Site C Clean Energy Project

2010 & 2011 Status of Mercury in Benthic Invertebrates and Fish – Peace River and Dinosaur Reservoir

Prepared for:

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February 2014

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Project Number 06 – 132

EXECUTIVE SUMMARY

BC Hydro has proposed to construct the Peace River Site C Clean Energy hydroelectric project (Site C) in north eastern British Columbia. Azimuth Consulting Group (Azimuth) has been responsible for the collection and interpretation of baseline data to address the issue of mercury (Hg) accumulation by aquatic biota related to the project. In 2010, Azimuth undertook a comprehensive field program to collect water, sediment, plankton, fish species, soil and vegetation for mercury and methylmercury analysis to fully describe background conditions. Results of these studies were documented in a detailed report in 2011 (*2010 Status of Mercury in Environmental Media for Site C Planning – Peace River and Dinosaur Reservoir July,* Azimuth 2011). The 2010 study was followed up in 2011 to collect further data on benthic invertebrates and key fish species, including fish species found only downstream of Site C dam. While data from both years were used to inform the Environmental Impact Statement (EIS) for the Site C Project, the 2011 data have not been published or become part of the public record in the same manner as the 2010 data.

This document formally records the 2011 data collected from Dinosaur Reservoir and Peace River within the Site C reach and downstream as far as Pouce Coupe River, with a focus on mercury in benthic invertebrates and key fish species; bull trout, lake trout, mountain whitefish, longnose sucker and downstream fish, walleye and goldeye.

The objective of this report is to characterize methylmercury concentrations in environmental media in Dinosaur Reservoir and Peace River in the vicinity of the proposed Site C Clean Energy Project, BC by combining the 2010 and 2011 data sets. A secondary objective was to establish aquatic food web relationships within these two areas, using carbon and nitrogen stable isotopes, to help inform mercury concentration data. Food chain structure has a very strong influence on mercury concentrations in fish. Use of stable isotope signatures from benthos and fish from Dinosaur Reservoir and the Peace River sheds light on food web and trophic level position of fish species and helps inform interpretation of mercury concentrations.

Mercury data from fish from 2010 and 2011 were not found to differ between years and were combined and interpreted together in this report. Mercury concentrations in fish from Dinosaur Reservoir are low and similar to concentrations from the same species in the Peace River. Average, non-size adjusted mercury concentrations of all fish species from Dinosaur and from the Peace River in the vicinity of the Site C area were less than 0.10 mg/kg. These concentrations are very low for British Columbia and among the lowest for these species observed elsewhere in Canada. Stable isotope analysis results demonstrated that there is a typical hierarchy of trophic level based on diet. However, some species such as longnose sucker in Dinosaur Reservoir may have shifted their diet more towards fish, possibly entrained out of Williston Reservoir.

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ACKNOWLEDGEMENTS

This document was written by Randy Baker (M.Sc., R.P.Bio.), Cheryl Mackintosh (M.R.M., R.P.Bio.) and Gary Mann (M.Sc., R.P.Bio.) of Azimuth Consulting Group Inc.

Field collections of zooplankton and benthos were performed by field staff of the Golder Associates Ltd. office based in Ft. St. John BC and under senior level supervision out of Golder in Edmonton, AB.

Field sampling of all fish was performed by Mainstream Aquatics Ltd., Edmonton AB.

The assistance and hard work of all field team members is acknowledged.

Careful attention to detail by the different laboratories, ALS Vancouver, CEBAM, Seattle, SINLAB at UNB, New Brunswick, Brooks Rand, Seattle, and Quicksilver Scientific, Lafayette, CO. is greatly appreciated.

The report was prepared for Mr. Dave Hunter and Mr. Bruce Mattock of BC Hydro.

PROFESSIONAL LIABILITY STATEMENT

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ACRONYMS

COC	Chain of Custody
CRM	Certified Reference Material
DL	Detection Limit
DOC	Dissolved Organic Carbon
DUP	Duplicate
EAC	Environmental Impact Statement
GIS	Geographic Information System
GPS	Global Positioning System
Hg	Mercury
MDL	Method Detection Limit
MeHg	Methylmercury
PCD	Peace Canyon Dam
QA/QC	Quality Assurance / Quality Control
RESMERC	Reservoir Mercury model
RPD	Relative Percent Difference
SINLAB	Stable Isotopes in Nature Laboratory (University of New Brunswick)
THg	Total Mercury
TOC	Total Organic Carbon
TSS	Total Suspended Solids
UTM	Universal Transverse Mercator

1. INTRODUCTION

1.1. Background

BC Hydro has proposed to construct the Peace River Site C Clean Energy hydroelectric project (Site C) in north eastern British Columbia. Azimuth Consulting Group (Azimuth) has been responsible for the collection and analysis of baseline data (e.g., Azimuth, 2011) and developing a strategy to address the issue of mercury (Hg) accumulation by aquatic biota related to the Site C Project. The data collected in 2010 (Azimuth 2011) and 2011 (this document) have been used to define aquatic baseline conditions with respect to mercury in environmental media and provided the foundation for the Mercury Technical Database report (Azimuth 2012a), a Human Health Risk Assessment (Azimuth 2012b) and a mercury modeling report (Harris and Hutchinson 2012). Each of these documents was fundamental in preparing the Environmental Impact Statement (EIS) for mercury the Site C project (Azimuth, 2013).

Mercury is a naturally-occurring element that is widespread and present in low concentrations in all environmental media including water, sediment, soil and tissues of all plants and animals. There are a number of forms that mercury can take in environmental media. The forms of primary concern are inorganic (e.g., elemental Hg adhered to particles, carbon) and methylmercury (i.e., organic mercury, MeHg), which is the principal form of mercury found in fish (Bloom 1992). Virtually all mercury (especially methylmercury) is acquired via dietary sources (Hall et al. 1997) and only a very small amount is absorbed from water.

The flooding of organic soils and vegetation during reservoir creation causes an increase in methylmercury concentration above background levels throughout the aquatic food web and especially in fish (e.g., Bodaly et al. 1987 and many others). As organic soils decompose, a specific group of bacterial species convert a small portion of the absorbed inorganic mercury into methylmercury. This form of mercury is more toxic than the inorganic form and is much more easily accumulated by biota and becomes increasingly concentrated at higher steps in the food web (Bodaly et al. 1987; and many others). This bacterial methylation process is natural and also occurs in unflooded lakes, rivers and oceans.

The creation of new reservoirs always results in an increase in methylmercury concentrations in all environmental media (water, sediment, invertebrates, fish). Concentrations typically persist above background levels for between 15 and 30 years after flooding (Bodaly et al. 1997), depending on the nature of the reservoir and environmental conditions. Shifts in trophic position can also occur as fish species composition may change within the new reservoir or as shifts in diet occur. These changes can be tracked using stable carbon and nitrogen isotopes and this information can be used to inform observed changes in fish mercury concentrations over time.

1.2. Objectives

The main objective of this report is to characterize methylmercury concentrations in environmental media in Dinosaur Reservoir and Peace River in the vicinity of the proposed Site C Clean Energy Project, BC. The main focus has been on fish mercury concentrations. A secondary objective was to establish aquatic food web relationships within these two areas, using stable isotopes, to help inform mercury concentration data. Results from the 2010 data report (*2010 Status of Mercury in Environmental Media for Site C Planning – Peace River and Dinosaur Reservoir July, 2011* (Azimuth, 2011)) were previously published and are on record; however, although the 2011 data were used in the EIS, the raw data were not

documented. This report updates the 2010 database with 2011 data from Dinosaur Reservoir and Peace River, including further downstream than was sampled in 2010.

In 2010, invertebrates and fish were collected from within Dinosaur Reservoir and downstream of the Peace Canyon Dam in the Peace River about 20 km downstream of the proposed Site C dam location. In 2011, the study area was expanded downstream as far as Pouce Coupe River; about 80 km downstream of Site C. **Figure 1-1** shows zooplankton and benthos collection areas from 2010 and 2011, and **Figure 1-2** shows fish collection areas for 2010 and 2011.

Note that the 2010 data report had a wider scope, reporting on mercury in water, sediment, soil, vegetation, zooplankton, benthos and fish (Azimuth 2011). This report focuses only on mercury and stable isotopes in benthic invertebrates, zooplankton (2010 only) and key fish species from 2010 and 2011 to provide a complete source of raw data from which conclusions were drawn within the EIS (Azimuth 2013).

An important component of this report links stable isotopes to mercury concentrations in invertebrate and fish tissues. Food chain structure has a very strong influence on mercury concentrations in fish (Cabana and Rasmussen 1994; Cabana et al. 1994). Methylmercury concentrations are higher in longer food webs than shorter ones and are elevated in carnivorous species (especially fish-eating species like lake trout and bull trout) relative to species feeding lower in the food web (e.g., planktivores).

In this report, the ratio of stable carbon and nitrogen isotopes is used to characterize the food web in the Peace River (Site C and downstream of the proposed dam site) and Dinosaur Reservoir and provide insights on feeding preferences. The stable isotope information is used to interpret patterns in methylmercury concentrations and understand key factors driving mercury dynamics. These patterns might help us to understand what mercury concentrations and food web structure under Site C development might eventually resemble.

N

Halfway River

Charlie Lake

Fort St. John

Location of Proposed Site C Dam

PR3

PR2

Peace River

Moberly River

Beatton River

Taylor

PEACE 4

PEACE 5

Pine River

W.A.C. Bennett Dam

Hudson's Hope

PR1

DINO-MID

Peace Canyon Dam

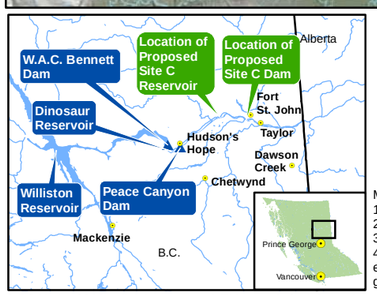
Dinosaur Reservoir

Kiskatinaw River

Moberly Lake

29

97



Map Notes:
1. Datum: NAD83
2. Projection: UTM Zone 10N
3. Base Data: Province of B.C.
4. Proposed reservoir area (461.8 m maximum normal elevation) from Digital Elevation Models (DEM) generated from LiDAR data acquired July/August 2006.

Legend

Parameters Collected

Zooplankton (2010)

Benthos (2010/2011)

- Maximum Normal Reservoir Level (461.8 m)
- Protected Areas, Provincial Parks, Regional Parks, and Ecological Reserves
- City/District Municipality
- Existing Road
- Existing Highway
- Existing Railway

1:335,000

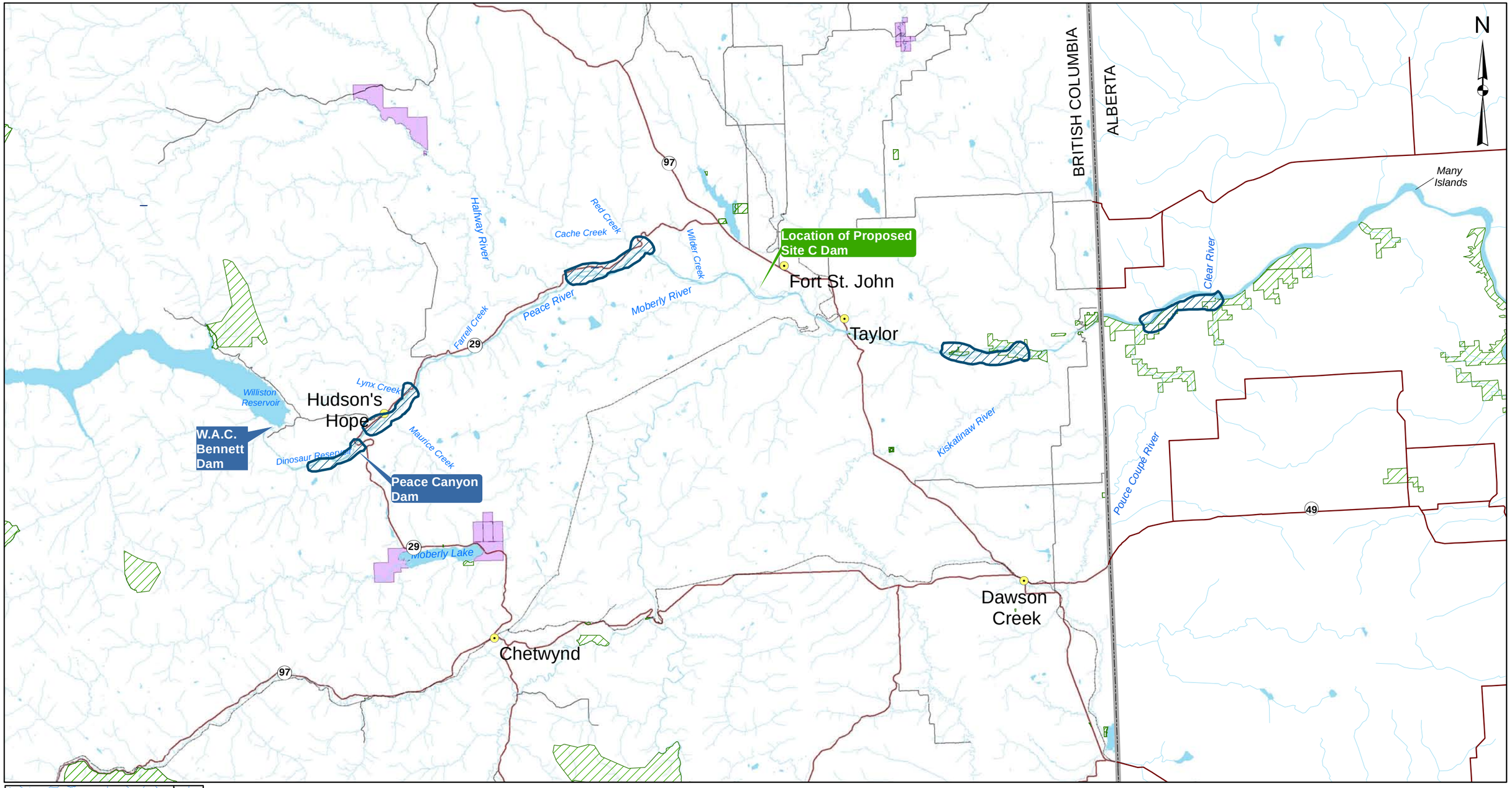
0 10 km

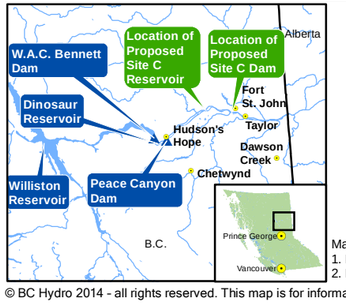
BC hydro

SITE C CLEAN ENERGY PROJECT

Figure 1.1
Location of collection locations for benthic invertebrates and zooplankton in 2010 and 2011 on the Peace River for mercury analysis.

Date	Jan. 3, 2014	DWG NO	1016-C14-B7465-1	R 0





Legend

- Approximate locations where fish were collected by Mainstream Aquatics for mercury analysis
- Indian Reserve
- City/District Municipality
- Protected Areas, Provincial Parks, Regional Parks, and Ecological Reserves
- Provincial/Territory Boundary
- Existing Road
- Existing Highway
- Existing Railway

1:615,000

0 5 10 20 km

Map Notes:
1. Datum/Projection: NAD83/UTM Zone 10N
2. Data Source: Government of B.C. and Alberta.

BC hydro

SITE C CLEAN ENERGY PROJECT

Figure 1.2
Location of fish tissue collections in 2010 and 2011 on the Peace River for mercury analysis

Date	Jan. 3, 2014	DWG NO	1016-C14-B7465-2	R 0

File: X:\ArcGISProjects\EnvironmentFisheriesMercuryMercAnalysis_FishCol_2010-11_1016_C14_B7465-2.mxd

2. AQUATIC FOOD WEB

2.1. Target Aquatic Species

Key aquatic biota targeted for sampling was zooplankton (2010 only), benthic invertebrates, and fish, to sample the range of trophic levels in the aquatic food chain. A variety of fish species were also sampled, again, to target lower trophic level species such as mountain whitefish (*Prosopium williamsoni*) and higher-level species such as bull trout (*Salvelinus confluentus*). Details regarding each group are discussed independently in the following sections.

2.1.1. Zooplankton

Currently, zooplankton density within Dinosaur Reservoir and downstream on the Peace River is naturally very low (Limnotek et al. 2013). Zooplankton contributes very little to secondary production and is a minor component of fish diet (Mainstream Aquatics 2012). In a post-Site C environment, zooplankton are predicted to become increasingly abundant within the new reservoir (EIS Volume 2, Section 12 Fish and Fish Habitat) and may provide the greatest source of food / productivity for some fish species, especially kokanee, rainbow trout and chub.

To track changes in zooplankton under future reservoir conditions, carbon and nitrogen stable isotopes, as well as mercury and methylmercury concentrations were measured in 2010 from within the proposed Site C Reservoir area as well as upstream in Dinosaur Reservoir. Carbon and nitrogen stable isotopes can be used to track changes in food web structure resulting from the expected change in abundance of this group of organisms. As well, mercury concentrations in zooplankton are expected to increase in a post-Site C environment and this group may provide a source of methylmercury to the lower aquatic food web, which ultimately, will bioaccumulate in fish.

2.1.2. Benthic Invertebrates

Benthic invertebrates are a key food chain component of the aquatic food web and are an important food group for many fish species including juveniles of piscivorous fish. Benthic invertebrates form the base of the animal food web and are closely associated with sediments, the primary location of mercury methylation. As such, benthos will respond more quickly than fish to increased methylation rates. Monitoring of methylmercury concentrations in different taxonomic groups of benthos (epibenthos such as caddisfly and mayfly; infauna such as chironomids) will provide the foundation for understanding implications for mercury bioaccumulation by fish.

Total and methylmercury concentrations of different taxonomic groups were measured in 2010 and 2011 to develop baseline data for monitoring how concentrations may change after Site C development. Candidate taxonomic groups include mayflies (Ephemeroptera), caddisflies (Trichoptera) and chironomids or midges (Diptera). As well, stable isotopes of taxonomic groups of benthic invertebrates were measured to understand the current trophic structure, as well as providing the foundation for understanding changes in trophic structure resulting from the new reservoir and implications for mercury bioaccumulation by fish.

2.1.3. Fish

Fish are the most important aquatic group for mercury accumulation from a wildlife and human health exposure perspective. The mercury monitoring program was focused on key food chain species (e.g.,

redside shiner, sucker, and others) as well as fish species preferred for consumption by humans (e.g., lake trout, rainbow trout). These species were chosen because they are expected to persist in reasonable abundance within the new reservoir, they are key food chain species, targeted by fish eating wildlife and by piscivorous fish and/or because they are the preferred sport species by local residents and First Nations.

