sediment or soil sample previously dried at 60 C and ground is digested in 15 ml gently boiling concentrated nitric acid for about 6 hr. Digest is evaporated to 5 ml, made up to 20 ml with 1.5 N nitric acid, again evaporated to 5 ml, and then made up to 50 ml with 1.5 N nitric acid. The solution is quantitatively transferred to an acid clean 300 ml narrow mouth bottle and made up to 200 ml with DI water. The bottle is sealed with a sparger assembly and stripped with He for an hour to remove any pre-existing Rn-222. The sparger tubes are sealed with pinch clamps and the sample set aside for at least 4 days to allow ingrowth of Rn-222 from the Ra-226. Radon is stripped from the aged sample with recirculating He, collected on charcoal at about -40 C, and then thermally desorbed at ~ 320 C with He into a 150 ml Lucas scintillation cell and the alpha disintegrations counted for 1000 min. with a bare photomultiplier tube and multichannel analyser. Stripping efficiency is essentially 100 % and overall efficiency about 85 % as determined by an EPA Ra-226 solution[2]. A system blank is run at the beginning of each sample lot and efficiency checked about every 30 samples. Detection limit for Ra-226 is about 0.1 DPM/g of dry sediment. All data are reviewed by chief scientist before release.

References:

1) Mathieu, G.G., P.E. Biscaye, R.A. Lupton and D.E. Hammond. System for measurement of ^{222}Rn at low levels in natural waters. 1988. Health Physics 55: 989 - 992.

2) Uranium-Radium in Water Performance Evaluation Study Febuary 13, 1998 data. Environmental Protection Agency, National Exposure Research Laboratory, Environmental Sciences Division, Las Vegas, Nevada.

Flett Research Limited **440 DeSalaberry Avenue** **Winnipeg, Manitoba** **R2L 0Y7**	**Method Summary**	**July 14, 2006**

Overview of Cs-137 Measurement in Sediment Core Sections by Gamma Spectrometry Using a HPGe (High-Purity Germanium) Coaxial Detector as Performed at Flett Research Ltd., Winnipeg, Canada (2006)

Scope:

Cs-137 is a product of nuclear fission not found in the environment prior to the first above ground nuclear bomb test in 1945. Subsequent above ground testing of fusion bombs in the early 1950's served to introduce larger quantities of Cs-137 high into the atmosphere and cause widespread distribution of the radioisotope around the earth. Cs-137 is most easily measured by counting the gamma emissions at 662 KeV that are emitted in 85.2 % of the decays. The gamma radiation is relatively strong and therefore penetrates through several centimeters of sediment material with little attenuation. For our purposes, self absorption of the gamma radiation by the sediment material is considered to be similar to that occurring in the spiked clay reference material employed for calibrating the counting efficiency. The detection limit is on the order of 0.5 DPM/g for an 80000 second counting period when measuring 10 g of sample.

Cs-137 has a half life 30 years and therefore even the earliest sediment Cs-137 is expected to be present at a minimum of 25 % of the original activity when it entered the environment. Nuclear atmospheric fallout records indicate that Cs-137 deposition significantly increased about 1955, initially peaked in 1959, decreased and then peaked at much higher levels in 1963. A rapid drop in Cs-137 inputs occurred after 1963 due to the above ground nuclear test ban, and by 1969, inputs of the isotope were at similar levels to those in 1954.

Overview:

Our HPGe gamma detector assemblies are club shaped and designed to operate vertically, with the narrow part sitting in a dewar of liquid nitrogen that serves to cool the upper part containing the HPGe crystal. The heat is pulled from the crystal by a thick copper rod that runs down the length of the cryostat into the dewar. The detector crystal sits in a 3 inch diameter cylindrical casing that projects about 12 inches vertically above the dewar. We have constructed a 2 inch thick lead castle around the detector so that detection of external radiation from the environment is minimized. The samples sit on the top of the detector, similar to a cookie on a small table. Typically, samples placed directly on the detector will weigh less than 100 g and have a smooth lower surface. Access to the detector (for changing samples) is gained by removing the lead castletop (approx. 40 lb).

The shape and placement of the sample in relation to the detector are very important and significantly affect the counting efficiency. Ideally the shape and placement of the sample and calibration standard should be identical. However, in actual practice, the amount of sample

available is often variable and therefore a set of calibration standards of various sizes needs to be employed. In our laboratory all samples and standards that are analysed by HPGe detectors are cylindrical shapes of 2.187 in. diameter. Only the thickness of the cylinder varies. We use four different thicknesses of NIST Cs-137 spiked clay reference material to establish the counting efficiency as a function of sample thickness. A regression of the four point efficiency curve yields an equation which is used to determine the Cs-137 counting efficiency for each sample.

The density of samples can be highly variable and therefore all samples are compressed at about 3000 psi in a special hydraulic press that produces pancakes of 2.187 in diameter of maximum and relatively similar density. The pancakes are of the best possible counting geometry and permit the highest counting efficiencies. The pancakes are often durable enough to be placed directly into our standard 2.178 in diameter aluminum planchet (sample cup). In the case of very sandy samples, the press procedure does not yield a monolithic pancake and it is necessary to pour the sample into a planchet and tamp it flat and level with a cylinder of the same diameter. The thickness of all samples is recorded for later use in the calculation of counting efficiency. Standards of known thickness and weight are created in exactly the same manner but are hermetically sealed to prevent any possible leakage of the material onto the detector. Since the standards are created only once but used many times, an additional thin polyethylene membrane encloses the standards to increase the durability.

At the beginning of a sample batch, a gamma spectrum for a CANMET Th-U ore reference material standard is acquired with the HPGe detector and associated software. This spectrum allows energy calibration of the detector. Next a series of 4 different thicknesses of NIST Cs-137 spiked clay standard are used to determine the counting efficiency of the detector for Cs-137 in samples of varying thickness. The spectra are also used to confirm the precise spectral position of the 661.6 KeV Cs-137 peak. A 80,000 sec. background spectrum is next run on an empty planchet to determine background peak intensities for Cs-137. A series of 10 samples are then typically counted for 80,000 sec. each, followed by a NIST spiked clay reference material standard that serves to check and correct for drift in the energy calibration. Background spectra of 80,000 sec. duration are acquired every 30 days and are subtracted from all other spectra acquired in the period before the next background is measured. The counting efficiency as a function of sample thickness is also redetermined at this time and applied to subsequent samples. Data taken from the HPGe system is entered onto EXCEL97 spreadsheets which calculate the Cs-137 detector efficiency, and finally, the original activity of Cs-137 in the sample at the time of sampling.

References:

HASL-300, 28th Edition. Vol. I Rev. 0 February 1997
Environmental Measurements Laboratory, U.S. Department of Energy
Section 4.5.2 – Radiometrology
HASL-300

Appendix A6

Sample Collection Forms, December 2006

A6.1
Consent Form and Questionnaire for Blood Donors

Case ID #_____ Sample Id # _____

Informed Consent Document
Danang Dioxin Assessment and Mitigation Project:
Questionnaire and Blood/Breast Milk Sampling

1. **Title of the research project:**
Danang Dioxin Assessment and Mitigation Project ("DDAMP")

2. **Sponsor of Study**
This study is sponsored by the Ford Foundation.

3. **Names of the researchers**
All researchers are affiliated with Hatfield Consultants, Office 33, and Ministry of Health:

- Principal Investigator: Thomas Boivin, M.Sc., R.P. Bio.
- Co-Investigators: Le Ke Son, M.D.
- Wayne Dwernychuk, Ph.D., R.P. Bio.
- Grant Bruce, M.Sc.
- John Andrew Allan, BA, R.P. Bio.
- Daniel Moats, B.Sc., R.P. Bio.
- Tran Manh Hung, MD
- Nguyen Hung Minh, Ph.D.

4. **Description of the research**
Recent studies have shown elevated levels of chemicals (i.e., dioxins and furans) in soil and sediment samples obtained from the Da Nang Airbase. There are hundreds of different types of dioxins and furans. One particular dioxin (referred to as 'TCDD') has been identified as a human carcinogen by government and international agencies. The main objective of the DDAMP is to assess the levels of dioxins and furans in the environment and human population in the vicinity of the Da Nang Airbase, and to assist with protection of human health and eventual clean-up of the area.

The study will investigate the contribution of many potential sources of exposure to these chemicals, including: soils, sediments, fish, ducks, vegetables and other food items. Residents from the vicinity of Da Nang Airbase will be the key focus of the study. A subset of residents from the vicinity of Da Nang Airbase will be selected randomly (by chance, like tossing a coin) to be asked to participate in the study. Subjects invited to participate in this study will be asked to complete a questionnaire and provide a blood and/or breast milk sample. Blood and breast milk samples will be analyzed only for selected dioxins, furans and PCBs, along with serum lipids (i.e., fats in the blood).