Fish species sampled in the 2010 and 2011 programs include:

- Redside shiner (*Richardsonius balteatus*) an abundant and key food chain species in the Peace River that is expected to thrive within the new reservoir. Shiners are a forage species with a mixed invertebrate diet and are expected to be an important dietary item for bull trout.
- Longnose sucker (*Catostomus catostomus*) forage indiscriminately on algae and benthos and will be an important dietary item for several species including bull trout. Longnose sucker are also expected to persist within the Site C reservoir and are a key indicator species because of their close association with bottom sediment and food.
- Rainbow trout (*Oncorhynchus mykiss*) are an insectivorous species commonly targeted by sport fisheries and are an important species from a human health perspective.
- Bull trout (*Salvelinus confluentus*) are also presumably targeted by sport fishers for consumption (although this species is designated as 'catch and release' only). Because they are highly piscivorous, baseline mercury concentrations of bull trout from the Peace River were higher than for other species. Monitoring of bull trout mercury concentrations is important from a human health perspective and as a key indicator species representing the maximum change in mercury concentrations above baseline. Bull trout mercury concentrations are also expected to take the longest time to recover to baseline following inundation.
- Lake trout (*Salvelinus namaycush*; LKTR), while not directly targeted due to presumed low numbers in the Peace River, were opportunistically sampled using non-lethal methods to help assess their mercury and trophic status relative to bull trout. Lake trout were targeted in Dinosaur Reservoir because this species has established itself within the reservoir and there is purportedly a popular sport fishery for this species in the tailrace area of Shrum G.S. It is well known that fish may target the tailrace area of generating stations, feeding on dead or wounded fish coming from upstream reservoirs.
- Mountain whitefish *(Prosopium williamsoni*) are in important food web species that are a preferred for species for piscivorous species such as bull trout and lake trout. Given their close association with bottom sediment and benthic invertebrates as a food source they are an excellent indicator species and useful for tracking changes in mercury and providing insights into higher trophic level species.
- Walleye (*Sander vitreous*) were sampled only in 2011 and only from well downstream of Site C near Pouce Coupe River Alberta, where they are more common (Mainstream Aquatics, 2012). Walleye are highly piscivorous and are a preferred food species for local sport fishers. Mercury in fish are not expected to increase to the same degree as within the Site C reservoir, however, downstream changes are expected and given the popularity of walleye, this species was targeted for long term monitoring.

- Goldeye (*Hiodon alosoides*) was also only sampled in 2011 and only from the same downstream location as walleye. Also targeted as a sport species, this species is proposed for monitoring downstream of Site C in addition to walleye.

Fish tissue samples were analyzed for total mercury, as well as stable carbon and nitrogen isotopes from all species. Stable isotopes were measured to determine the baseline food web structure and determine possible dietary changes of fish that may occur after reservoir creation. Isotopes will also assist with interpreting possible changes in mercury concentrations in fish overtime.

2.2. Food Web Structure

Food chain structure has been shown to influence contaminant concentrations in fish, particularly for mercury and persistent organo-chlorine compounds (Cabana and Rasmussen 1994; Cabana et al. 1994). Mercury (particularly methylmercury) biomagnifies up the food chain through zooplankton and benthos, reaching highest concentrations in fish. Consequently, food chain length, which can vary across aquatic ecosystems, can have a profound effect on mercury concentrations in top predators such as lake trout or bull trout (Rasmussen and Vander Zanden 2004).

Figure 2-1 shows the trophic position of lake trout in the simplified food chains for three lake classes. Traditionally, trophic position (i.e., how high an animal is situated in the food web) was determined by examining the gut contents of fish, which essentially represent a brief "snap-shot" in time of their diet (e.g., typically on the order of days). Advances in stable isotope analysis (SIA) over the past two decades have resulted in a powerful time-integrated tool for determining trophic position that is literally based on the premise that "you are what you eat". SIA targets the stable isotopes (same number of protons, but different number of neutrons and thus mass; stable in that they do not decay like radioactive isotopes) of particular elements (e.g., C, N and others). Studies have shown that consumers experience the preferential loss of the lighter isotope during metabolic processes (e.g., excretion or respiration), resulting in varying degrees of heavy isotopic enrichment relative to their diet. This trophic fractionation is the underlying mechanism that results in different patterns of stable isotope ratios in nature. Identifying these patterns provides valuable insights into the trophic structure of the system of interest.

How Stable Isotope Values Are Calculated.

Isotopic fractionation (i.e., the preferential use of certain isotopes during biological processes like photosynthesis, excretion or respiration) results in enrichment (positive values) or depletion (negative values) of the isotopic ratio relative to internationally-used standard material (i.e., atmospheric nitrogen or PeeDee Belemnite carbon). The difference, represented by $\delta^{15}N$ or $\delta^{13}C$ (in parts per thousand, ‰; or per "mil"), is calculated using the following equation:

$\delta^{15}N$ or $\delta^{13}C$ ‰ = $([R_{sample} / R_{standard}]-1) \times 1000$
Eq.1

where R = $^{15}N:^{14}N$ or $^{13}C:^{12}C$.

The stable isotopes of nitrogen and carbon have been used to complement one another in the characterization of food webs over a broad range of systems. Nitrogen isotopes have been used extensively as a fairly robust means of distinguishing between and quantifying the trophic positions of consumers in aquatic systems (e.g., Peterson and Fry 1987; Bilby et al. 1996; Vander Zanden et al. 1999; Harvey and Kitchell 2000; Leggett et al. 2000; Vander Zanden and Rasmussen 2001; Vander Zanden et al. 2003; Herwig et al. 2004). Carbon isotopes have been used to trace the flow of energy through food

webs and are particularly valuable in identifying dietary preferences of consumers (e.g., Rounick and Winterbourn 1986; Peterson and Fry 1987; France 1995*a* and 1995*b*; Hecky and Hesslein 1995; Herwig et al. 2004; da Silva et al. 2005). Together, stable nitrogen and carbon isotopes provide good insights into trophic structure and feeding preferences that are invaluable in interpreting observed patterns in contaminant uptake and biomagnification (Rasmussen et al. 1990; Cabana and Rasmussen 1994; Cabana et al. 1994; Atwell et al. 1998; Kidd et al. 1999). This being said, there can be considerable variability in both $\delta^{15}N$ and $\delta^{13}C$ that needs to be taken into account in the interpretation of results. We present this information as a means of assisting in the interpretation of existing trophic structure of fish populations within Dinosaur Reservoir and Peace River and relationship with mercury concentration data.

The derivation of stable isotope values is presented in the accompanying text box. Studies have shown that $\delta^{15}N$ is about 3.4‰ and $\delta^{13}C$ between 0-1‰ higher in consumers relative to their diet for a range of taxa (Minagawa and Wada, 1984; Peterson and Fry, 1987; Vander Zanden and Rasmussen, 2001).

For nitrogen isotopes, while the relative difference in $\delta^{15}N$ between consumers and their diet is fairly constant, the absolute $\delta^{15}N$ values of both consumers and dietary items can vary considerably within and among lakes (e.g., Kling et al. 1992; Kline et al. 1998). Vander Zanden et al. (2000) looked at within- and among-population variation in trophic position and found that 78% of the total variation was due to lake-to-lake differences. While the trophic structure of lakes (e.g., presence/absence of pelagic forage fish [e.g., whitefish] and/or presence of a large zooplankton predator [e.g., mysids]) will clearly affect $\delta^{15}N$ values (and thus trophic position) among top predator consumers, significant variability in $\delta^{15}N$ values has been shown at the base of the food web (Cabana and Rasmussen 1996; Vander Zanden and Rasmussen 1999; Vander Zanden and Rasmussen 2001). This variability is observed both within lakes (i.e., among specific habitats in a lake) and among lakes (i.e., due to variability in N sources), with serious implications for accurate characterization of trophic position of higher-level consumers.

Carbon isotopic ratios show an even greater variability, particularly among primary producers. Most terrestrial plants typically have $\delta^{13}C$ values around -28 ppt (parts per thousand), with others differing primarily as a result of distinct fractionation patterns among photosynthetic pathways (Rasmussen 1995). Aquatic plants routinely have a much higher range of $\delta^{13}C$ values due to variability in isotopic ratios of the dissolved inorganic carbon pool, physical factors limiting the rate of carbon diffusion through the boundary layer around plant tissue and other reasons (Rounick and Winterbourn 1986). The boundary layer/diffusion factor is thought to be responsible for the significant differences observed in $\delta^{13}C$ values between pelagic (depleted) and benthic (enriched) algae. These diverse carbon signatures, coupled with the subsequent low degree of fractionation by consumers, provide a means of identifying feeding preferences of primary consumers.

Thus, while $\delta^{15}N$ values are known to increase with successive trophic steps, $\delta^{13}C$ values show only a slight increase with each step, essentially conserving the $\delta^{13}C$ signature of the base of the food chain. The variability at the base of the food chain and minimal increase up the food chain allows the interpretation of energy sources to higher consumers (e.g., profundal-based food chains will have depleted $\delta^{13}C$ compared to those based in littoral zones).

Figure 2-1: Conceptual diagram of lake trout trophic position for three generalized lake classes (based on Rasmussen et al., 1990).

3. METHODS

3.1. Overview

Fish were the main target for baseline mercury data for key food chain species and species targeted for consumption, within the proposed Site C reservoir area and downstream in the Peace River. Benthic invertebrates were collected from the mainstem Peace River in 2010 and 2011 (**Figure 1-1**). Zooplankton were collected in 2010, but not in 2011 because zooplankton comprised a minor component of fish diet and drifting invertebrates likely consisted mostly of benthic species, not zooplankters. Field crews from Golder Associates, Calgary and Limnotek Research and Development Vancouver collected zooplankton and benthos samples respectively on behalf of Azimuth. These baseline data are reported in Limnotek et al. (2013).

Mainstream Aquatics, Edmonton collected all fish tissue samples from multiple locations on the Peace River (**Figure 1-2**) on behalf of Azimuth in 2010 and in 2011. Detailed methods were provided in the 2010 data report (Azimuth 2011); a summary of the methods and study design relevant to the aquatic biota are described in this report. More detailed descriptions of methods and sampling locations for fish can be found in the original reports, Mainstream Aquatics (2012).

3.2. Sampling Station Locations

Sampling locations of benthos and zooplankton from 2010 and 2011 for zooplankton (2010 only) and benthos are shown in **Figure 1-1** for the Peace River Dinosaur Reservoir. These stations were sampled by Limnotek Research and Development (Limnotek et al. 2013) as part of their baseline sampling. The locations of benthos and zooplankton samples were the same stations used for water sampling as well as for collections of benthos for community analysis as part of the baseline investigation of the Peace River for the EIS.

Fish were collected more broadly at specific locations within Dinosaur River and from the Peace River mainstream between Peace Canyon Dam and up to 80 km downstream of Site C dam near the Pouce Coupe River. **Figure 1-2** illustrates the locations where electrofishing and rotary screw traps were used to capture fish for the purposes of an ecological assessment as well as subsampling of fish for the purposes of analysis of mercury and stable isotopes from tissue.

Sampling was conducted further downstream in 2011 than in 2010 recognizing the potential for downstream transport of mercury from the Site C reservoir as well as to target fish species that do not move as far upstream as Site C, such as walleye and goldeye.

Five monitoring locations for the collection of fish tissue were conducted in the following locations (**Figure 1-2**):

- **Dinosaur Reservoir –** Mid Dinosaur Reservoir, upstream of Peace Canyon dam. This area acts as an internal reference area, documenting and monitoring what is contributed to Site C Reservoir from Williston and Dinosaur Reservoirs.
- **Upper Site C Reservoir –** In Section 1, upper, riverine reach of Site C Reservoir upstream of Lynx Creek to Hudson Hope.
- **Lower Site C Reservoir** – In Section 3 between Halfway River and Cache Creek.

- **Downstream Site C** – Downstream of the Site C dam on the Peace River between Taylor Bridge and upstream of Kiskatinaw River. This is a near-field downstream location designed to detect changes in water chemistry and fish tissue immediately downstream of Site C.
- **Pouce Coupe River** - Peace River downstream of Site C downstream of Pouce Coupe River but upstream of Many Islands, Alberta.

Dinosaur Reservoir is expected to act as a reference area to monitor changes in mercury in environmental media over time, independent of changes seen within Site C and downstream.

The Kiskatinaw River and Pouce River monitoring stations are located to provide information on potential downstream effects. Many Islands, downstream of Pouce Coupe, is the furthest downstream extent that local fish populations have been shown to migrate upstream from, to as far as the Site C dam site (Mainstream Aquatics 2011; 2012).

3.3. Field Collection Methods

3.3.1. Zooplankton

In Dinosaur Reservoir, zooplankton was collected on September 2, 2010, from the upper, middle, and downstream ends of the reservoir, at least 1 km upstream from Peace Canyon Dam. The locations were close to sediment and benthic sampling stations. Zooplankton was collected on September 18, 2010 from the Peace River from close proximity to water sampling stations (**Figure 1-1**).

Zooplankton were collected using a Wisconsin-style zooplankton net with mesh size of 153 µm, a mouth opening diameter of 0.3 m and a length of 2 m, yielding an aspect ratio of 6 – 7x mouth diameter. To acquire zooplankton the net was lowered over the side of the boat and towed at 0.5 m below the water surface for up to 10 minutes to collect at least 3 – 5 g of zooplankton mass. Zooplankton were removed from the net by rinsing and placed into a HDPE sampling vial with most of the water drained away and then placed on dry ice in the field to freeze them quickly and prevent any denaturing.

Zooplankton samples were not collected in 2011.

3.3.2. Benthic Invertebrates

Benthic invertebrates were collected from up to six locations in 2010 and 2011, including upstream in Dinosaur Reservoir. In Dinosaur Reservoir, a petite Ponar grab (0.023 m^2) was used to collect and sieve sediment using a 500 µm Nitex net. All invertebrates retained on the net were frozen using dry ice for subsequent analysis for mercury and stable isotopes (see Section 3.4). Further detail is provided in Azimuth, 2011.

In August 2010, benthos was collected from three locations along the Peace River at the same stations as water, sediment and zooplankton collections (**Figure 1-1**). In riverine stations a kicknet with a 500 µm mesh bag was used to collect a bulk sample targeting epibenthic organisms such as mayflies and caddisflies. The river was sampled in depths of <0.5 m along shore in or near riffle areas. One person would disturb rocks and sediment upstream of the person with the kicknet who would gather all dislodged and drifting invertebrates. The sampling and analysis plan (SAP) in Azimuth (2010) provides further detail on the protocol. Individual animals were picked out of the sample using tweezers, rinsed to remove excess sediment and immediately placed into a clean WhirlPac™ bag and frozen in the field on dry ice.

In 2011 a greater effort was made to acquire a larger sample size that was divided into more discrete taxa to provide more precise information on mercury and stable isotopes to discern food web relationships.

Detailed methods are provided in Limnotek et al. (2013). Briefly, benthic invertebrates were collected from stones enclosed in wire baskets that were placed at all Peace River including Peace 1, 2 and 3 in the Site C reach, Peace 4 at Taylor and Peace 5 at Kiskatinaw River. Traps were deployed July 24-26, 2012 and retrieved on September 17-20, 2012. Each basket was made of heavy gauge wire and was filled with clean stones having a size range of 2.5 to 3.5 cm originating from the Peace River. When retrieved, a scoop net with a mesh size of 250 µm Nitex was placed under the basket, the stones removed, cleaned and sample contents in the bucket were passed back through the scoop net to remove excess water and concentrate the sample in the cod end. The sample was washed from the cod end glass sample jars, preserved in 10% formalin, and labelled for delivery to the laboratory in Vancouver. Subsequent to processing, individuals of discrete taxa including caddisfly (Trichoptera), mayfly (Ephemeroptera), midge larvae (Chironomidae) and other taxa including water boatmen (Corixidae) were removed and delivered to Azimuth. These samples were equally split and delivered to different laboratories for analysis of mercury and stable isotopes.

3.3.3. Fish

Mainstream Aquatics collected all fish tissues during the course of baseline investigations on the Peace River in 2010 and 2011 and detailed methods are contained within Mainstream Aquatics 2011 and 2012 respectively. A map illustrating collection locations between Dinosaur Reservoir and downstream as far as Pouce Coupe River, is illustrated in **Figure 1-2**.

Fish were collected primarily by boat electrofisher, but were also supplemented by catch from rotary screw trap and in some cases, by beach seine. Bull trout, lake trout and walleye were sampled using non-destructive methods, using biopsy tools to extract small tissue quantities, following the protocol of Baker et al. (2004) and Environment Canada (*http://www.ec.gc.ca/esee-eem/D450E00E-61E4-4219-B27F-88B4117D19DC/mmfishtissueEn.pdf*). Muscle tissue was collected from anaesthetized fish using a sterile 4 mm wide Miltex™ Biopsy Punch. One plug was transferred using forceps to a sterile, labeled 6 mL HDPE vial (for stable isotope analysis), and two plugs transferred to a second 6 mL HDPE vial (for mercury analysis). These were placed on dry ice in an insulated cooler. After the plugs were taken, each wound was dried with sterile gauze and covered with a waterproof liquid bandage compound (Vetbond™) to stop any minor bleeding, act as an infection barrier and facilitate healing. Upon completion of the above steps, the sampled fish was transferred to a 60 L aerated recovery tank until fully recovered and then released. Sampling instruments that were to be reused were sterilized with 95% isopropyl alcohol.

Mountain whitefish, longnose sucker, redside shiner and goldeye were euthanized by severing the spinal cord just posterior to the head using a fillet knife. A 5 g to 10 g tissue fillet of exposed muscle was removed and split into two equal-sized samples, one for stable isotopes and the other for mercury analysis. Each sample was placed in a labeled Whirl-pac™ bag and frozen.

At least 10 fish per species from each of Dinosaur Reservoir, Peace River within the Site C reach and downstream of Site C were targeted for sampling from each of 2010 and 2011. Note that not all fish species are present in each area and depending on species, as it was difficult to capture them, depending on distribution and abundance. For example, walleye and goldeye are only present downstream of Site C; rainbow trout were not captured downstream of Site C; and redside shiner were only captured downstream of Site C. Consequently, sample size varied between species and areas.

Ideally, the strategy for monitoring of mercury is to capture fish across a broad size range, from small to large fish to determine size – mercury relationships. This was done to a limited extent, depending on species, but with a bias towards sampling fish of a size that would be consumed by people near the mid- to upper end of the size range. It is important to accurately represent the size-standardized mercury concentration of fish in order to appropriately determine the amount of methylmercury to which people are exposed to when consuming different sizes of fish, which is important for the Human Health Risk Assessment for Site C (Azimuth 2012b).