Persons who complete the questionnaire and provide a blood/milk sample will be asked to allow soil or other food samples to be collected for analyses.

5. **Description of human subject involvement**
You are being asked to participate in this study because you live in the vicinity of Da Nang Airbase, and you were randomly selected.

To be eligible for this study, subjects must be at least 18 years old and must have lived at their current residence continuously for the last 5 years (except for vacations or other absences that total less than 6 months).

Subjects will be asked to complete an interview with a trained interviewer from Hatfield, Office 33 or Ministry of Health. The interview will include questions about residential history, occupational history, recreational activities (e.g., fishing), pregnancy history (for women only), and diet.

Subjects will be asked to provide a blood sample of 80 milliliters. Blood samples will be analyzed only for selected dioxins, furans, PCBs, and serum lipids. No other analyses will be performed on blood samples; any left over blood may be stored or 'banked' for future analyses.

Subjects must meet the following blood/milk sample eligibility criteria:

- Weigh at least 45 kg (100 pounds)
- No chemotherapy in the last 6 months
- No history of bleeding or clotting disorders
- Not currently taking blood thinner medications
- Not currently pregnant
- Not currently diagnosed or treated for anemia
- Not currently diagnosed or treated for malaria or dengue fever
- Not currently diagnosed or treated for Hepatitis A, B or C
- Not currently diagnosed or treated for HIV Aids
- No blood donation within the last 8 weeks

Please confirm whether you meet the blood sample eligibility criteria by initialing one of the following statements:

- I meet the blood/milk sample eligibility criteria.

- I do NOT meet the blood/milk sample eligibility criteria.

If you meet the blood sample eligibility criteria, please confirm whether you want to provide a blood sample for analyses in this study by initialing one of the following statements:

- I want to provide a blood/milk sample.

- I do NOT want to provide blood/milk sample.

6. **Length of human subject participation**
The interview will last approximately 20-30 minutes. There will be only one interview. The interview will be conducted at a time and place that is convenient to the subject. Some subjects may be re-contacted (usually by phone) to verify and/or clarify answers on the questionnaire.
Blood sample collection will be scheduled for a time and place that is convenient to the subject. There will be only one blood sample collected, and this should take about 15 minutes.

7. **Risks & discomforts of participation**
The only physical risk associated with participation in this study is related to obtaining the blood or milk sample. The blood sample will be obtained by a trained, professional phlebotomist using sterile, disposable equipment. The risks of bleeding, bruising, or infection are small, and similar to having blood drawn at your doctor's office. Some subjects report a feeling of faintness or brief dizziness upon blood donation. However, the volume of blood (80 milliliters) is small, and will be replaced quickly by your body. For comparison, donation of blood normally involves about 500 milliliters, and it is permissible for a healthy person to donate this much blood as often as every 8 weeks.

Breast milk samples (40-50 ml) will also be obtained by trained medical professionals. Samples will be collected by squeezing milk directly from the breast into a pre-cleaned glass jar; the mother can do this herself, with assistance from the medical personnel.

The interview will include questions about residential history, occupational history, recreational activities (e.g., fishing), and diet. The interview does not include questions that might be considered potentially embarrassing (e.g., use of illegal drugs or other criminal behavior).

You are unlikely to benefit directly from participation in this study, except that you can choose to learn the results of tests for dioxins, furans, PCBs and lipids in your blood. However, this study will increase the scientific understanding of how dioxins, furans and PCBs get into people's blood in Da Nang.

You should be aware that almost everyone has measurable levels of dioxins, furans and/or PCBs in their blood. And, there is no medical treatment for removing these chemicals from our bodies.

Please indicate whether you want to receive the results of analyses of your Blood/milk for dioxins, furans, PCBs and lipids by initialing one of the following choices:

- I want to receive results of analyses for dioxins, furans, PCBs and lipids in my blood/milk.

- I do NOT want to receive results of analyses for dioxins, furans, PCBs and lipids in my blood/milk.

You can change your decision about receiving results by notifying the Principal Investigator in writing.

8. **Management of Physical Injury**
Should you get physically injured as a result of research-related procedures, the DDAMP team will provide first-aid medical treatment. Additional medical treatment will be provided, if the DDAMP team determines that it is responsible to provide such treatment. However, the DDAMP team does not provide compensation to a person injured while taking part as a subject in research.

9. **Costs to subject resulting from participation in the study**
There are no costs associated with participation in the questionnaire and blood sampling phase of this study.

10. **Payments to subject for participation in the study**
Subjects who agree to participate in this study will be paid $20 USD for completing the questionnaire and providing a blood and/or milk sample. Subjects who provide both a blood and milk sample will be paid $40 USD. An additional $5 will be paid for collection of any additional soil, sediment or food items from your household.

11. **Confidentiality of records/data**
Individual subjects will not be identified in any reports on this study. Research records will be kept confidential to the extent possible.

The researchers will not make any disclosure of information that would identify you as a participant in this research unless you provide written authorization to the Principal Investigator to do so.

12. **Contact Information**
If you have questions about this research, you may contact:
Thomas Boivin, M.Sc. R.P. Bio (tboivin@hatfieldgroup.com)
Nguyen Hung Minh, MD (vpbcd33@yahoo.com.vn)
Tran Manh Hung, MD (hungdivision1080@yahoo.com)

13. **Voluntary nature of participation**
Your participation in this project is voluntary. Even after you sign this informed consent document, you may decide to stop further participation in the study at any time without penalty or loss of benefits to which you may otherwise be entitled. Data and specimens that have already been collected will remain in the study. You may skip or refuse to answer any survey question without affecting your study compensation.

14. **Documentation of the consent**
One copy of this document will be kept together with the research records of this study. Also, you will be given a copy to keep.

15. **Consent of the subject:**
I have read [or been informed] of the information given above. Mr. Boivin or his representative has offered to answer any questions I may have concerning the study. I hereby consent to participate in the study.

ADULT SUBJECT OF RESEARCH

_____ _____

Consenting signature Printed Name

_____ _____

Witness signature Printed Name

Date

CASE ID # _____ For Office Use Only

HATFIELD / OFFICE 33 / 10-80 DIVISION

DIOXIN ASSESSMENT AND MITIGATION PROJECT

Sample ID Number: _____

1 Interviewer's ID Name and No.: _____

2 Date Interview Began: _____

3 Date Interview Completed: _____

4 Time Interview Began: _____am/pm

5 Time Interview Completed: _____ am/pm

6 Length of Interview: _____

The following statement must be read to all respondents:

Your participation in this project is completely voluntary. Even though you signed the informed consent document, you may decide to leave the study at any time. You may skip or refuse to answer any survey question that makes you feel uncomfortable.

SECTION AA. INTRODUCTION TO QUESTIONNAIRE

We would just like to confirm, before we start, that you have lived in this residence continuously for the last five years. That would mean that you moved in on, or prior to, December 1, 2001.

Yes ____ No _____

AA0. EXACT TIME NOW: _____ am/pm

AA1. Please tell me <u>your</u> date of birth.

_____/_____/_____
(MM) (DD) (YYYY)

Section A: Health

A1. SEX OF THE RESPONDENT: MALE FEMALE

A2. How tall are you? _____m _____cm

A3. How much do you weigh? _____kg

A4. Have you lost weight in the past 12 months? Yes _____ No _____
A5. How much weight did you lose? _____kg

A6. Have you gained weight in the past 12 months? Yes _____ No _____

A7. How much weight did you gain? _____kg

A7a. Do you, or anyone in your family, have Type II diabetes?

Yes _____ No _____ Don't Know_____

If yes, describe who:_____

Comments:_____
_____
_____
_____

FEMALES:

A8. How many times have you been pregnant in your life? Please include babies born alive, stillborn, aborted, miscarried, or ectopic or tubal pregnancies.

Pregnancies _____ None _____ Don't Know _____

A8a. How many times have you had a miscarriage in your life?

Miscarriages _____ None _____ Don't Know _____

A8b. How many times have you had a stillborn child in your life?

Stillborn children _____ None _____ Don't Know _____

A9. How many children have you given birth to? (Please only count live births.)