During the course of tissue extraction, the following information was collected from non-destructively sampled fish:

- Length (mm) and weight (g)
- Gender if possible
- Age (using scales or fin rays for trout)

In addition to the above, for destructively-sampled fish:

- Gender and maturity status
- Visual inspection and documentation of stomach contents
- Internal and external examination for abnormalities, tumors, growths, parasites
- Age (removing otoliths from whitefish, fin rays from suckers and scale samples from shiner)

See Mainstream Aquatics (2012) for further detail on results of meristic analyses.

3.4. Analytical Parameters

Composite samples of zooplankton (2010 only), benthic invertebrates and individual samples of fish were analyzed for inorganic (Hg) and methylmercury (MeHg) and for stable isotopes. Note that 'total' mercury is the sum or inorganic and organic or methylmercury in tissue. In fish, the proportion of the total mercury that is in the methyl form is >90% (Bloom 1992), while in invertebrates, the ratio is typically 30 – 50%.

The biomass of tissue acquired in 2010 was small and of limited taxonomic representation, which was why greater effort was expended in 2011 to collect more tissue and from more discrete taxa. For example, in 2011 Limnotek et al. (2013) provided Azimuth with samples of Trichoptera larvae of a variety of sizes from Peace River mainstream (PR1, PR3, PR14), a mixture of Trichoptera, Ephemeroptera and Plecoptera from PR3, water boatmen from PR14 and chironomids from PR1, PR3 and PR14.

Invertebrate samples were divided into two equal aliquots by mass and species representation and delivered to the two analytical laboratories for analysis of total inorganic and methylmercury and stable carbon and nitrogen isotopes. Tissue biopsy samples were independently collected for these analyses from live fish including lake trout, bull trout and walleye. Tissue collected from destructively sampled species (sucker, whitefish, and shiner) were divided into two aliquots and sent to the laboratories for mercury and stable isotope analysis.

Total mercury, methylmercury and moisture content in invertebrate tissue was analysed by Quicksilver Scientific, Lafayette Co, USA. Inorganic and methylmercury were analyzed using high pressure liquid chromatography speciation system and cold vapor atomic florescence.

In fish, total mercury was analysed in whole tissue (redside shiner, mountain whitefish, and sucker) or in biopsy samples (bull trout) by ALS Laboratory, Burnaby BC. A full laboratory report documenting this analysis is contained within **Appendix A**.

Carbon and nitrogen stable isotope analysis were performed by SINLAB, University of New Brunswick using the CFIRMS technology for ratios of carbon (13C/12C) and nitrogen (15N/14N). These data are also reported in **Appendix A**.

Further details on laboratory methods, data analysis, quality assurance/quality control (QA/QC) and the interpretation of isotope data were provided in the 2010 data report (Azimuth, 2011).

3.5. QA/QC

Quality Assurance / Quality Control (QA/QC) procedures for zooplankton and benthos collections consisted of a combination of field and laboratory/analytical procedures. In the field, the protocols set out by a detailed Sampling and Analysis Plan or SAP (Azimuth, 2010) were followed, including the use of sterile Whirlpac™ bags, immediate freezing of invertebrate tissues on dry ice in the field and rinsing of the collection net between sampling stations.

Mainstream Aquatics is highly experienced at collecting fish tissue and has a dedicated QA procedure for the collection, preservation and storage of samples for laboratory analyses.

With respect to laboratories, Quicksilver Scientific has a QA system that includes analysis of quality control samples on 5-point blank samples + calibration curve, reference blanks, standardized reference material, laboratory control samples, matrix spikes and matrix spike duplicate samples. A full QA report from Quicksilver is available upon request. The laboratory matrix spike sample was run on the Dinosaur Reservoir (DINO-Mid) sample for both total inorganic and methyl mercury to ensure adequate recovery of mercury by the analytical equipment.

SINLAB at UNB also has an extensive QA/QC procedure that is outlined within laboratory forms (found in **Appendix A**) and is also available upon request.

There were two specific QA issues that arose in 2010 that were rectified in 2011. In 2010, benthic invertebrates were difficult to collect in Dinosaur Reservoir because of the rocky bottom and lack of fine sediments. As a result, all benthic organisms from Dinosaur Reservoir were composited into a single sample. Only 4 or 5 individual animals, including chironomid larvae, an individual dagger fly larvae (Empididae) and a small gastropod, were analyzed for mercury. SINLAB was able to analyze individual invertebrates for stable isotopes, so isotopes were analyzed on individual chironomids, a dagger fly (Empididae) and a gastropod. These samples sizes are too small to provide reliable results on a basin wide basis. In 2010 it was also recognized that the zooplankton samples might have contained drifting benthic invertebrate larvae. To resolve these issues, dedicated invertebrate traps were installed for the purposes of collecting larger, more diverse samples of benthos from multiple locations on the river to allow for analysis of mercury and stable isotopes on discrete taxa. No zooplankton were collected to avoid the uncertainty as to taxonomic composition. This was justified given the low abundance of zooplankton

in the upstream water column (Limnotek 2013) and the lack of zooplankton in the stomachs of fish (Mainstream Aquatics 2013).

For fish tissues, ALS Laboratories also has an extensive QA procedure that includes analysis of standard reference materials and duplicate samples (for fillet style samples only where there was sufficient material).

As part of our internal QA procedures, we did identify some 'outlier' fish, where the length or weight data were not correct. While tissues for stable isotopes or mercury were used to derive mean concentrations, meristic data were not used in calculations of condition factor or in length-weight relationships.

4. RESULTS

4.1. Rationale for Data

A full report was completed for the 2010 data collection for soil, vegetation, sediment, water, invertebrates and fish (Azimuth 2011), which provided baseline data for the Site C EIS (Azimuth 2013). Supplementary tissues for mercury and stable isotope analysis was collected from invertebrates and fish in 2011 from the Peace River and from further downstream, including 'new' species walleye and goldeye. These 2011 data were used to inform the EIS (Section 11.9) and in HHRA (Section 33), but have not been formally documented until now, within this report.

While no statistical analyses were performed, data were plotted and reviewed to discern any differences or patterns between 2010 and 2011 sample points. For example, the stable isotopes for the benthic invertebrates and zooplankton were evaluated on a sample by sample basis, and while there was somewhat high variability, there did not appear to be a strong pattern related to year. Furthermore, based on a graphical examination of the fish meristics (e.g., length-weight relationships) and mercury data in the next section, there appeared to be very good overlap between 2010 and 2011 data sets.

Given that fundamental hydraulic, thermal and ecological conditions within the Peace River downstream of Williston Reservoir have not changed between 2010 and 2011, food web relationships are unlikely to have changed in the absence of any large perturbation. Consequently, in the absence a change in fundamental conditions, one should not expect to find differences in tissue mercury concentration, nor in trophic position that would be reflected in the stable isotope data. Consequently, we were confident that the 2010 and 2011 data could be combined to increase sample size and size categories. In most cases, 2010 and 2011 data are plotted using different symbols to provide the reader with greater information.

Keep in mind that the main objective of this report is to document the 2011 baseline data and secondarily to combine it with the 2010 data. These data were collectively interpreted to inform the EIS for the Site C project as it pertained to methylmercury generation and bioaccumulation within the proposed new reservoir and downstream. No detailed analysis of the data or comparison to other sites appears within this document – this was done as part of the EIS in Section 11.9

4.2. Species Composition

Fish tissue for the purposes of mercury and stable isotope analysis was collected from eight fish species, five species in 2010 and seven in 2011 (**Table 4-1**) in Dinosaur Reservoir and the Peace River, within the Site C area and downstream. Four species were collected from Dinosaur Reservoir (bull trout, lake trout, mountain whitefish and longnose sucker); and all eight species from the Peace River. However, walleye, goldeye (2011 only) and redside shiner (2010 only) were only collected from downstream of the Moberly River (**Figure 1-2**). Only one lake trout was captured from the Peace River.

At least 10 fish per species were targeted for capture per year, if possible, from each of the three areas. Absence or lack of fish indicates that they were either not present (e.g., walleye and goldeye in the Site C reach of the Peace River) or were very scarce (e.g., lake trout). Sample size for each species captured by sampling location and waterbody is summarized in **Table 4-1 A** and **B**, respectively.

4.3. Fish Meristics

Mean, minimum and maximum fish length (mm), weight (g) and age (y) for each species, by area (Dinosaur, Site C and downstream) is presented in **Table 4-2**. **Figure 4-1** depicts the length distribution of fish for each species, captured from Dinosaur Reservoir and the Peace River within the Site C reach and downstream. Condition factor (the relationship between length and weight) of each species is depicted in **Figure 4-2**. Condition factors centered around or higher than 1.0 indicate a good weight to length ratio. These data indicate that fish health was reasonably good, although average condition factor of lake trout and mountain whitefish in Dinosaur Reservoir was lower than 1.0. This is possibly due to low productivity given the deep depth and lack of littoral zone of this small, steep sided and narrow basin.

Log length – log weight relationships for each of the eight species captured are depicted in **Figure 4-3**. Fish from different areas are depicted with different colors. This figure clearly illustrates the tight length – weight relationship with no fundamental differences between years or between Dinosaur Reservoir and the Peace River downstream.

As described above, we attempted to capture fish over as wide a size range as possible, especially for bull trout, lake trout and rainbow trout, the species targeted for human consumption. This is important to derive a size-mercury relationship (if it exists) to understand the statistical relationship between fish size and mercury concentration. Because large piscivorous species typically have higher mercury concentrations the larger and older they get, this is important information that informs exposure estimates in the human health risk assessment (Appendix J, Part 2 of the EIS). This is why the arithmetic mercury concentration that appears in **Table 4-2** may not be used in the risk assessment as explained later in **Section 4.4.3.2**.

Some fish species including shiners, suckers and rainbow trout have no or weak relationships between fish size and mercury concentration – so the arithmetic mean mercury concentration can be used to represent the population concentration for wildlife or human exposure.

Bull trout ranged over a large size range in the Peace River (285 – 835 mm) with a maximum weight of 7.8 kg and age of 11 years. All but one lake trout was captured from Dinosaur Reservoir and they had a relatively narrow size range (304 – 660 mm) and maximum weight (2.7 kg) and age (13 y). Rainbow trout in Dinosaur Reservoir and Peace River were young (mean age 4 y) and were relatively small in size (292 and 330 mm respectively).

Mountain whitefish were the best represented species from each area with similar meristics between areas (317 – 345 mm; 364 – 498 g). Mean age ranged from 6 to 8.8 years. Longnose sucker were also captured in reasonable numbers from each area and also had similar meristic features among areas (388 – 403 mm; 755 – 779 g). Interestingly, mean age was quite high (10 – 16 y) with a maximum age of 22 years in Dinosaur Reservoir and the Peace River. Note that this has implications on mercury concentrations for this species as discussed below.

4.4. Mercury

4.4.1. Zooplankton

Total mercury concentration (i.e., the sum of inorganic Hg^{II} and methylmercury) in zooplankton from the Peace River ranged from 0.004 – 0.009 µg/g (ppm) wet weight and in zooplankton from Dinosaur Reservoir, values were slightly lower ranging from 0.001 – 0.006 µg/g ww (**Table 4-3**).

The range in concentration of methylmercury in zooplankton was reversed, with slightly higher concentrations in Dinosaur Reservoir (0.0003 – 0.001 µg/g) than in Peace River (0.0001 – 0.0007 µg/g) (**Table 4-3**). However, these concentrations are so low that differences of this magnitude (i.e., 0.0003) are likely not meaningful.

The proportion of total mercury that was present in the methyl form ranged from 2 – 9% in Peace River. In Dinosaur Reservoir, the range was from 24 – 44% which is a much more typical range for zooplankton (Watras and Bloom, 1992). The difference in % methylmercury may be related to small sample size and the difficulties at measuring near the detection limit (i.e., a 0.0001 µg/g difference is 20% of the average methyl mercury concentration). These are very low concentrations relative to what is typically found in zooplankton from other lakes (Azimuth 2012a). As discussed earlier, zooplankton collected progressively downstream from the Peace River likely consisted of drifting benthic invertebrates. Zooplankton samples were not collected in 2011.

4.4.2. Benthic Invertebrates

Benthic invertebrates are a key food chain component of the aquatic food web and an important food group for many fish species including juveniles of piscivorous fish. Composite samples of benthic invertebrates from the Peace River and Dinosaur Reservoir were analyzed for inorganic and methylmercury in 2010, although diversity and sample size were very limited.

Total mercury (inorganic + methyl) concentrations from the Peace River mainstem ranged between 0.010 mg/kg and 0.023 mg/kg (**Table 5-2** in Azimuth 2011). In Dinosaur, the single composite sample, which comprised only a few organisms, had a similar concentration, 0.025 mg/kg. These concentrations are quite low relative to what has been observed in other studies, but about 10x higher than what were observed in zooplankton in Peace River and Dinosaur Reservoir. Methylmercury concentrations in Peace River benthos ranged from 0.0016 – 0.20 mg/kg and 0.002 mg/kg in Dinosaur Reservoir (Azimuth 2011). The percent methyl mercury of the total ranged between 15% and 25% and 15%, which is fairly typical for benthos.

In 2011 greater effort was expended to collect a large sample size consisting of more discrete taxa that are representative of preferred dietary items of fish. Based on ecological and dietary studies, the organisms consumed by fish were epibenthic invertebrates dominated by caddisflies and mayflies, with fewer numbers of stoneflies, water boatmen, snails, mites, clams, and chironomid fly larvae (Volume 2 Appendix P Aquatic Productivity Reports, Part 1 Baseline Aquatic Productivity in the Upper Peace River).

Combined over 2010 and 2011, total mercury concentration in benthic invertebrates from the Peace River mainstem (Site C plus Downstream) ranged from 0.010 to 0.046 mg/kg ww (**Table 4-3**). Methylmercury concentrations ranged from 0.0016 to 0.030 mg/kg ww, ranging from 15% – 63% of total Hg concentration (**Table 4-3**). There was variation among discrete taxa groups, as chironomid larvae (0.06 mg/kg total and <0.04 mg/kg methylmercury) and water boatmen (Corixidae) had higher Hg concentrations (0.05 mg/kg total and 0.04 methyl) and total to methyl ratios than aquatic insects (e.g., Trichoptera 0.016 mg/kg ww total Hg, 0.005 mg/kg MeHg) (Azimuth 2013a; Volume 2 Appendix J Part 1 Mercury Technical Synthesis Report).

These concentrations are comparable to or slightly lower than concentrations observed in reservoirs studies elsewhere in Canada, including La Grande, Quebec (0.013 to 0.026 mg/kg ww; Tremblay et al. 1996), Manitoba (0.02 to 0.21 mg/kg ww; Jackson 1988) and Finland (0.018 to 0.14 mg/kg; Sarkka 1979). The low concentrations present in lower trophic level biota likely explain the low mercury concentrations found in fish in the Peace River.

4.4.3. Fish

4.4.3.1. General Trends

The fish community of the Peace River in the vicinity of the proposed project has been studied extensively (e.g., Mainstream Aquatics 2009, 2010, 2011) and mercury concentration data have been collected periodically dating back to the early 1990s (e.g., Pattenden et al. 1991). Tissue mercury analysis has mainly focused on the dominant species observed downstream of Williston Reservoir to the Site C dam site including bull trout, lake trout, Arctic grayling, burbot, lake whitefish, mountain whitefish, rainbow trout, longnose sucker, and redside shiner.

The main influencing factors of fish methylmercury concentrations are methylmercury in prey (i.e., diet), age, and size of fish, growth rates, bioenergetics and reproduction. Because MeHg accumulated by fish is primarily from dietary sources, body burden concentration is highly dependent on concentrations in their food, and trophic status.

This section reports on 2010 and 2011 fish mercury data based on collection efforts by Mainstream Aquatics (2012; 2013). These recent data were essential for informing predictions of changes in fish mercury in the proposed Site C reservoir and downstream. A more detailed analysis of the 2010/2011 data in perspective with historic data from the Peace River, is provided in Section 11.9 of the EIS.

4.4.3.2. General Findings

Mean, minimum and maximum mercury concentration (mg/kg wet weight or ppm) for each species from Dinosaur Reservoir and Peace River within the Site C reach and downstream are presented in **Table 4-4**. This table also includes essential stable carbon and nitrogen isotope data.

Arithmetic mean mercury concentrations of all species from Dinosaur Reservoir and the Peace River were very low relative to mercury concentrations elsewhere in British Columbia (Baker 2002) and in Canada (Depew et al. 2013).

Mercury concentrations for piscivorous species, bull trout in Peace River (0.08 ppm) and lake trout in Dinosaur Reservoir (0.09 ppm) were low and very similar. Mercury concentrations in rainbow trout (0.04 ppm), mountain whitefish (0.04 ppm) and longnose sucker (0.06 ppm) were also very low and similar across all areas. The only exception was longnose sucker from Dinosaur Reservoir with a mean mercury concentration of 0.20 ppm (0.06 – 0.37 ppm; **Table 4-4**). This is counter intuitive and can only be explained by the very slow growth rate of longnose sucker and their relatively old age for their size (**Table 4-2**). The old age of these fish has allowed them to bioaccumulate mercury over a long period of time where concentrations have not been 'diluted' by a concomitant increase in body size. In addition, the stable isotope data suggests that some suckers may have switched to a partially piscivorous diet, feeding on fish entrained out of Williston Reservoir. These factors combined have oddly resulted in higher mercury concentrations in longnose sucker than highly piscivorous species.

4.4.3.3. Mercury as a Function of Size

There is a well-known positive correlation between increasing mercury concentration and fish length (or weight or age) (Bodaly et al. 1987, 1993; and many others), as larger, older fish tend to have higher mercury concentrations than smaller, younger fish. This is primarily due to differences in diet, length of time of exposure and growth rate.

Length tends to be a more reliable predictor of mercury concentration than weight or age. Weight can change a great deal depending on season, diet and sexual maturity, while age is too coarse a metric. The positive relationship between mercury and increasing fish size is typically seen for strongly carnivorous species (e.g., bull trout, lake trout, and walleye) and sometimes for whitefish (mountain and lake whitefish). This pattern is seldom observed for suckers, forage fish or fish that consume terrestrial insects such as rainbow trout. The strength of this relationship depends on site-specific factors and ecological conditions (e.g., food web dynamics, diet). For most species in the 2010 and 2011 database sufficient fish were collected over a wide enough size range to detect whether a relationship existed or not. The exceptions were goldeye, walleye and redside shiner.

Table 4-5 presents statistical relationships between $\log_{10}$(mercury) and $\log_{10}$(length) for each species within Dinosaur Reservoir and Peace River, pooling downstream fish with the Site C reach fish. Within Dinosaur Reservoir longnose sucker was the only species that had a positive correlation between length and mercury concentration. As discussed above, this is likely due to the great age and small size of this species and possible shift to a more piscivorous diet by larger individuals.

Within the Peace River only bull trout, mountain whitefish and longnose sucker had positive length-mercury relationships. Despite this positive correlation for these species the absolute difference in mercury concentration between small and large fish diminishes the importance of this correlation. There was no size – mercury relationship for rainbow trout, which is typical given that this species frequently feeds on low mercury invertebrates with a terrestrial origin. Sample size and size range of walleye and goldeye was too small to derive Hg-L relationships.

These relationships are illustrated graphically in **Figure 4-4** for each species, pooled over areas. Only those relationships with a positive statistical significance (p<0.05) relationships are depicted by solid lines. A dashed line indicates a positive trending but marginally non-significant relationship (e.g., rainbow trout).

4.4.3.4. Species Summary

This section briefly summarizes mercury concentration data for major fish species from Dinosaur Reservoir and Peace River from 2010 and 2011 fish collections combined. These data were used to inform the EIS and to make predictions concerning fish mercury concentrations within the proposed new reservoir.

Bull Trout

- The arithmetic mean size (length and weight) and mean mercury concentration for Dinosaur Reservoir bull trout (658 mm, 2519 g, **Table 4-2**) was 0.11 mg/kg (**Table 4-4**) with a non-significant relationship between length and mercury (**Table 4-9**). The lack of a relationship is due to a combination of a limited size range collected and generally low mercury concentrations in all environmental media, including prey that may have originated from upstream in Williston Reservoir.
- Arithmetic mean mercury concentration of Peace River (from Site C area) bull trout (470 mm, 1635 g) was lower (0.072 mg/kg), primarily because of smaller fish size. The mercury-size relationship for Peace River bull trout was statistically significant (p=0.005). While the maximum mercury concentration in both Dinosaur and Peace River was 0.34 mg/kg, only 2 fish had this level; all other fish were 0.18 mg/kg or less.

- Mean bull trout mercury concentration in the Peace River in 2008 (460 mm, 1513 g; Mainstream Aquatics, 2009) was 0.08 mg/kg (range = 0.02 – 0.14 mg/kg), which is quite similar to the concentration in the present study. Overall, these data indicate that mercury concentrations of bull trout are low.

Lake Trout

- The arithmetic mean size (length and weight) and mercury concentration for Dinosaur Reservoir lake trout (416 mm, 865 g, **Table 4-2**) was 0.09 mg/kg (**Table 4-4**). The $\log_{10}$(length) – $\log_{10}$(mercury) was not significant or positive (**Table 4-9, Figure 4-4**). The low mercury concentrations in lake trout suggests that trout are foraging on low mercury concentration food, possibly originating from Williston Reservoir and possibly targeting zooplankton (see **Section 4.3** Stable Isotopes). The reasons why mercury concentrations are so low will be addressed briefly in the next section on trophic structure.
- The mercury concentration for the only lake trout captured from Peace River (391 mm, 570 g) was 0.07 mg/kg, and similar to Dinosaur Reservoir fish, despite being somewhat smaller.

Mainstream Aquatics (2009) did not capture any lake trout from the Peace River in 2008.

Rainbow Trout

Rainbow trout were only collected in 2011 from Dinosaur Reservoir and Peace River (n=10).

- Rainbow trout from Dinosaur Reservoir were slightly smaller (292 mm, 242 g) than from Peace River (330 mm, 433 g), (**Table 4-2**).
- Both species had the same mean mercury concentration (0.045 mg/kg) with maximum concentrations less than 0.10 mg/kg. There was no relationship between mercury concentration and fish size for this species, which is typical for rainbow trout.

Mountain Whitefish

- The arithmetic mean size (length and weight) and mercury concentration for Dinosaur Reservoir mountain whitefish (301 mm, 373 g) was 0.04 mg/kg, with a positive $\log_{10}$(length)-$\log_{10}$(mercury) relationship (**Figure 4-4**).
- The arithmetic mean size (length and weight) and mercury concentration for Peace River mountain whitefish (345 mm, 498 g; larger than Dinosaur Reservoir fish [317 mm, 364 g]) was 0.03 mg/kg. Despite the low concentration, there was a significantly positive $\log_{10}$(length) – $\log_{10}$(mercury) relationship (**Figure 4-4**).
- Mean mountain whitefish mercury concentration in 2008 (340 mm, 482 g; Mainstream Aquatics, 2009) was 0.03 mg/kg (range: 0.02 – 0.06 mg/kg), which is quite similar to the mean concentration measured in the present study. These data indicate that mercury concentrations in Peace River mountain whitefish have not changed in the last several years.

Longnose Sucker

- The arithmetic mean size of longnose sucker from Dinosaur Reservoir (393 mm, 755 g) and Peace River were similar (388 mm, 770 g). However, arithmetic mean mercury in Dinosaur

Reservoir longnose sucker (0.20; range 0.06 – 0.36 mg/kg) was significantly higher than in Peace River (0.05 mg/kg). This is partially because Dinosaur Reservoir fish were much older (17 y) than Peace River fish (10 y), so they have concentrated more mercury over a longer period of time without growth dilution.

- Mercury in Peace River longnose sucker was similar to whitefish and rainbow trout, but with a lower trophic level position than these species.
- Dinosaur Reservoir longnose sucker occupied a higher trophic position (see **Section 4.5** for details) than Peace River suckers, similar to bull trout and lake trout from Dinosaur Reservoir. This result suggests that suckers may be feeding on fish (or fish remains), possibly from Williston Reservoir.

Redside Shiner

The arithmetic mean size (length and weight) and mercury concentration for Peace River redside shiner (captured downstream of Moberly River in 2010) (99 mm, 14 g) was 0.05 mg/kg. This species was not analyzed for mercury in 2008 (Mainstream Aquatics, 2009) nor was it captured in the 2011 program.

Walleye

Sixteen walleye were captured in 2011 downstream of Site C near Pouce Coupe River and were analysed for mercury (431 mm, 885 g) Arithmetic mean mercury was 0.18 mg/kg (0.08 – 0.33 mg/kg). There was no statistically significant relationship between fish size and mercury concentration in the Peace River, primarily because of the narrow size range of fish captured.

Goldeye

Ten goldeye were captured in 2011 downstream of Site C near Pouce Coupe River (379 mm, 600 g), again, within a narrow size range. Mean mercury concentration was 0.24 mg/kg and ranged from 0.14 – 0.31 mg/kg).

Mercury concentrations of goldeye and walleye from well downstream of the proposed Site C dam location were higher than for piscivorous species (bull trout, lake trout) within the Peace River. This may be related to a combination of a low-mercury environment of the Peace River just downstream of Williston Reservoir and higher mercury concentrations in dietary items of walleye and goldeye further downstream.

Mean mercury concentrations of all fish species in the Peace River within the Site C reach were less than 0.10 mg/kg, with concentrations in nearly all fish less than 0.20 mg/kg. These are low concentrations, especially for the large piscivorous species bull trout and lake trout. These concentrations lower than for the same species of a similar size in all other B.C. lakes and reservoirs for which there are Hg data (Rieberger 1992; Baker 2002) and are among the lowest in Canada (Depew et al. 2013).

4.5. Stable Isotopes

4.5.1. Food Web Structure

Stable isotope results are shown as mean and standard deviation $\delta^{15}N$ and $\delta^{13}C$ values for primary consumers and target fish species for each Dinosaur Reservoir, Site C (Peace River) and Peace River downstream in **Figure 4-5.** Summary statistics of stable isotope data are provided in **Table 4-3** (primary consumers) and **Table 4-4** (fish).

While the $\delta^{15}N$ values provide a rough estimate of the relative trophic positions of each target fish species in the food chain, $\delta^{15}N$ should be converted to trophic position (to account for inter-waterbody/area differences in $\delta^{15}N$ of primary consumers) to correctly compare species trophic positions in different areas (see **Section 4.5.2**). Notwithstanding, $\delta^{15}N$ results suggest the following:

Differences in $\delta^{15}N$ in primary consumers (benthos and zooplankton) between the three areas - Dinosaur Reservoir, Site C and Downstream, are minimal, thus uncorrected $\delta^{15}N$ results will be similar to trophic position results.

- There is large variability in carbon and nitrogen stable isotopes of zooplankton and benthos from the Site C area of the Peace River in particular. In 2010 for benthos, this was partly due to a very small sample size with a very limited taxonomic composition. For zooplankton, although taxonomy was not examined, it is likely that the sample differed considerably between up- and downstream locations; upstream samples mostly consisted of zooplankton entrained out of Williston Reservoir while downstream samples were likely comprised of drift of benthic invertebrates with very different stable isotope signatures. Benthic $\delta^{15}N$ data collected in 2011 from the Site C area increased the mean $\delta^{15}N$ for this group, as well as its variability. Data for individual primary consumer samples were reviewed and overall, the data appear variable, with no apparent patterns (e.g., related to areas or species/sample types).

- Some fish, including bull trout and lake trout and particularly longnose sucker, appear to be at a higher trophic level in Dinosaur Reservoir than in the Peace River. $\delta^{15}N$ in these fish from the downstream Peace River area generally fell between the other two areas. Further analysis is provided in **Section 4.5.2.** The higher trophic level in these fish species can be explained by: 1) older fish being present in Dinosaur Reservoir than downstream (e.g., the average age for longnose sucker from Dinosaur Reservoir is 17 years old, compared to 10 years old in Site C and downstream) and 2) a more piscivorous or carnivorous diet, especially by suckers. Given the paucity of benthos in Dinosaur Reservoir, it is likely that fish are preferentially consuming other fish entrained out of Williston Reservoir; even longnose sucker appear to have switched to a diet consisting at least partially of fish. Further evidence of this is based on mercury concentration, which is more typical of a piscivorous species not a benthic feeder of algae.

- There are some fish species that appear to be at comparable trophic levels in the different waterbodies/areas (e.g., mountain whitefish and rainbow trout).

- Other fish species (e.g., walleye, goldeye and redside shiner) are present in the Downstream area only. Walleye had a very high $\delta^{15}N$ (comparable to lake trout and bull trout), whereas the goldeye had an intermediate $\delta^{15}N$ and redside shiner had a lower $\delta^{15}N$.

The $\delta^{13}C$ values distinguish between various energy flow paths in these water bodies. Interestingly, the range of $\delta^{13}C$ values in primary consumers is low in the Peace River (Site C and Downstream) relative to

Dinosaur Reservoir. Specifically, in Dinosaur Reservoir, the $\delta^{13}C$ signature in zooplankton is much lower (more depleted) than the $\delta^{13}C$ signature in benthic invertebrates. This result might be due to more depleted $\delta^{13}C$ in pelagic relative to littoral zones (Vander Zanden and Rasmussen 1999). Given the lack of littoral habitat in Dinosaur Reservoir, this result is expected. While the observed pattern (particularly for zooplankton) might be somewhat seasonal (e.g., possible reduction in the $\delta^{13}C$ of the dissolved inorganic carbon pool later in the summer as respiration increases), the wide range of $\delta^{13}C$ values among target fish species suggests that the pattern might be more persistent.

Specifically, the $\delta^{13}C$ values of longnose sucker, mountain whitefish and rainbow trout in Dinosaur Reservoir are higher than bull trout and lake trout and more similar to the $\delta^{13}C$ signature in benthic invertebrates. Bull trout and lake trout have $\delta^{13}C$ values that are more negative than other fish species in Dinosaur Reservoir, but in between zooplankton and benthos. This suggests that bull trout and lake trout in Dinosaur Reservoir may be feeding on prey items more depleted in $\delta^{13}C$ (e.g., pelagic- or profundal-based energy flow paths) than other fish species. Given the proximity of the captured fish to the tailrace area (see map **Figure 1-2**) it is possible that their prey items (i.e., smaller fish) may be coming from Williston Reservoir.

As with the nitrogen isotope data, there was large variability in the $\delta^{13}C$ signature of zooplankton and benthos. The zooplankton sample from Site C reach was less depleted in $\delta^{13}C$ than expected for these organisms. As noted above, it is likely that the 2010 zooplankton sample from downstream Peace River Site C was comprised of drifting benthic invertebrates.

4.5.2. Trophic Position

Cabana and Rasmussen (1996) recommended that absolute trophic position estimates of consumers should take into account the $\delta^{15}N$ of primary consumers as a baseline. Vander Zanden and Rasmussen (1999) further refined this approach to also take the stable carbon isotopes into consideration, as $\delta^{13}C$ was shown to generally decrease from littoral to pelagic to profundal habitats. However, use of the latter refinement was only deemed valuable when $\delta^{15}N$ values varied substantially among three or more primary consumer groups (i.e., they followed the pattern of increasing $\delta^{15}N$ values with decreasing $\delta^{13}C$ values).

Stable isotope results for primary consumers are presented in **Table 4-5** and **Figure 4-5**. As described above, the figure shows little difference in primary consumer $\delta^{15}N$ values over a fairly broad range of $\delta^{13}C$. Consequently, we did not apply the refined approach (i.e., considering primary consumer $\delta^{13}C$ in establishing the baseline $\delta^{15}N$) and instead relied solely on the primary consumer $\delta^{15}N$ values to establish the baseline for each water body. Consequently, baseline-corrected trophic position was estimated using the following equation (Vander Zanden and Rasmussen 2001):

$$TP_{\text{fish species}} = (\delta^{15}N_{\text{fish species}} - \delta^{15}N_{\text{primary consumer}})/3.4 + 2 \qquad \text{Eq.2}$$

Where $\delta^{15}N_{\text{primary consumer}}$ was the mean value of benthos and zooplankton samples from all water body/areas combined and $\delta^{15}N_{\text{fish species}}$ was either the mean $\delta^{15}N$, standard size $\delta^{15}N$ or individual fish $\delta^{15}N$ for a given species depending on the analysis. "3.4" is the average increase in $\delta^{15}N$ per trophic level step and "2" is the trophic level assigned to primary consumers.

Trophic structure for three simplified lake food chains was shown in **Figure 2-1** (**Section 2**). Mean trophic position of target fish species in Site C, Downstream and Dinosaur Reservoir areas are presented in **Table 4-6** and **Figure 4-6**. Like the generalized food chains, results for the study illustrate that lake trout have the highest trophic position in Dinosaur Reservoir and Site C (however, note the low sample

size in Site C, n=1), followed by bull trout (all areas) and walleye (downstream Peace River only). As expected, the remaining target species (mountain whitefish, longnose sucker, redside shiner) and opportunistic species (goldeye and rainbow trout) had lower trophic positions and feed lower in the food chain. For lake trout, bull trout and longnose sucker, mean trophic position estimates were higher in Dinosaur Reservoir than Site C, likely due to older aged fish being present in Dinosaur Reservoir relative to Site C. Mountain whitefish had comparable trophic positions in all three areas. Rainbow trout were at a slightly higher trophic position in Site C, relative to Dinosaur Reservoir, with no difference in age.

As stated in **Section 4.5.1** the downstream area appeared to have a slightly different food web with different fish species (e.g., walleye – high trophic position, goldeye – intermediate trophic position, and redside shiner – low trophic position). For fish species that were common between the three areas, bull trout and mountain whitefish from the Downstream had trophic positions similar to these species in Dinosaur Reservoir, whereas longnose sucker had a trophic position similar to this species in Site C.

4.5.3. Trophic Position and Fish Length

Trophic position is often correlated with fish size because, for most species, fish feed progressively higher on the food chain as they grow larger. The relationship between length (as a surrogate for fish size) and trophic position for the 2010 and 2011 data combined is presented in **Table 4-7** and **Figure 4-7**. The results show that relationships between trophic position and fish length (size) were dependent on fish species. Specifically:

- Significant positive relationships were found for bull trout ($p<0.05$), mountain whitefish ($p<0.05$) and longnose sucker ($p=0.07$). Note that for longnose sucker, there appeared to be an area influence, where there was a strongly significant relationship only for suckers from the Site C area (**Table 4-7**). (When data were pooled across areas, a moderately significant relationship was still apparent).

- No relationship was found for walleye, goldeye, and redside shiner (likely because of small sample size and narrow size range available); and

- A slightly negative significant relationship was found for lake trout (most individuals were from Dinosaur Reservoir). These results imply that lake trout of all sizes are feeding on the same dietary items (approximately) and/or the results may somehow be related to the ecology of the tailrace area (e.g., feeding on small fish entrained in the discharge from Williston Reservoir).

4.5.4. Total Mercury and Trophic Position

As discussed in **Section 2.2**, trophic position has been shown to be well-correlated to tissue concentrations for biomagnifying substances such as methylmercury. This relationship was examined for each species-water body combination and across species and water bodies (for 2010 and 2011 years combined). Results of the species-water body combinations are presented in **Table 4-8** (statistical results) and **Table 4-9** (summary of results) and are shown in **Figure 4-8** (regression lines provided for moderately significant ($0.05<p<0.15$, dashed line) and strongly significant ($p<0.05$, solid line) relationships).

The results suggest that, overall, trophic position had a significant effect on mercury tissue levels for many species/areas, but not all. Specifically,

- Rainbow trout was the only fish species showing a significant mercury-trophic position relationship in Dinosaur Reservoir. For most of the fish species in Dinosaur Reservoir, this may have been due to lower sample sizes and/or a lower trophic position variance within a species (**Table 4-9**).
- The majority of species with a reasonable sample size from Site C and Downstream areas in the Peace River showed significant relationships between mercury and trophic position.
- Mercury-trophic position relationships became significant for most species when data from all areas were pooled (i.e., this increased the sample size and trophic position variance). This latter observation confirms the underlying biomagnification mechanism driving total mercury in fish tissues.
- Lake trout and rainbow trout (pooled data over areas and years) did not show significant relationships between mercury and trophic position. Interestingly, lake trout did not show a significant relationship between length and trophic position, suggesting that they are not changing their diet with size or there is some unique feeding ecology occurring in the tailrace area. For rainbow trout, there was a significant relationship in the Dinosaur Reservoir, but data from Site C area were much more variable and showed no pattern.

The importance of feeding ecology driving total mercury tissue concentrations is exemplified in **Figure 4-9**, which shows the trophic position-total mercury relationship across all fish species[1] and water bodies. The data show overall an ecologically and statistically significant relationship between mercury and trophic position.

[1]Primary consumers were not analyzed for mercury and were therefore not included in **Figure 4-9**.

Table 4-1: Summary of fish catch in Dinosaur Reservoir and Peace River (Site C and Downstream), 2010 and 2011.