Children _____ None _____ Don't Know _____

A10. For each child, please provide the year of birth and an estimate of the number of months that your child was breast-fed as the main source of nutrition. Let's start with your first child: (*IF MORE THAN 8 CHILDREN, PLEASE USE THE MARGINS. IF NOT BREAST-FED, RECORD 00 MONTHS)*

CHILD	**NAME**	**A10a. What is the child's year of birth? (*ENTER YYYY*)**	**A10b. How many months was this child breast-fed?**
1	_____	Year: __ __ __ __	# Months: _____
2	_____	Year: __ __ __ __	# Months: _____
3	_____	Year: __ __ __ __	# Months: _____
4	_____	Year: __ __ __ __	# Months: _____
5	_____	Year: __ __ __ __	# Months: _____
6	_____	Year: __ __ __ __	# Months: _____
7	_____	Year: __ __ __ __	# Months: _____
8	_____	Year: __ __ __ __	# Months: _____

A10c. Have you or any of your children had serious medical problems?

Yes _____ No _____ Don't Know _____

If Yes, describe:

_____

_____

SMOKING HABITS:

A11. Have you ever smoked cigarettes or any other kind of tobacco (e.g., pipe-Thuoc) in your life? (If you have smoked less than 20 packs of cigarettes in your lifetime, or less than 1 cigarette a day for 1 year, then please answer “No”.)

Yes _____ No _____ Don’t Know _____

A12. How old were you when you first started cigarette smoking?

Age: _____ Don’t Know _____

A13. Do you smoke cigarettes now (that is, as of one month ago)?

Yes _____ No _____ Don’t Know _____

A14. As of one month ago, on average, how many cigarettes do you smoke per day?

Cigarettes/Day: _____ Don’t Know _____

A15. What is the total number of years you have smoked?

Cigarettes/Day: _____ Don’t Know _____

A16. On average, for the entire time you have smoked, how many cigarettes did you smoke per day?

Cigarettes/Day: _____ Don’t Know _____

A17. If you have stopped smoking cigarettes completely, how old were you when you stopped?

Age Stopped: _____ Don’t Know _____

A18. What is the total number of years that you smoked?

Years: _____ Don’t Know _____

A19. On average, for the entire time that you smoked, how many cigarettes did you smoke per day?

Cigarettes/Day: _____ Don’t Know _____

Comments:_____
_____
_____
_____

A20. I have a few other questions about your health.

	YES	NO	DON'T KNOW
A20a. Do you have hemophilia or any other blood clotting or bleeding disorder?			
A20b. Have you received chemotherapy in the past 6 months?			
A20c. Do you weigh less than 40 KG (90 pounds)?			
A20d. Are you currently taking medication to thin your blood? (IF YES, PROBE: This does not include aspirin.)			
A20e. Have you been currently diagnosed or treated for anemia?			
A20f. Have you been currently diagnosed or treated for malaria?			
A20g. Have you been currently diagnosed or treated for dengue fever?			
A20h. Have you been currently diagnosed or treated for Hepatitis?			
A20i. Have you been currently diagnosed or treated for HIV?			
A20j. Have you donated blood within the last 8 weeks?			
A20k. Are you currently pregnant?			
A20l. Have you breastfed a child in the last 6 months?			
A20m. R ANSWERED "NO" TO ALL THE A23 QUESTIONS AND IS ELIGIBLE TO GIVE A BLOOD SAMPLE.			

Comments:_____
_____
_____
_____

Section B: Residential History

B1. Now I need to get the addresses for where you have lived during the last 30 years. If you lived outside of Da Nang during this time, please just tell me the city, town and province.

COLLECT ADDRESSES UNTIL THE BEGIN YEAR IS 1975 OR EARLIER.

B2a. What is your current address, including ward, commune, district, city, and province?

_____

_____

B2b. What year did you move into this address? _____

B3a. Please give me the address, including ward, commune, district, city, and province of the previous residence you lived in.

_____

_____

B3b. During what years did you live at this address?

Begin Year _____ End Year _____

B4a. Please give me the address, including ward, commune, district, city, and province of the previous residence you lived in.

_____

_____

B4b. During what years did you live at this address?

Begin Year _____ End Year _____

B5a. Please give me the address, including ward, commune, district, city, and province of the previous residence you lived in.

_____

_____

B5b. During what years did you live at this address?

Begin Year _____ End Year _____

B6a. Please give me the address, including ward, commune, district, city, and province of the previous residence you lived in.

_____

_____

B6b. During what years did you live at this address?

Begin Year _____ End Year _____

B7a. Please give me the address, including ward, commune, district, city, and province of the previous residence you lived in.

_____

_____

B7b. During what years did you live at this address?

Begin Year _____ End Year _____

B8a. Please give me the address, including ward, commune, district, city, and province of the previous residence you lived in.