A) By Sampling Location

Waterbody	Location	Bull Trout	Lake Trout[1]			Rainbow Trout	Mountain Whitefish[1]			Longnose Sucker	Walleye	Goldeye	Redside Shiner
2010													
			TOT	OUT	TYPE[1]		TOT	OUT	TYPE[1]				
Dinosaur Reservoir	Gething Creek	11	0			0	0			0	0	0	0
	GMS Tailrace	2	19			0	0			0	0	0	0
	Reservoir	1	1			0	15	5	L/W	1	0	0	0
Peace River - Site C	Section 1	0	0			0	0			0	0	0	0
	Section 3	15	1			0	17			10	0	0	0
Peace River - Downstream	Section 5	0	0			0	0			0	0	0	11
	Section 7	0	0			0	0			0	0	0	0
	Section 8	0	0			0	0			0	0	0	0
2011													
			TOT	OUT	TYPE[1]								
Dinosaur Reservoir	Gething Creek	0	0			0	0			0	0	0	0
	GMS Tailrace	0	0			0	0			0	0	0	0
	Reservoir	2	10	1	L/W	10	11			11	0	0	0
Peace River - Site C	Section 1	0	0			10	10			11	0	0	0
	Section 3	4	0			0	12			10	0	0	0
Peace River - Downstream	Section 5	0	0			0	0			0	0	0	0
	Section 7	2	0			0	10			10	6	3	0
	Section 8	0	0			0	0			0	10	7	0

1 TOT = Total Caught, OUT = Outliers (see explanation below), TYPE = Type of Outlier.
Note, there were length/weight outliers identified for lake trout from Dinosaur Reservoir in 2011 (n=1) and mountain whitefish from Dinosaur Reservoir in 2010 (n=5). The outliers were determined from condition factor (length and/or weight) and are removed from data plots and analyses related to length or weight. They are included in mercury and trophic position analyses.

Table 4–1 Cont'd: Summary of fish catch in Dinosaur Reservoir and Peace River (Site C and Downstream) for 2010 and 2011 sampling programs.

B) Overall By Waterbody

Area	Bull Trout	Lake Trout[1]			Rainbow Trout	Mountain Whitefish[1]			Longnose Sucker	Walleye	Goldeye	Redside Shiner
2010												
						TOT	OUT	TYPE[1]				
Dinosaur	14	20			0	15	5	L/W	1	0	0	0
Site C	15	1			0	17			10	0	0	0
Downstream	0	0			0	0			0	0	0	11
2011												
		TOT	OUT	TYPE[1]								
Dinosaur	2	10	1	L/W	10	11			11	0	0	0
Site C	4	0			10	22			21	0	0	0
Downstream	2	0			0	10			10	16	10	0

1 TOT = Total Caught, OUT = Outliers (see explanation below), TYPE = Type of Outlier.
Note, there were length/weight outliers identified for lake trout from Dinosaur Reservoir in 2011 (n=1) and mountain whitefish from Dinosaur Reservoir in 2010 (n=5). The outliers were determined from condition factor (length and/or weight) and are removed from data plots and analyses related to length or weight. They are included in mercury and trophic position analyses.

Table 4-2: Summary of Fish Biology Results in Dinosaur Reservoir and Peace River (Site C and Downstream), 2010 and 2011.

		Length (mm)					Weight (g)					Age				
Species	**Area**	**Mean**	**Min**	**Max**	**SD**	**n**	**Mean**	**Min**	**Max**	**SD**	**n**	**Mean**	**Min**	**Max**	**SD**	**n**
Bull Trout	Dinosaur	658	285	835	203	16	2519	262	7775	3310	16	7.4	3	10	2.3	16
Bull Trout	Site.C	470	292	806	156	19	1635	308	7160	1941	19	4.9	3	11	1.8	19
Bull Trout	Downstream	529	500	558	41	2	1586	1350	1822	334	2	7.0	6	8	1.4	2
Lake Trout	Dinosaur	416	304	630	87	29[a]	865	262	2676	645	29[a]	7.3	4	13	2.3	30
Lake Trout	Site.C	391	391	391	NA	1	570	570	570	NA	1	4.0	4	4	NA	1
Rainbow Trout	Dinosaur	292	265	313	14	10	242	178	286	34	10	3.9	3	6	0.9	10
Rainbow Trout	Site.C	330	215	440	71	10	433	128	984	274	10	3.8	3	5	0.6	10
Mountain Whitefish	Dinosaur	317	246	395	42	21[a]	364	192	692	142	21[a]	6.0	2	15	3.3	26
Mountain Whitefish	Site.C	345	211	480	71	39	498	108	1252	270	39	8.8	2	19	4.1	39
Mountain Whitefish	Downstream	319	237	396	45	10	366	158	622	141	10	8.0	4	13	2.7	10
Longnose Sucker	Dinosaur	393	268	434	46	12	755	240	1074	214	12	16.9	5	22	4.4	12
Longnose Sucker	Site.C	388	295	442	35	31	770	362	1172	194	31	10.5	6	22	4.2	31
Longnose Sucker	Downstream	403	373	442	21	10	779	654	990	107	10	10.2	7	16	2.9	10
Walleye	Downstream	431	399	479	21	16	885	630	1204	168	16	9.5	4	16	3.4	16
Goldeye	Downstream	379	310	410	28	10	600	314	854	151	10	10.6	9	12	1.1	10
Redside Shiner	Downstream	99	85	119	12	11	14	6	26	7	11	7.0	7	7	0.0	11

[a]Note: Length/weight outliers removed.

Table 4-3: Summary of carbon ($\delta^{13}C$ ‰) and nitrogen ($\delta^{15}N$ ‰) isotopes in primary consumers from Dinosaur Reservoir and Peace River (Site C and Downstream), 2010 and 2011 combined.

				d13C (‰)			d15N (‰)			Inorganic Mercury (mg/kg ww)			Methyl Mercury (mg/kg ww)			Total Mercury (mg/kg ww)			% MeHg (%)		
Organism	**Area**	**Year(s)**	**n**	**Mean**	**Min**	**Max**	**Mean**	**Min**	**Max**	**Mean**	**Min**	**Max**	**Mean**	**Min**	**Max**	**Mean**	**Min**	**Max**	**Mean**	**Min**	**Max**
Benthos	Dinosaur	2010	3	-25.9	-26.6	-24.3	5.7	4.8	6.7	0.023	n/a	n/a	0.0021	n/a	n/a	0.025	n/a	n/a	8	n/a	n/a
Benthos	Site.C	2010+2011	8	-31.8	-36.6	-25.9	6.1	3.7	9.3	0.009	0.003	0.020	0.0090	0.0016	0.0260	0.018	0.009	0.046	37	15	63
Benthos	Downstream	2011	2	-32.8	-32.9	-32.7	5.1	4.5	5.7	0.012	0.010	0.014	0.0175	0.0030	0.0320	0.030	0.017	0.042	48	20	76
Zooplankton	Dinosaur	2010	3	-36.6	-37.6	-35.3	5.8	5.7	5.8	0.003	0.001	0.005	0.0007	0.0003	0.0011	0.003	0.001	0.006	31	24	44
Zooplankton	Site.C	2010	3	-28.4	-33.4	-25.5	5.3	2.6	6.7	0.006	0.004	0.008	0.0003	0.0001	0.0007	0.007	0.004	0.009	5	2	9

Table 4-4: Summary of total mercury concentrations (mg/kg ww) and carbon (δ^{13}C ‰) and nitrogen (δ^{15}N ‰) isotopes in fish from Dinosaur Reservoir and Peace River (Site C and Downstream), 2010 and 2011 combined.

		Total Mercury (mg/kg ww)					d13C (‰)					d15N (‰)				
Species	Area	Mean	Min	Max	SD	n	Mean	Min	Max	SD	n	Mean	Min	Max	SD	n
Bull Trout	Dinosaur	0.112	0.038	0.341	0.075	16	-34	-36.24	-29.09	1.984	15[a]	11.35	10.37	12.38	0.529	15[a]
Bull Trout	Site.C	0.072	0.031	0.340	0.067	19	-28.7	-30.3	-27.42	0.84	19	10.16	8.98	11.04	0.509	19
Bull Trout	Downstream	0.083	0.077	0.089	0.008	2	-27.5	-27.71	-27.25	0.325	2	11.14	11.09	11.18	0.064	2
Lake Trout	Dinosaur	0.089	0.029	0.137	0.028	30	-31.9	-35.4	-27.06	2.116	30	11.97	11.18	13.08	0.473	30
Lake Trout	Site.C	0.066	0.066	0.066	NA	1	-26.9	-26.86	-26.86	NA	1	11.01	11.01	11.01	NA	1
Rainbow Trout	Dinosaur	0.045	0.036	0.057	0.006	10	-26	-27.76	-25.05	0.817	10	8.476	7.91	9.09	0.36	10
Rainbow Trout	Site.C	0.044	0.022	0.093	0.021	10	-27.9	-29.82	-25.82	1.367	10	9.183	8.38	10.16	0.623	10
Mountain Whitefish	Dinosaur	0.043	0.020	0.075	0.016	26	-27.2	-29.46	-23.37	1.247	26	8.69	7.76	10.93	0.647	26
Mountain Whitefish	Site.C	0.039	0.010	0.173	0.027	39	-29.8	-33.09	-26.58	1.313	39	8.409	6.49	11.35	1.271	39
Mountain Whitefish	Downstream	0.037	0.016	0.067	0.016	10	-27.9	-29.35	-26.85	0.684	10	8.855	7.95	10.05	0.662	10
Longnose Sucker	Dinosaur	0.200	0.063	0.365	0.079	12	-28.4	-30.01	-26.09	1.05	12	9.251	7.88	10.31	0.614	12
Longnose Sucker	Site.C	0.052	0.017	0.174	0.042	31	-29.1	-31.34	-26.31	1.047	31	7.169	5.72	8.98	0.98	31
Longnose Sucker	Downstream	0.057	0.019	0.104	0.026	10	-27.9	-28.66	-27.06	0.596	10	7.868	7.16	9.22	0.677	10
Walleye	Downstream	0.182	0.085	0.333	0.088	16	-25.7	-26.34	-25.07	0.303	16	11.18	10.43	12.69	0.689	16
Goldeye	Downstream	0.238	0.136	0.313	0.059	10	-26.1	-26.77	-25.22	0.593	10	9.547	8.69	10.13	0.459	10
Redside Shiner	Downstream	0.054	0.034	0.068	0.011	11	-25.5	-25.96	-24.3	0.451	11	8.117	7.59	8.57	0.274	11

[a]One bull trout not analyzed for C/N isotopes.

Table 4-5: Results of statistical analysis of total mercury (mg/kg ww) versus length (mm) regression for all fish from all areas (Dinosaur Reservoir and Peace River (pooled Site C and Downstream, pooled 2010 and 2011).

Species	Area	Intercept	Slope	p-value	Adj. R^2	n
Bull Trout	Dinosaur	-2.19	0.42	0.30	0.08	16
Bull Trout	Peace River	-4.11	1.09	0.002	0.42	21
Lake Trout	Dinosaur	0.45	-0.59	0.10	0.10	29[a]
Lake Trout	Peace River	-1.18	NA	NA	0.00	1
Rainbow Trout	Dinosaur	-4.44	1.25	0.23	0.18	10
Rainbow Trout	Peace River	-4.01	1.04	0.11	0.28	10
Mountain Whitefish	Dinosaur	-3.97	1.04	0.069	0.16	21[b]
Mountain Whitefish	Peace River	-5.85	1.74	2.9E-08	0.48	49
Longnose Sucker	Dinosaur	-7.70	2.69	0.002	0.65	12
Longnose Sucker	Peace River	-10.84	3.66	0.001	0.26	41
Walleye	Peace River	-6.23	2.07	0.41	0.05	16
Goldeye	Peace River	2.41	-1.18	0.35	0.11	10
Redside Shiner	Peace River	-2.38	0.56	0.34	0.10	11

Model: log10(THg[mg/kg ww]) = Intercept + Slope * log10(Length[mm])

[a]Note, one lake trout outlier from Dinosaur Reservoir (2010) was removed.

[b]Note, five mountain whitefish outliers from Dinosaur Reservoir (2011) were removed.

Table 4-6: Summary of trophic position (TP) summary statistics for primary consumers and fish by area, 2010 and 2011 combined.

		Trophic Position					
Organism/ Species	**Area**	**Mean**	**Min**	**Max**	**SD**	**n**	**Notes**
Benthos	Dinosaur	2.0	1.7	2.3	0.3	3	
Benthos	Site.C	2.1	1.4	3.0	0.6	8	
Benthos	Downstream	1.8	1.6	2.0	0.2	2	
Zooplankton	Dinosaur	2.0	2.0	2.0	0.0	3	
Zooplankton	Site.C	1.9	1.1	2.3	0.7	3	
Bull Trout	Dinosaur	3.6	3.4	4.0	0.2	15	a
Bull Trout	Site.C	3.3	3.0	3.6	0.1	19	
Bull Trout	Downstream	3.6	3.6	3.6	0.0	2	
Lake Trout	Dinosaur	3.8	3.6	4.2	0.1	30	
Lake Trout	Site.C	3.5	3.5	3.5	NA	1	
Rainbow Trout	Dinosaur	2.8	2.6	3.0	0.1	10	
Rainbow Trout	Site.C	3.0	2.8	3.3	0.2	10	
Mountain Whitefish	Dinosaur	2.9	2.6	3.5	0.2	26	
Mountain Whitefish	Site.C	2.8	2.2	3.6	0.4	39	
Mountain Whitefish	Downstream	2.9	2.6	3.3	0.2	10	
Longnose Sucker	Dinosaur	3.0	2.6	3.3	0.2	12	
Longnose Sucker	Site.C	2.4	2.0	3.0	0.3	31	
Longnose Sucker	Downstream	2.6	2.4	3.0	0.2	10	
Walleye	Downstream	3.6	3.4	4.0	0.2	16	
Goldeye	Downstream	3.1	2.9	3.3	0.1	10	
Redside Shiner	Downstream	2.7	2.5	2.8	0.1	11	

[a]Note, one bull trout from Dinosaur Reservoir was not analyzed for C/N isotopes.

Table 4-7: Results of statistical analysis of trophic position (TP) versus length (logarithmic base 10, mm) relationships for all fish from all areas (Dinosaur Reservoir and Peace River (Site C and Downstream)), 2010 and 2011.

A) TP versus length regressions for each species (pooled years and areas).

Species	Intercept	Slope	p.value	Adj.R.Sqr	N
BLTR	0.65	1.04	3.0E-07	0.54	36[a]
LKTR	5.87	-0.79	0.01	0.20	29[b]
RNTR	1.17	0.70	0.24	0.08	20
MNWH	-2.50	2.12	5.0E-07	0.31	70[c]
LNSC	-2.87	2.11	0.07	0.06	53
WALL	3.02	0.22	0.93	0.00	16
GOLD	5.97	-1.10	0.43	0.08	10
RDSH	2.29	0.20	0.70	0.02	11

Model: TP = Intercept + Slope * log10(Length[mm])

[a]Note, 10 bull trout from Dinosaur Reservoir (2010) did not have weight measurements.

[b]Note, one lake trout outlier and one lake trout without a weight measurement (both from Dinosaur Reservoir, 2010) were removed.

[c]Note, five mountain whitefish outliers from Dinosaur Reservoir (2011) were removed.

B) TP versus length regression for each species by area (pooled years).

Species	Area	Intercept	Slope	p.value	Adj.R.Sqr	N
Bull Trout	Dinosaur	2.02	0.58	0.01	0.44	15[a]
Bull Trout	Site C	0.90	0.90	3.0E-05	0.65	19
Bull Trout	Downstream	N/A	N/A	N/A	N/A	2
Lake Trout	Dinosaur	5.94	-0.81	0.01	0.25	28[b]
Lake Trout	Site C	N/A	N/A	N/A	N/A	1
Rainbow Trout	Dinosaur	0.70	0.85	0.64	0.03	10
Rainbow Trout	Site C	2.48	0.21	0.76	0.01	10
Mountain Whitefish	Dinosaur	-2.01	1.97	3.5E-03	0.37	21[c]
Mountain Whitefish	Site C	-3.94	2.66	2.4E-06	0.46	39
Mountain Whitefish	Downstream	2.60	0.13	0.91	1.7E-03	10
Longnose Sucker	Dinosaur	3.11	-0.03	0.98	8.4E-05	12
Longnose Sucker	Site C	-6.17	3.32	0.01	0.22	31
Longnose Sucker	Downstream	-0.30	1.12	0.72	0.02	10
Walleye	Downstream	3.02	0.22	0.93	5.3E-04	16
Goldeye	Downstream	5.97	-1.10	0.43	0.08	10
Redside Shiner	Downstream	2.29	0.20	0.70	0.02	11

Model: TP = Intercept + Slope * log10(Length[mm])

[a]Note, 10 bull trout from Dinosaur Reservoir (2010) did not have weight measurements.

[b]Note, one lake trout outlier and one lake trout without a weight measurement (both from Dinosaur Reservoir, 2010) were removed.

[c]Note, five mountain whitefish outliers from Dinosaur Reservoir (2011) were removed.

Table 4-8: Results of statistical analysis of total mercury (mg/kg ww) versus trophic position (TP) relationships for all fish from all areas (Dinosaur Reservoir and Peace River (Site C and Downstream)), 2010 and 2011.

A) Mercury versus TP regressions for each species (pooled years and areas).

Species	Intercept	Slope	p-value	Adj. R^2	n
Bull Trout	-3.45	0.67	0.000	0.38	37[a]
Lake Trout	-1.88	0.21	0.317	0.03	31
Rainbow Trout	-1.18	-0.07	0.719	0.01	20
Mountain Whitefish	-2.68	0.43	1.0E-09	0.40	75
Longnose Sucker	-2.97	0.67	2.1E-07	0.41	53
Walleye	-3.89	0.86	5.6E-06	0.78	16
Goldeye	-2.52	0.60	0.033	0.45	10
Redside Shiner	-3.05	0.66	0.064	0.33	11

Model: log10(THg[mg/kg ww]) = Intercept + Slope * TP

[a]Note, one bull trout from Dinosaur Reservoir was not analyzed for C/N isotopes.

B) Mercury versus TP regression for each species by area (pooled years).