_____

_____

B8b. During what years did you live at this address?

Begin Year _____ End Year _____

Comments:_____
_____
_____
_____

Section C: Property Use

PROPERTY USE

C1. Do you or does anyone else in your household have a vegetable garden on this property?

Yes ____ No ____ Don't Know _____ Comments _____

C2. Did you, yourself, ever use weed killers on your property?

Yes ____ No ____ Don't Know _____ Comments _____

C3. Did you ever live on a property where trash or yard waste was burned?

Yes ____ No ____ Don't Know _____ Comments _____

C4. Did you ever live on a property where a wood burning fireplace, wood burning stove or charcoal burning stove was used regularly?

Yes ____ No ____ Don't Know _____ Comments _____

C5. Was a property that you lived in ever damaged by a fire while you lived there?

Yes ____ No ____ Don't Know _____ Comments _____

C6. To your knowledge, has any portion of your property ever been flooded during the monsoon rains?

Yes ____ No ____ Don't Know _____ Comments _____

C7. Did flood waters ever enter into any of the living areas of your home, either inside or outside the home?

Yes ____ No ____ Don't Know _____ Comments _____

Comments:

_____

_____

_____

_____

_____

Section D: Work History

WORK HISTORY

D1. Have you ever worked on, or been inside, the Da Nang Airbase?

Yes ____ No ____ Don't Know _____ Comments _____

D2. Have you ever worked in waste disposal including incinerator, wastewater, solid waste, and scrap metal collection?

Yes ____ No ____ Don't Know _____ Comments _____

D3. Have you ever worked in a factory?

Yes ____ No ____ Don't Know _____ Comments _____

D4. Has your work ever involved spraying chemicals to kill plants, weeds or insects?

Yes ____ No ____ Don't Know _____ Comments _____

D5. Have you ever worked in the paper industry?

Yes ____ No ____ Don't Know _____ Comments _____

D5a. Have you ever worked in the electrical industry, including working for an electricity company?

Yes ____ No ____ Don't Know _____ Comments _____

D6. Have you ever worked in the production, formulation, use or disposal of:

D6a. Chlorophenol (wood preservatives)?

Yes _____ No _____ Don't Know _____

D6b. Agent Orange?

Yes _____ No _____ Don't Know _____

D6c. Vietnam wartime herbicides other than Agent Orange such as Agent Purple, Agent Pink, Agent Blue, and Agent Green?

Yes _____ No _____ Don't Know _____

D6d. Other herbicides, weed killers, insect killers, or vegetation killers?

Yes _____ No _____ Don't Know _____

D6e. PCP or pentachlorophenol?

Yes _____ No _____ Don't Know _____

D6f. DDT?

Yes _____ No _____ Don't Know _____

D6g. Trichlorophenol and its derivatives (such as 2,4,5-T)?

Yes _____ No _____ Don't Know _____

D6h. PCBs?

Yes _____ No _____ Don't Know _____

D6i. Electrical transformers?

Yes _____ No _____ Don't Know _____

D7. Have you ever <u>worked</u> at the Da Nang Airbase?

Yes _____ No _____ Don't Know _____

If Yes, what years? _____

D8. Have you ever been exposed to a chemical spill or chemical accident while working at the Da Nang Airbase?

Yes _____ No _____ Don't Know _____

Describe _____

D9. Have you ever been exposed to any fire involving chemicals while working at the Da Nang Airbase?

Yes _____ No _____ Don't Know _____

Describe _____

D10. Have you ever worked at any other factory or industry?

Yes _____ No _____ Don't Know _____

Describe _____

D11. Have you ever been exposed to a spill involving industrial chemicals anywhere (else)?

Yes _____ No _____ Don't Know _____

D12. Have you ever been exposed to a fire involving industrial chemicals anywhere (else)?

Yes _____ No _____ Don't Know _____

D12a. Did you ever collect or use 200 litre (55-gallon) barrels or drums in the Danang Area?

Yes _____ No _____ Don't Know _____

D12b. Do you remember any markings or stripes on the barrels or drums?

Yes _____ No _____ Don't Know _____

If yes, describe: _____

D13. Have you ever lived with someone who worked at the Da Nang Airbase?

Yes _____ No _____ Don't Know _____

Describe _____

D14. Did you live with them while they worked at the Da Nang Airbase?

Yes _____ No _____ Don't Know _____

D15. Did you serve in the military during the American War?

Yes ____ No ____ Don't Know _____ Where did you serve? _____

_____

D16. Did you serve in areas where Agent Orange and other defoliants were used?

Yes _____ No _____ Don't Know _____

D17. Did you personally handle or work with Agent Orange and/or other defoliants?

Yes _____ No _____ Don't Know _____

Section E: Fish (All species, including Eels) and Ducks

E1. Have you ever gone fishing anywhere in Danang?

Yes _____ No _____ Don't Know _____

If Yes, when (describe):

_____

_____

E2. Did you ever fish in the Sen Lakes on Da Nang Airbase (Ho Sen A, B, C)?

Yes _____ No _____ Don't Know _____

If Yes, when (describe):

_____

_____

E3. Did you ever fish in Xuan Ha Lake (Ho Xuan Ha)?

Yes _____ No _____ Don't Know _____

If Yes, when (describe):

_____

_____

E4. Did you ever fish in March 29 Lake (Ho Cong Vien 29/3)?

Yes _____ No _____ Don't Know _____

If Yes, when (describe):

_____

_____

E5. Did you ever fish in the Thao Gian Lake (Ho Thao Gian)?

Yes _____ No _____ Don't Know _____

If Yes, when (describe):

_____

_____

E6. Did you ever fish in the Phu Loc River?

Yes _____ No _____ Don't Know _____

If Yes, when (describe):

_____

_____

E7. What species did you catch?

Sen Lakes (A, B, C)_____

Ho Xuan Ha Lake_____

Ho Cong Vien 29/3 (March 29 Lake) _____

Ho Thao Gian (Thao Gian Lake _____

Phu Loc River_____

Other Areas_____

E8. How much fish do you catch from each of the above lakes and Phu Loc River on average each week?

Mark: 0 _____ 1 _____ 2 _____ 3 _____ 4 _____ 5 _____

5 - 10 _____ 10-20 _____ >20 _____

Sen Lakes (A, B, C)_____

Ho Xuan Ha Lake_____

Ho Cong Vien 29/3 (March 29 Lake) _____

Ho Thao Gian (Thao Gian Lake _____

Phu Loc River_____

Other Areas_____

E9. Did you buy fish from local markets?

Yes _____ No _____ Don't Know _____

If Yes, when (describe):

_____

_____

E10. How much fish do you buy from local markets each week?

0 ____ < 1kg _____ 1-2 kg _____ 2-5 kg _____ 5-10 kg _____ >10 kg _____

E10 a. Which markets do you buy your fish? Specify:

_____

_____

E11. Did you buy ducks from local markets?

Yes _____ No _____ Don't Know _____

If Yes, when (describe):

_____

_____

E12. Did you raise, harvest or turn ducks from Da Nang Airbase?

Yes _____ No _____ Don't Know _____

If Yes, when, where and for how many years? (describe):

_____

_____

E13. Did you harvest any other animals from Da Nang Airbase (e.g., frogs, birds, rats, etc.)

Yes _____ No _____ Don't Know _____

If Yes, when (describe):

_____

_____

GROWING OR HARVESTING VEGETABLES

E14. Do you grow your own vegetables and fruits at your home?

Yes _____ No _____ Don't Know _____

E14a . What types of vegetables and fruits do you grow at home? Specify:

_____

_____

E15. Did you ever grow rice or vegetables on Da Nang Airbase?

Yes _____ No _____ Don't Know _____

If Yes, what vegetables, when did you grown them and for how many years? (describe):

_____

_____

E16. Did you ever harvest wood from Da Nang Airbase?

Yes _____ No _____ Don't Know _____

If Yes, when (describe):

_____

_____

E17. Did you harvest lotus or other aquatic vegetables from Da Nang Airbase?

Yes _____ No _____ Don't Know _____

If Yes, when (describe):

_____

_____

E18. Which market do you buy your vegetables and fruits at?

Yes _____ No _____ Don't Know _____

If Yes, when (describe):

_____

_____

Section F: Food Consumption

FOOD CONSUMPTION

F1. Have you ever eaten fish caught from Da Nang Airbase?