Species	Area	Intercept	Slope	p-value	Adj. R^2	n
Bull Trout	Dinosaur	-3.62	0.71	0.11	0.18	15[a]
Bull Trout	Site C	-4.65	1.04	0.001	0.48	19
Bull Trout	Downstream	N/A	N/A	N/A	N/A	2
Lake Trout	Dinosaur	-1.79	0.19	0.41	0.02	30
Lake Trout	Site C	N/A	N/A	N/A	N/A	1
Rainbow Trout	Dinosaur	-2.46	0.40	0.03	0.46	10
Rainbow Trout	Site C	-1.02	-0.12	0.74	0.01	10
Mountain Whitefish	Dinosaur	-2.22	0.29	0.10	0.11	26
Mountain Whitefish	Site C	-2.88	0.51	3.4E-10	0.66	39
Mountain Whitefish	Downstream	-0.63	-0.29	0.41	0.09	10
Longnose Sucker	Dinosaur	-1.51	0.26	0.45	0.06	12
Longnose Sucker	Site C	-2.03	0.26	0.15	0.07	31
Longnose Sucker	Downstream	-2.30	0.38	0.34	0.11	10
Walleye	Downstream	-3.89	0.86	5.6E-06	0.78	16
Goldeye	Downstream	-2.52	0.60	0.03	0.45	10
Redside Shiner	Downstream	-3.05	0.66	0.06	0.33	11

Model: log10(THg[mg/kg ww]) = Intercept + Slope * TP

[a]Note, one bull trout from Dinosaur Reservoir was not analyzed for C/N isotopes.

Table 4-9: Significance of total mercury and trophic position relationship for fish (2010 and 2011 data combined).

Species	Dinosaur Reservoir	Site C (Peace River)	Downstream (Peace River)	All Areas Combined
Bull Trout	No	**Significant**	N/A (n=2)	**Significant**
Lake Trout	No	N/A (n=1)	No	No
Rainbow Trout	**Significant**	No	N/A	No
Mountain Whitefish	No	**Significant**	No	**Significant**
Longnose Sucker	No	**Significant (p<0.15)**	No	**Significant**
Walleye	N/A	N/A	**Significant**	**Significant (Downstream only)**
Goldeye	N/A	N/A	**Significant**	**Significant (Downstream only)**
Red Shiner	N/A	N/A	**Significant (p<0.15)**	**Significant (p<0.15) (Downstream only)**

Figure 4-1: Length (mm)-frequency histograms for all fish species, Dinosaur Reservoir, Site C (Peace River) and Downstream (Peace River), 2010-2011.

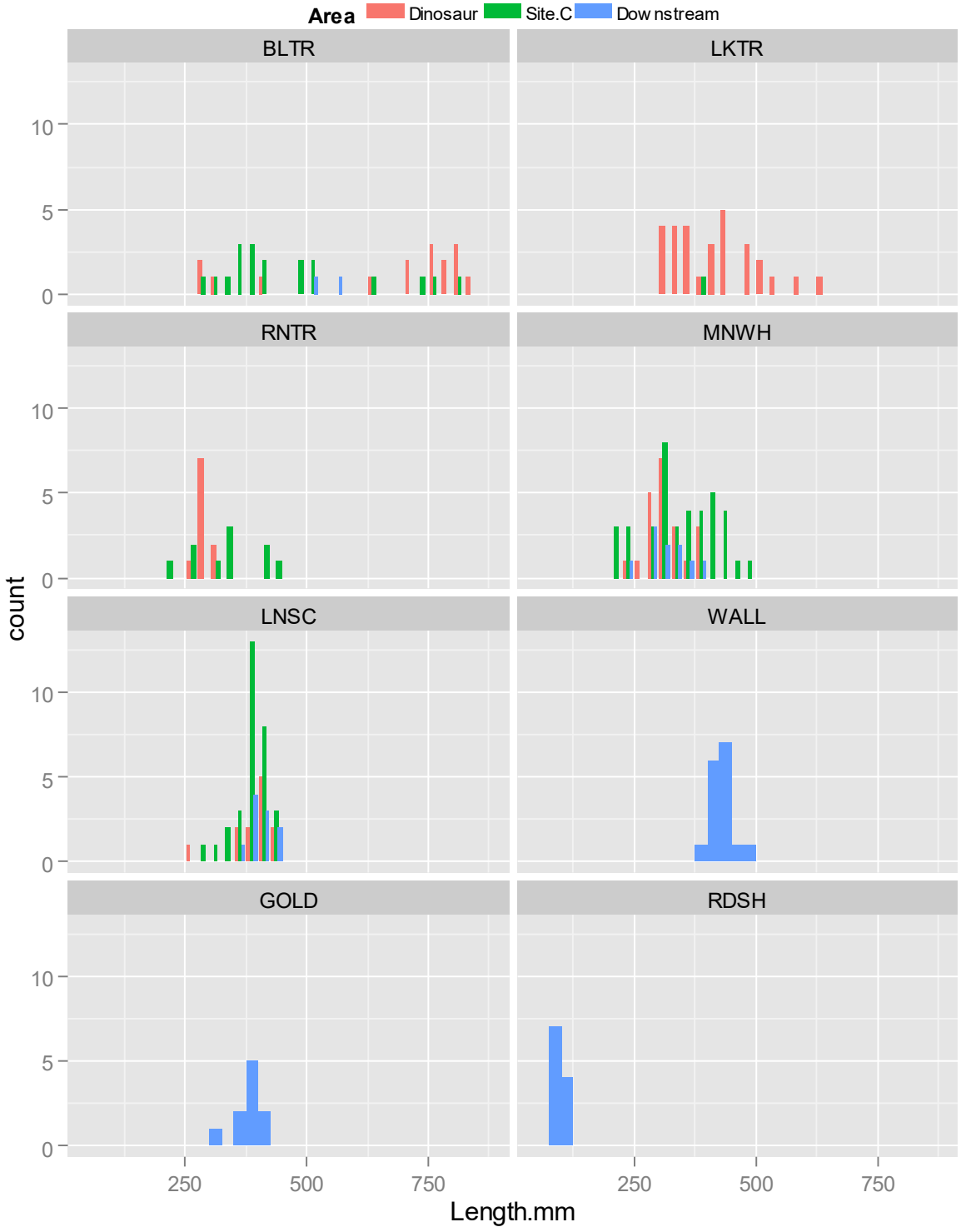


Figure 4-2: Condition (K, unitless)-frequency histograms for all fish species, Dinosaur Reservoir, Site C (Peace River) and Downstream (Peace River), 2010-2011.

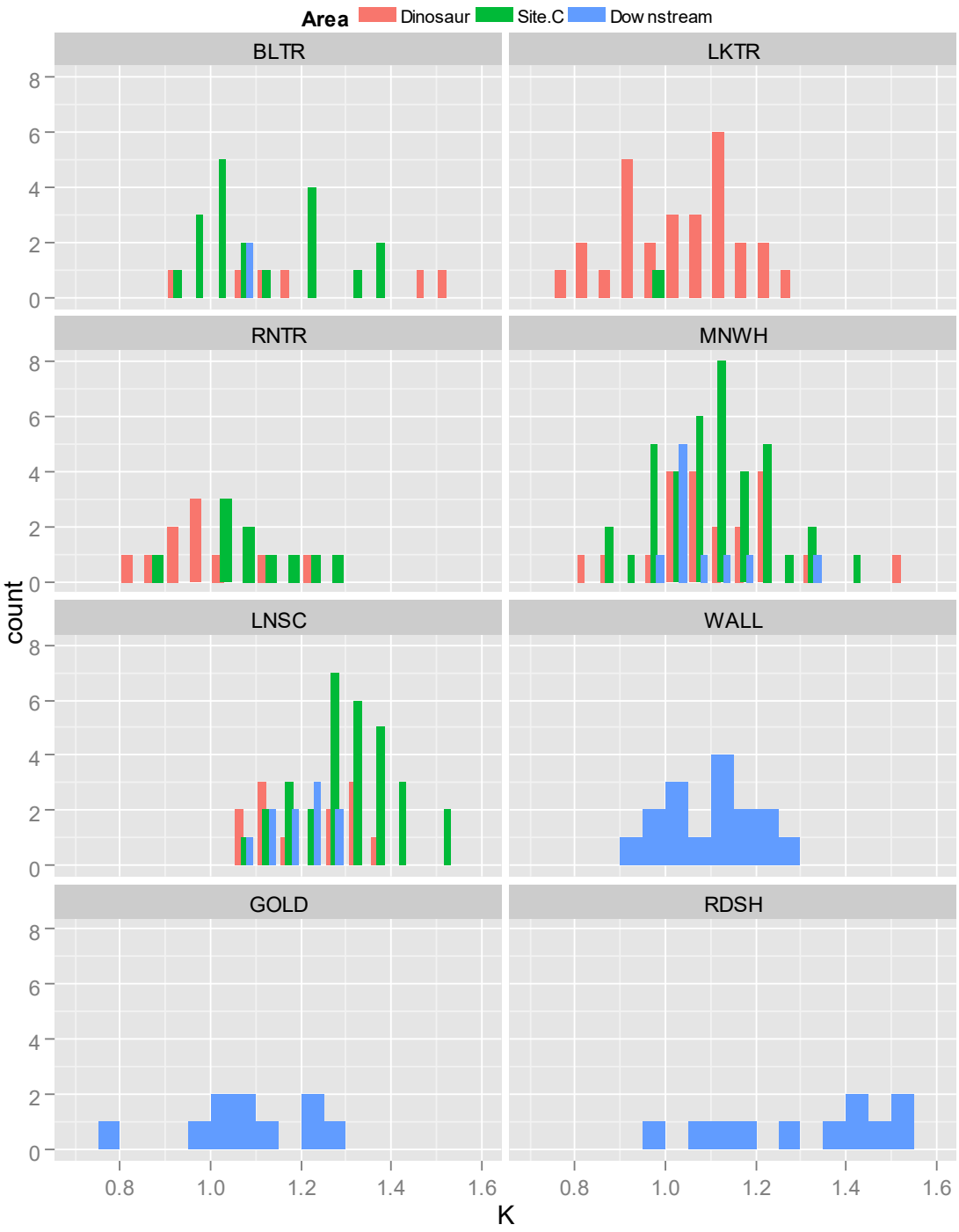


Figure 4-3: Length (mm)-weight (g) scatterplots for all fish species, Dinosaur Reservoir, Site C (Peace River) and Downstream (Peace River), 2010-2011.

Figure 4-4: Relationship between log_{10} length (mm) and log_{10} total mercury (mg/kg ww) for all fish species and all areas (Dinosaur Reservoir, Site C (Peace River) and Downstream (Peace River)), 2010-2011.

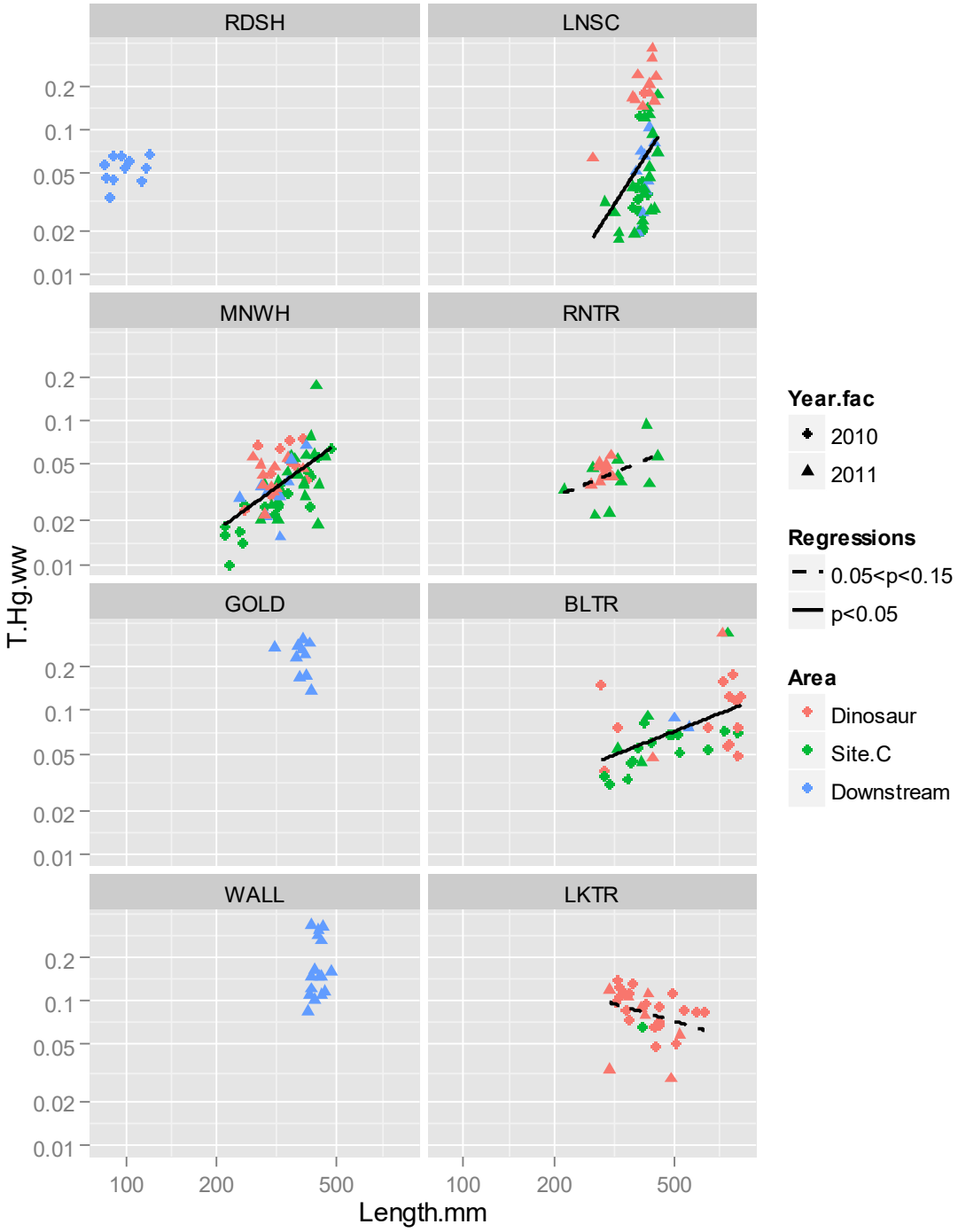


Figure 4-5: Mean (±SD) nitrogen ($\delta^{15}N$) and carbon ($\delta^{13}C$) stable isotopes in primary consumers and fish from (a) Dinosaur Reservoir, (b) Site C (Peace River) and (c) Downstream (Peace River), 2010-2011 combined.

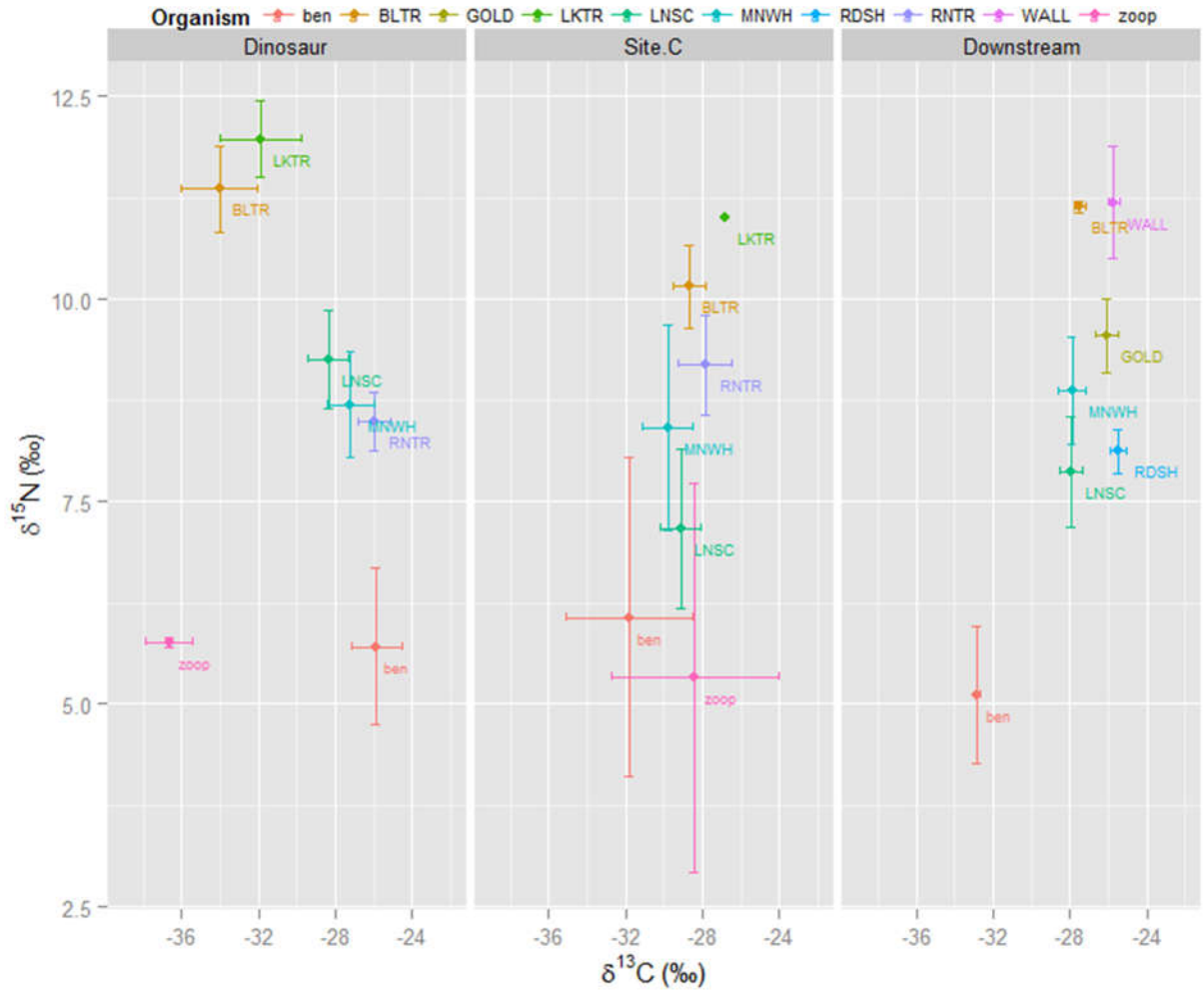


Figure 4-6: Mean trophic position of fish species from Dinosaur Reservoir, Site C (Peace River) and Downstream (Peace River), 2010-2011 combined.