Yes _____ No _____ Don't Know _____

F2. Have you ever eaten fish and other aquatic animals from:

Sen Lakes (A, B, C)	Yes _____	No _____	Don't Know _____
Ho Xuan Ha Lake	Yes _____	No _____	Don't Know _____
Ho Cong Vien 29/3 (March 29 Lake)	Yes _____	No _____	Don't Know _____
Ho Thao Gian (Thao Gian Lake	Yes _____	No _____	Don't Know _____

F2a. If yes, which species of fish did you eat from each lake?

Sen Lakes (A, B, C)_____

Ho Xuan Ha Lake_____

Ho Cong Vien 29/3 (March 29 Lake) _____

Ho Thao Gian (Thao Gian Lake _____

Phu Loc River_____

Other Areas_____

F3. Which parts of the fish do you eat?

Muscle (meat) only _____

Liver _____

Stomach _____

Fat _____

All parts _____

F4. What other meat do you eat? How often per week?

Duck_____

Pork _____

Beef _____

Chicken _____

Eggs_____

Frogs_____

Snakes_____

Birds_____

Wild Animals_____ specify:_____

Other (specify):_____

F5. List the kinds of fruits and vegetables that you eat:

Lotus _____

Bamboo _____

Spinach _____

Gourds _____

Water hyacinth_____

Other (specify): _____

F6. Do you raise your own ducks, chickens, pigs, cows, or other animals? If so, specify:

_____

F7. Do you grow your own rice, vegetable or fruits? If so, specify:

_____

Section G: Educational Level

G1. Now I am going to ask you about your own education level.

What is the highest level of school you have completed or the highest degree you have received?

1	☐	Less than 1st grade
2	☐	1st, 2nd, 3rd, or 4th grade
3	☐	5th or 6th grade
4	☐	7th or 8th grade
5	☐	9th grade
6	☐	10th grade
7	☐	11th grade
8	☐	12th grade No Diploma
9	☐	High school graduate -- high school diploma, or the equivalent (for example: GED)
10	☐	Some college but no degree
11	☐	Associate degree in college -- Occupational/vocational program
12	☐	Associate degree in college -- Academic program
13	☐	Bachelor's degree (For example: BA, AB, BS)
14	☐	Master's degree (For example: MA, MS, MEng, MEd, MSW, MBA)
15	☐	Professional School Degree (For example: MD, DDS, DVM, LLB, JD)
16	☐	Doctorate degree (For example: PhD, EdD)
17	☐	Don’t Know
18	☐	REFUSED

Section H: Information and Outreach

H1. Have you heard any reports about the dioxin issue in the newspaper?

Yes _____ No _____ Don't Know _____

H2. Have you heard any reports about the dioxin issue on the radio?

Yes _____ No _____ Don't Know _____

H3. Have you heard any reports about the dioxin issue on the public address system (loudspeaker)?

Yes _____ No _____ Don't Know _____

H4. Have you seen or heard any reports on the dioxin issue on television, including community access TV?

Yes _____ No _____ Don't Know _____

H5. Have you read any reports about the dioxin issue on any internet websites?

Yes _____ No _____ Don't Know _____

Any other comments?

_____

_____

_____

_____

_____

A6.2
Soil and Sediment Sample Collection Field Data Sheet

SOIL & SEDIMENT SAMPLE COLLECTION FIELD DATA SHEET

Da Nang Dioxin Assessment Project		
Station Name:	Start Time:	Date: /12/2006
Soil Sediment (circle one)	Finish Time:	
Sample collected by (initials):	Field Notes Recorded by (initials):	Crew Signatures:

SITE OBSERVATIONS				
Weather	Wind (km/h):	Air Temp. (°C):	Precip.:	Cloud Cover (%):
Waypoint (UTM)	Zone:	Easting:	Northing:	Photos:

HABITAT		
Water Depth (m):	Inlet ID:	Proximity to Inlet (m):
Surface Sediment Thickness (cm):	Outlet ID:	Proximity to Outlet (m):
Substratum Embeddedness (%):	Benthic Algae (N/L/M/H):	Macrophytes (species, % cover):

SAMPLE INFO		
Sampling Device (circle one):	Ekman Corer Spade	Other (define):
Sampling Method (circle one):	Grab Composite (n=)	Anti-tamper signature (initial):

Sample Label	Distance from Bank _____ (m)	Sample Depth (m)	Sampler Fullness (%)	Texture (% B/C/G/Sa/Si/C)	Colour	Organic (%)	Inorganic (%)
				/ / / / /			
				/ / / / /			
				/ / / / /			
				/ / / / /			

SITE DESCRIPTION:

SITE MAP