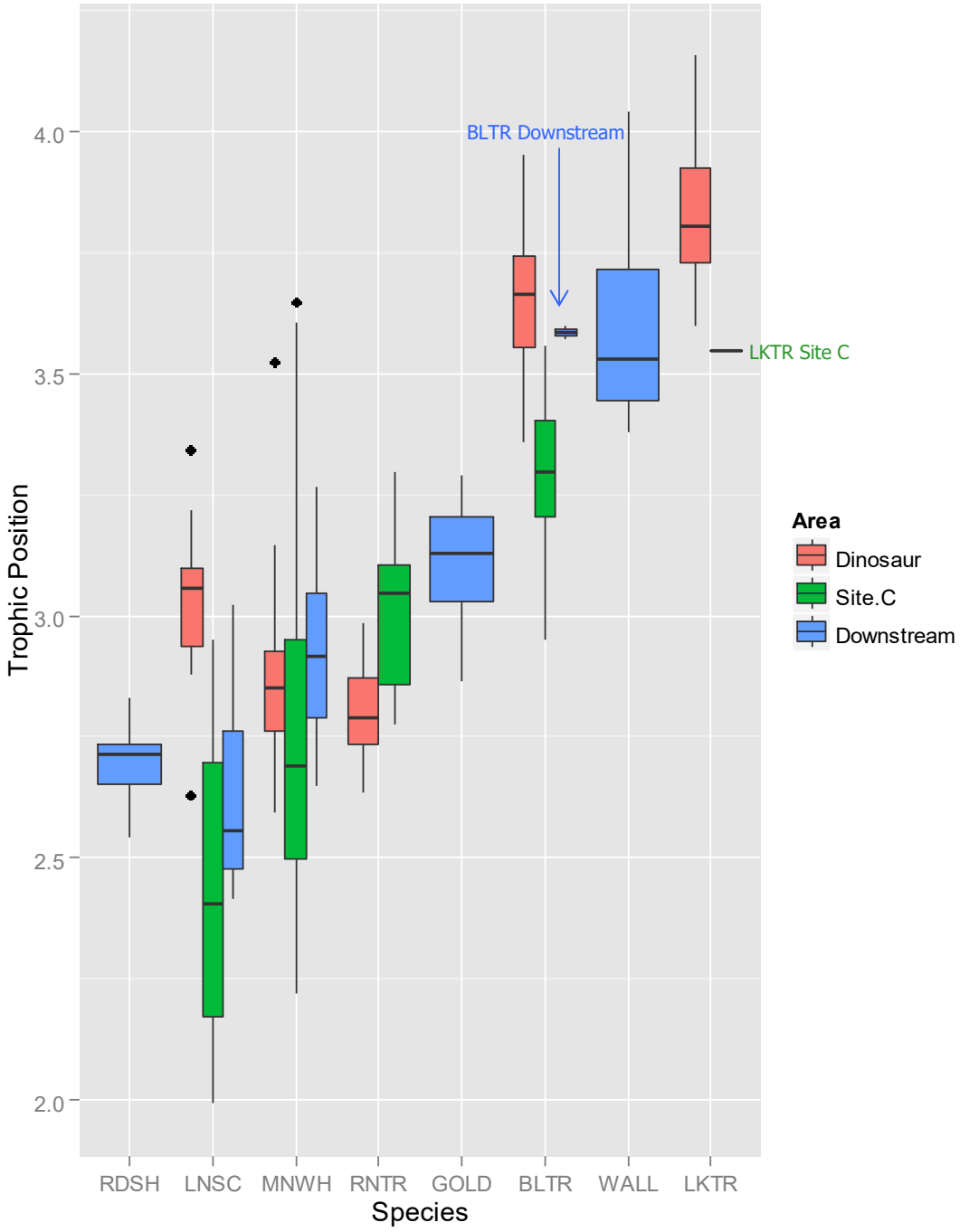


Figure 4-7: Relationship between length (logarithmic base 10 scale, mm) and trophic position (TP) for fish species from Dinosaur Reservoir and Peace River (Site C and Downstream), 2010 and 2011 combined.

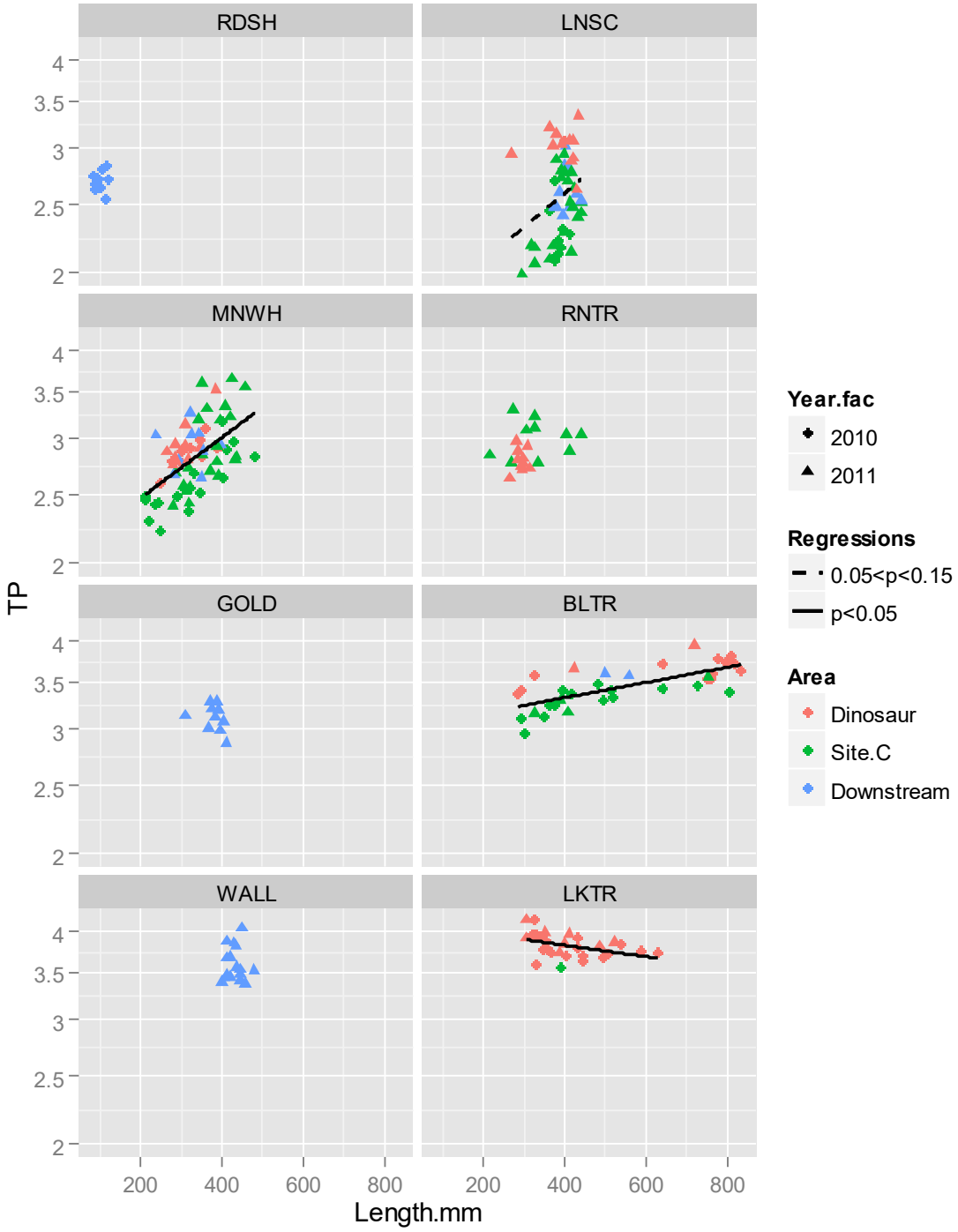


Figure 4-8: Relationship between trophic position and total mercury (mg/kg ww) for all fish species and all areas (Dinosaur Reservoir, Site C (Peace River) and Downstream (Peace River)), 2010-2011 combined. (Note relationship for rainbow trout is significant for Dinosaur only.)

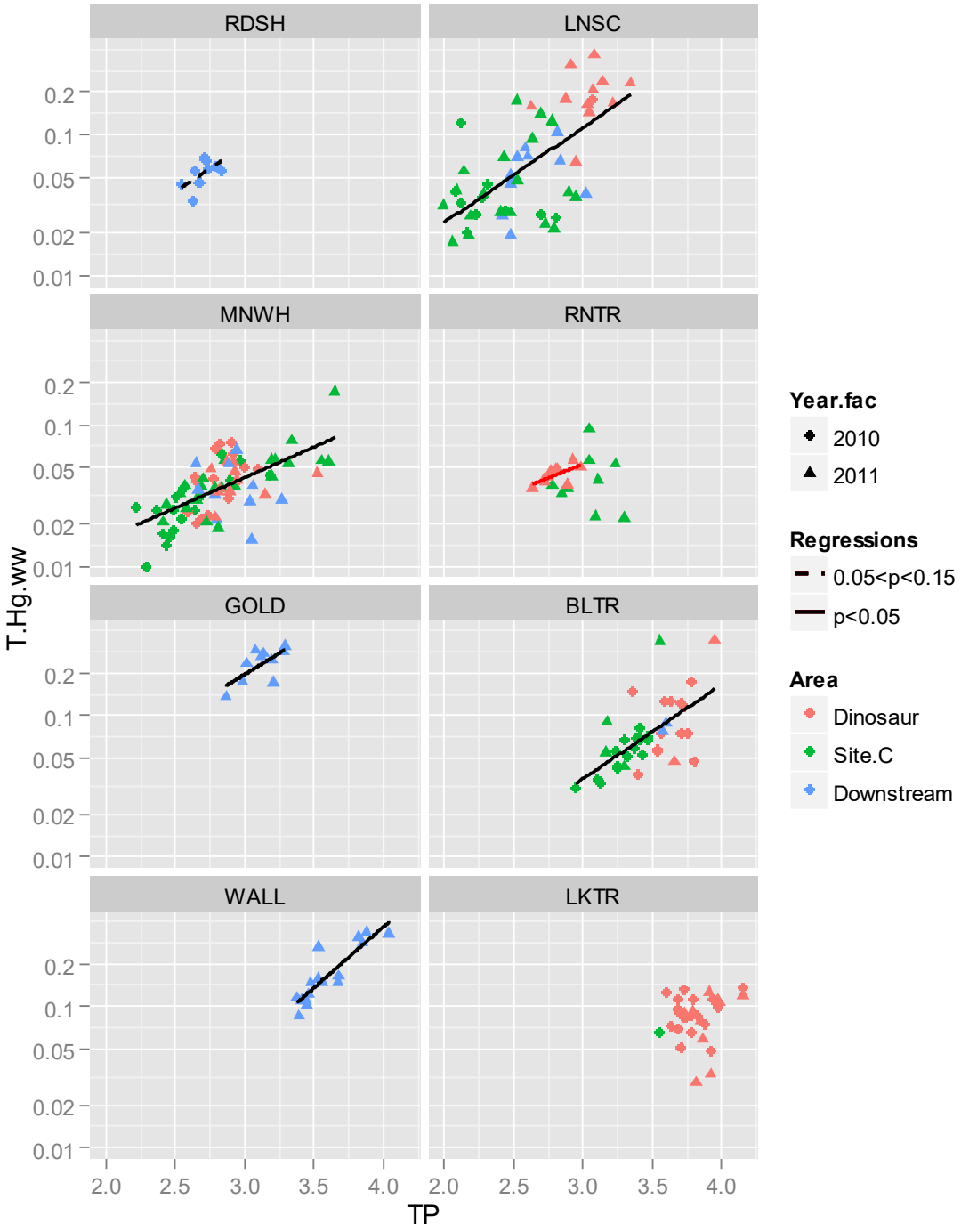
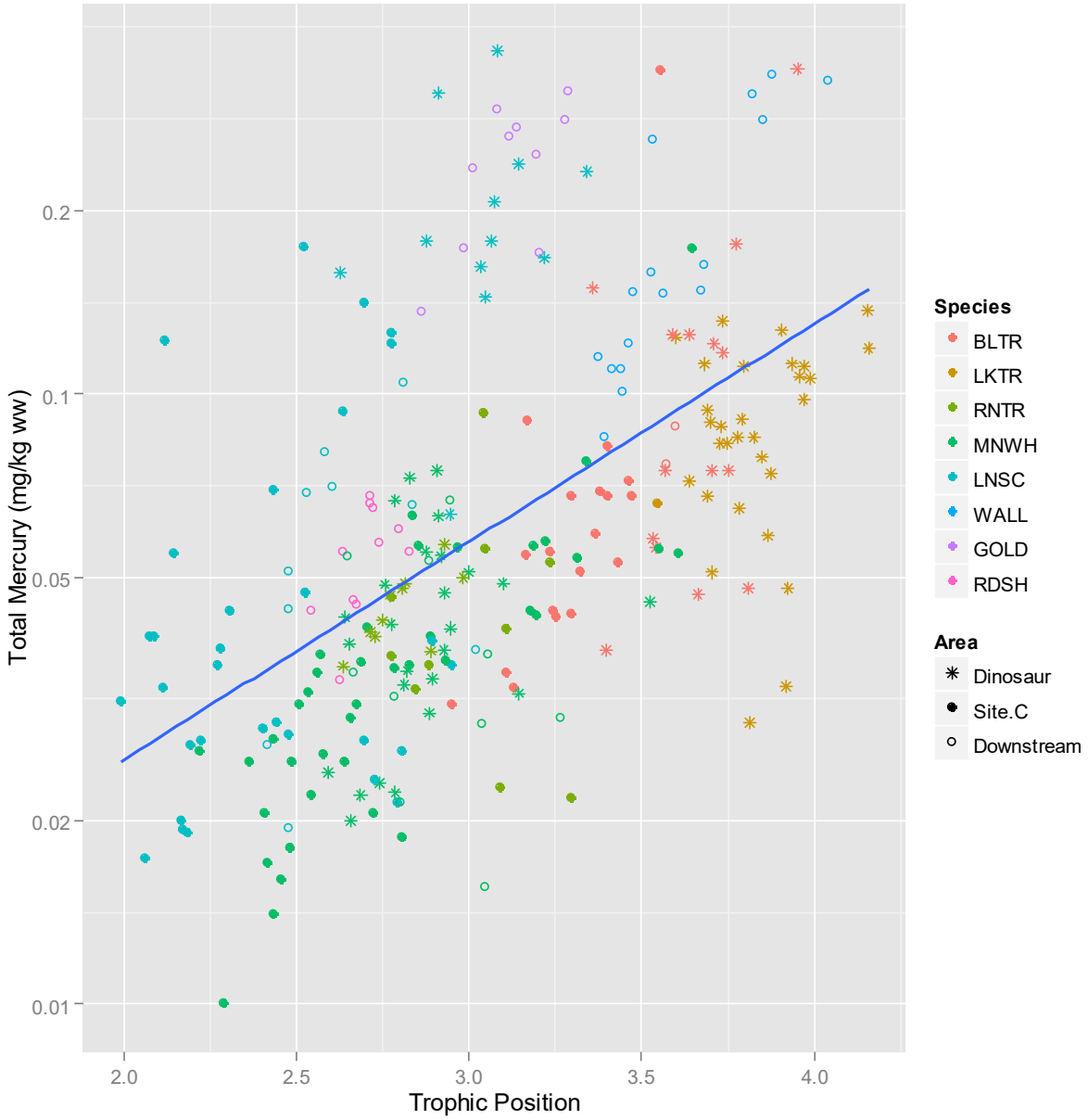


Figure 4-9: Relationship between trophic position and total mercury (mg/kg ww) across all fish species and all areas (Dinosaur Reservoir, Site C (Peace River) and Downstream (Peace River)), 2010-2011 combined.



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APPENDIX A: LABORATORY REPORTS – ALS & SINLAB

AZIMUTH CONSULTING GROUP INC.
ATTN: Randy Baker
218 - 2902 West Broadway
Vancouver BC V6K 2G8

Date Received: 15-NOV-11
Report Date: 13-JAN-12 10:51 (MT)
Version: FINAL REV. 2

Client Phone: 604-730-1220

Certificate of Analysis

Lab Work Order #: L1085007

Project P.O. #: NOT SUBMITTED
Job Reference: BCH-10-01
C of C Numbers: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
Legal Site Desc:

Comments:

13-JAN-12: This report replaces the previously issued L1085007 and includes a change to the Moisture result and associated Mercury result for the sample identified as '132' due to a data transcription error on initial entry.

Brent Mack
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-1	L1085007-2	L1085007-3	L1085007-4	L1085007-5
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	17-JUL-11	17-JUL-11	17-JUL-11	17-JUL-11	17-JUL-11
	Sampled Time					
	Client ID	1	2	3	4	5
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	74.9	74.5	75.9	76.2	73.9
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)					
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)					
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)					
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)					
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)					
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)					
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)					
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)					
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)					
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)					
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)					
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)					
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)					
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)					
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)					
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.0548	0.0324	0.0363	0.174	0.0294

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-6	L1085007-7	L1085007-8	L1085007-9	L1085007-10
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	17-JUL-11	17-JUL-11	17-JUL-11	23-JUL-11	23-JUL-11
	Sampled Time					
	Client ID	6	7	8	9	10
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	74.2	76.6	75.0	75.4	73.5
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)					
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)					
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)					
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)					
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)					
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)					
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)					
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)					
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)					
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)					
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)					
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)					
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)					
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)					
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)					
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.0271	0.0549	0.0265	0.0194	0.0266

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-11	L1085007-12	L1085007-13	L1085007-14	L1085007-15
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	23-JUL-11	23-JUL-11	23-JUL-11	23-JUL-11	23-JUL-11
	Sampled Time					
	Client ID	11	12	13	14	15
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	76.5	77.7	76.6	65.8	75.0
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)					
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)					
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)					
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)					
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)					
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)					
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)					
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)					
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)					
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)					
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)					
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)					
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)					
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)					
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)					
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.0802	0.0688	0.0658	0.0380	0.0444

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID / Description / Sampled Date / Sampled Time / Client ID	L1085007-16 TISSUE 23-JUL-11 16	L1085007-17 TISSUE 23-JUL-11 17	L1085007-18 TISSUE 23-JUL-11 18	L1085007-19 TISSUE 03-SEP-11 19	L1085007-20 TISSUE 03-SEP-11 20
TISSUE							
Physical Tests	% Moisture (%)		79.0	78.7	77.8	72.2	74.3
Metals	Aluminum (Al)-Total (mg/kg)						
	Aluminum (Al)-Total (mg/kg wwt)					<2.0	<2.0
	Antimony (Sb)-Total (mg/kg)						
	Antimony (Sb)-Total (mg/kg wwt)					<0.010	<0.010
	Arsenic (As)-Total (mg/kg)						
	Arsenic (As)-Total (mg/kg wwt)					0.170	0.083
	Barium (Ba)-Total (mg/kg)						
	Barium (Ba)-Total (mg/kg wwt)					0.111	0.157
	Beryllium (Be)-Total (mg/kg)						
	Beryllium (Be)-Total (mg/kg wwt)					<0.10	<0.10
	Bismuth (Bi)-Total (mg/kg)						
	Bismuth (Bi)-Total (mg/kg wwt)					<0.030	<0.030
	Boron (B)-Total (mg/kg)						
	Cadmium (Cd)-Total (mg/kg)						
	Cadmium (Cd)-Total (mg/kg wwt)					<0.0050	0.0075
	Calcium (Ca)-Total (mg/kg)						
	Calcium (Ca)-Total (mg/kg wwt)					142	302
	Cesium (Cs)-Total (mg/kg)						
	Chromium (Cr)-Total (mg/kg)						
	Chromium (Cr)-Total (mg/kg wwt)					<0.10	<0.10
	Cobalt (Co)-Total (mg/kg)						
	Cobalt (Co)-Total (mg/kg wwt)					<0.020	<0.020
	Copper (Cu)-Total (mg/kg)						
	Copper (Cu)-Total (mg/kg wwt)					0.802	0.783
	Gallium (Ga)-Total (mg/kg)						
	Iron (Fe)-Total (mg/kg)						
	Lead (Pb)-Total (mg/kg)						
	Lead (Pb)-Total (mg/kg wwt)					<0.020	<0.020
	Lithium (Li)-Total (mg/kg)						
	Lithium (Li)-Total (mg/kg wwt)					<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)						
	Magnesium (Mg)-Total (mg/kg wwt)					265	259
	Manganese (Mn)-Total (mg/kg)						
	Manganese (Mn)-Total (mg/kg wwt)					0.334	0.314
	Mercury (Hg)-Total (mg/kg)						
	Mercury (Hg)-Total (mg/kg wwt)		0.0704	0.104	0.0511	0.0233	0.126

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-21	L1085007-22	L1085007-23	L1085007-24	L1085007-25
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	03-SEP-11	03-SEP-11	03-SEP-11	27-AUG-11	27-AUG-11
Sampled Time					
Client ID	21	22	23	24	25
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	76.1	73.7	78.0	77.8	77.2
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)	<2.0	<2.0	<2.0		
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)	<0.010	<0.010	<0.010		
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)	0.097	0.032	0.063		
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)	0.085	0.107	0.109		
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)	<0.10	<0.10	<0.10		
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)	<0.030	<0.030	<0.030		
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)	0.0062	<0.0050	<0.0050		
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)	120	325	583		
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)	<0.10	<0.10	<0.10		
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)	<0.020	<0.020	<0.020		
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)	0.518	0.254	0.500		
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)	<0.020	<0.020	<0.020		
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10		
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)	255	269	279		
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)	0.250	0.270	0.377		
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.0471	0.0937	0.0696	0.0214	0.0394

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-26	L1085007-27	L1085007-28	L1085007-29	L1085007-30
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	27-AUG-11	24-AUG-11	26-AUG-11	26-AUG-11	26-AUG-11
Sampled Time					
Client ID	26	27	28	29	30
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	75.0	77.2	76.7	76.9	77.9
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)		<2.0			
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)		<0.010			
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)		<0.010			
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)		<0.010			
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)		<0.10			
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)		<0.030			
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)		<0.0050			
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)		65.9			
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)		<0.10			
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)		<0.020			
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)		0.284			
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)		<0.020			
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)		<0.10			
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)		228			
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)		0.077			
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.121	0.340	0.0360	0.0383	0.141

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-31	L1085007-32	L1085007-33	L1085007-34	L1085007-35
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	13-JUL-11	13-JUL-11	13-JUL-11	13-JUL-11	13-JUL-11
Sampled Time					
Client ID	31	32	33	34	35
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	76.5	80.3	72.8	74.4	74.1
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)	<2.0	<2.0	<2.0	<2.0	<2.0
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)	<0.010	<0.010	<0.010	<0.010	<0.010
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)	0.044	<0.010	0.033	0.022	0.078
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)	<0.010	<0.010	0.018	<0.010	0.011
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)	<0.030	<0.030	<0.030	<0.030	<0.030
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)	<0.0050	<0.0050	<0.0050	<0.0050	0.0066
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)	47.6	72.5	96.5	76.3	89.1
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)	<0.020	<0.020	0.022	0.024	<0.020
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)	0.407	0.284	0.373	0.302	0.416
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)	271	231	299	296	298
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)	0.080	0.075	0.090	0.074	0.124
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.0558	0.0933	0.0360	0.0371	0.0572

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-36	L1085007-37	L1085007-38	L1085007-39	L1085007-40
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	13-JUL-11	13-JUL-11	13-JUL-11	13-JUL-11	04-JUN-11
Sampled Time					
Client ID	36	37	38	39	40
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	74.7	78.1	75.4	70.8	73.6
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)	<2.0	<2.0	<2.0	<2.0	
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)	<0.010	<0.010	<0.010	<0.010	
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)	0.039	0.011	0.027	0.098	
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)	0.022	<0.010	<0.010	0.032	
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)	<0.030	<0.030	<0.030	<0.030	
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)	<0.0050	0.0078	<0.0050	<0.0050	
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)	163	64.0	85.1	91.4	
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)	0.026	<0.020	0.023	<0.020	
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)	0.272	0.223	0.446	0.549	
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.20 DLB	
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)	297	264	272	301	
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)	0.126	0.096	0.165	0.148	
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.0557	0.173	0.0774	0.0538	0.0214

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID / Description / Sampled Date / Sampled Time / Client ID	L1085007-41 TISSUE 04-JUN-11 41	L1085007-42 TISSUE 04-JUN-11 42	L1085007-43 TISSUE 06-JUN-11 43	L1085007-44 TISSUE 06-JUN-11 44	L1085007-45 TISSUE 06-JUN-11 45
TISSUE							
Physical Tests	% Moisture (%)		76.2	76.0	75.5	74.5	76.5
Metals	Aluminum (Al)-Total (mg/kg)						
	Aluminum (Al)-Total (mg/kg wwt)			<2.0	<2.0	<2.0	<2.0
	Antimony (Sb)-Total (mg/kg)						
	Antimony (Sb)-Total (mg/kg wwt)			<0.010	<0.010	<0.010	<0.010
	Arsenic (As)-Total (mg/kg)						
	Arsenic (As)-Total (mg/kg wwt)			0.016	<0.010	0.020	0.020
	Barium (Ba)-Total (mg/kg)						
	Barium (Ba)-Total (mg/kg wwt)			<0.010	0.038	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg)						
	Beryllium (Be)-Total (mg/kg wwt)			<0.10	<0.10	<0.10	<0.10
	Bismuth (Bi)-Total (mg/kg)						
	Bismuth (Bi)-Total (mg/kg wwt)			<0.030	<0.030	<0.030	<0.030
	Boron (B)-Total (mg/kg)						
	Cadmium (Cd)-Total (mg/kg)						
	Cadmium (Cd)-Total (mg/kg wwt)			<0.0050	<0.0050	<0.0050	<0.0050
	Calcium (Ca)-Total (mg/kg)						
	Calcium (Ca)-Total (mg/kg wwt)			109	485	86.1	92.3
	Cesium (Cs)-Total (mg/kg)						
	Chromium (Cr)-Total (mg/kg)						
	Chromium (Cr)-Total (mg/kg wwt)			<0.20 DLB	<0.10	<0.10	<0.10
	Cobalt (Co)-Total (mg/kg)						
	Cobalt (Co)-Total (mg/kg wwt)			<0.020	<0.020	<0.020	<0.020
	Copper (Cu)-Total (mg/kg)						
	Copper (Cu)-Total (mg/kg wwt)			0.211	0.349	0.257	0.197
	Gallium (Ga)-Total (mg/kg)						
	Iron (Fe)-Total (mg/kg)						
	Lead (Pb)-Total (mg/kg)						
	Lead (Pb)-Total (mg/kg wwt)			<0.020	<0.020	<0.020	<0.020
	Lithium (Li)-Total (mg/kg)						
	Lithium (Li)-Total (mg/kg wwt)			<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)						
	Magnesium (Mg)-Total (mg/kg wwt)			294	284	255	267
	Manganese (Mn)-Total (mg/kg)						
	Manganese (Mn)-Total (mg/kg wwt)			0.112	0.187	0.115	0.115
	Mercury (Hg)-Total (mg/kg)						
	Mercury (Hg)-Total (mg/kg wwt)		0.0319	0.110	0.170	0.326	0.281

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-46	L1085007-47	L1085007-48	L1085007-49	L1085007-50
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	04-JUN-11	04-JUN-11	06-JUN-10	06-JUN-10	04-JUN-11
Sampled Time					
Client ID	46	47	48	49	50
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	75.8	75.0	75.6	76.8	72.7
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)		<2.0	<2.0	<2.0	
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)		<0.010	<0.010	<0.010	
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)		<0.010	0.018	0.014	
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)		<0.010	<0.010	<0.010	
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)		<0.10	<0.10	<0.10	
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)		<0.030	<0.030	<0.030	
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)		<0.0050	<0.0050	<0.0050	
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)		80.0	108	84.1	
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)		<0.10	<0.10	<0.10	
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)		<0.020	<0.020	<0.020	
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)		0.221	0.129	0.111	
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)		<0.020	<0.020	<0.020	
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)		<0.20 DLB	<0.10	<0.10	
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)		283	303	233	
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)		0.099	0.115	0.106	
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.147	0.0885	0.163	0.115	0.0350

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1085007-51 TISSUE 04-JUN-11 51	L1085007-52 TISSUE 06-JUN-11 52	L1085007-53 TISSUE 04-JUN-11 53	L1085007-54 TISSUE 04-JUN-11 54	L1085007-55 TISSUE 04-JUN-11 55
TISSUE						
Physical Tests	% Moisture (%)	73.9	77.5	75.2	75.6	72.7
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)	<2.0				<2.0
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)	<0.010				<0.010
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)	<0.010				<0.010
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)	0.082				0.036
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)	<0.10				<0.10
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)	<0.030				<0.030
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)	<0.0050				<0.0050
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)	731				462
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)	<0.10				<0.10
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)	<0.020				<0.020
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)	0.637				0.225
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)	0.029				<0.020
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)	<0.10				<0.10
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)	271				230
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)	0.266				0.133
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.173	0.261	0.0541	0.0667	0.136

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-56	L1085007-57	L1085007-58	L1085007-59	L1085007-60
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	04-JUN-11	04-JUN-11	06-JUN-11	06-JUN-11	06-JUN-11
Sampled Time					
Client ID	56	57	58	59	60
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	77.2	76.0	79.4	78.1	77.8
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)	<2.0	<2.0	<2.0		
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)	<0.010	<0.010	<0.010		
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)	0.022	0.019	<0.010		
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)	<0.010	<0.010	0.027		
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)	<0.10	<0.10	<0.10		
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)	<0.030	<0.030	<0.030		
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)	<0.0050	<0.0050	<0.0050		
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)	107	119	412		
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)	<0.10	<0.10	<0.10		
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)	<0.020	<0.020	<0.020		
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)	0.140	0.158	0.226		
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)	<0.020	<0.020	<0.020		
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.20 DLB	<0.10		
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)	285	312	271		
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)	0.122	0.114	0.150		
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.146	0.110	0.313	0.292	0.309

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-61	L1085007-62	L1085007-63	L1085007-64	L1085007-65
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	06-JUN-11	06-JUN-11	06-JUN-11	04-JUN-11	04-JUN-11
Sampled Time					
Client ID	61	62	63	64	65
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	76.8	77.0	77.8	70.3	75.9
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)		<2.0			
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)		<0.010			
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)		0.021			
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)		<0.010			
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)		<0.10			
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)		<0.030			
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)		<0.0050			
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)		96.4			
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)		<0.10			
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)		<0.020			
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)		0.185			
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)		<0.020			
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)		<0.10			
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)		283			
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)		0.125			
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.121	0.158	0.148	0.0294	0.0155

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-66	L1085007-67	L1085007-68	L1085007-69	L1085007-70
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	04-JUN-11	06-JUN-11	05-JUN-11	05-JUN-11	05-JUN-11
Sampled Time					
Client ID	66	67	68	69	70
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	74.3	77.2	75.5	69.8	75.7
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)			<2.0	<2.0	<2.0
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)			<0.010	<0.010	<0.010
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)			0.019	<0.010	0.017
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)			<0.010	<0.010	<0.010
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)			<0.10	<0.10	<0.10
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)			<0.030	<0.030	<0.030
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)			<0.0050	<0.0050	<0.0050
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)			104	50.4	126
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)			<0.10	0.15	<0.10
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)			<0.020	<0.020	<0.020
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)			0.223	0.231	0.126
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)			<0.020	<0.020	<0.020
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)			<0.10	<0.10	<0.10
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)			276	226	268
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)			0.117	0.065	0.104
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.0373	0.333	0.0849	0.0766	0.101

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1085007-71 TISSUE 04-JUN-11 71	L1085007-72 TISSUE 04-JUN-11 72	L1085007-73 TISSUE 12-JUL-11 73	L1085007-74 TISSUE 12-JUL-11 74	L1085007-75 TISSUE 12-JUL-11 75
Sample ID						
Description						
Sampled Date						
Sampled Time						
Client ID						
TISSUE						
Physical Tests	% Moisture (%)	76.7	75.2	75.1	75.8	76.3
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)	<2.0		<2.0	<2.0	<2.0
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)	<0.010		<0.010	<0.010	<0.010
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)	0.011		0.029	0.056	0.027
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)	0.108		<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)	<0.10		<0.10	<0.10	<0.10
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)	<0.030		<0.030	<0.030	<0.030
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)	<0.0050		<0.0050	<0.0050	<0.0050
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)	1100		70.7	71.2	88.0
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)	<0.10		0.11	<0.10	<0.10
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)	<0.020		0.025	<0.020	0.034
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)	0.377		0.368	0.508	0.378
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)	<0.020		<0.020	<0.020	0.085
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)	<0.10		<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)	277		295	299	277
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)	0.314		0.095	0.094	0.126
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.234	0.0287	0.0226	0.0328	0.0218

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-76	L1085007-77	L1085007-78	L1085007-79	L1085007-80
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	12-JUL-11	12-JUL-11	12-JUL-11	12-JUL-11	12-JUL-11
Sampled Time					
Client ID	76	77	78	79	80
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	72.6	71.3	76.7	74.2	74.9
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)			<2.0	<2.0	
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)			<0.010	<0.010	
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)			0.026	0.041	
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)			0.016	0.011	
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)			<0.10	<0.10	
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)			<0.030	<0.030	
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)			<0.0050	<0.0050	
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)			165	124	
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)			0.10	0.12	
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)			<0.020	<0.020	
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)			0.437	0.285	
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)			<0.020	<0.020	
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)			<0.10	<0.10	
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)			268	325	
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)			0.120	0.114	
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.0433	0.0563	0.0530	0.0411	0.0355

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-81	L1085007-82	L1085007-83	L1085007-84	L1085007-85
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	12-JUL-11	12-JUL-11	12-JUL-11	16-JUL-11	16-JUL-11
Sampled Time					
Client ID	81	82	83	84	85
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	74.9	73.7	74.0	74.3	73.8
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)		<2.0			
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)		<0.010			
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)		0.038			
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)		0.021			
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)		<0.10			
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)		<0.030			
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)		<0.0050			
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)		191			
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)		<0.10			
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)		<0.020			
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)		0.258			
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)		<0.020			
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)		<0.10			
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)		304			
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)		0.099			
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.0565	0.0464	0.0415	0.0314	0.0359

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1085007-86 TISSUE 16-JUL-11 86	L1085007-87 TISSUE 16-JUL-11 87	L1085007-88 TISSUE 16-JUL-11 88	L1085007-89 TISSUE 16-JUL-11 89	L1085007-90 TISSUE 16-JUL-11 90
TISSUE						
Physical Tests	% Moisture (%)	62.1	71.1	73.5	73.7	75.3
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)					
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)					
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)					
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)					
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)					
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)					
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)					
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)					
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)					
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)					
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)					
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)					
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)					
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)					
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)					
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.0191	0.0193	0.0365	0.0374	0.0206

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-91	L1085007-92	L1085007-93	L1085007-94	L1085007-95
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	16-JUL-11	16-JUL-11	16-JUL-11	16-JUL-11	16-JUL-11
	Sampled Time					
	Client ID	91	92	93	94	95
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	75.1	73.2	73.8	73.5	76.1
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)					<2.0
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)					<0.010
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)					<0.010
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)					<0.010
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)					<0.10
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)					<0.030
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)					<0.0050
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)					112
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)					0.10
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)					<0.020
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)					0.253
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)					<0.020
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)					<0.10
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)					280
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)					0.125
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.0173	0.0188	0.0206	0.0257	0.0904

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-96	L1085007-97	L1085007-98	L1085007-99	L1085007-100
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	16-JUL-11	16-JUL-11	16-JUL-11	16-JUL-11	16-JUL-11
	Sampled Time					
	Client ID	96	97	98	99	100
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	75.8	76.3	71.4	66.1	75.2
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)	<2.0	<2.0			
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)	<0.010	<0.010			
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)	<0.010	<0.010			
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)	0.013	<0.010			
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)	<0.10	<0.10			
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)	<0.030	<0.030			
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)	<0.0050	<0.0050			
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)	265	103			
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)	<0.10	<0.10			
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)	<0.020	<0.020			
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)	0.363	0.204			
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)	<0.020	<0.020			
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10			
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)	299	333			
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)	0.125	0.143			
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.0544	0.0437	0.0277	0.0282	0.0400

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-101	L1085007-102	L1085007-103	L1085007-104	L1085007-105
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	07-JUN-11	07-JUN-11	07-JUN-11	07-JUN-11	22-JUN-11
	Sampled Time					
	Client ID	101	102	103	104	105
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	76.5	76.4	73.4	74.9	71.1
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)					
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)					
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)					
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)					
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)					
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)					
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)					
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)					
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)					
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)					
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)					
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)					
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)					
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)					
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)					
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.264	0.246	0.282	0.274	0.0457

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-106	L1085007-107	L1085007-108	L1085007-109	L1085007-110
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	22-JUN-11	22-JUN-11	22-JUN-11	22-JUN-11	22-JUN-11
Sampled Time					
Client ID	106	107	108	109	110
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	76.3	90.0	73.7	73.4	75.3
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)		<2.0	<2.0		
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)		<0.010	<0.010		
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)		<0.010	0.018		
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)		<0.010	<0.010		
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)		<0.10	<0.10		
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)		<0.030	<0.030		
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)		<0.0050	<0.0050		
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)		37.5	75.4		
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)		<0.10	<0.10		
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)		<0.020	<0.020		
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)		0.088	0.232		
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)		<0.020	<0.020		
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)		<0.10	<0.20 DLB		
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)		104	287		
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)		0.031	0.093		
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.0500	0.0331	0.0787	0.0323	0.0379

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1085007-111 TISSUE 22-JUN-11 111	L1085007-112 TISSUE 22-JUN-11 112	L1085007-113 TISSUE 22-JUN-11 113	L1085007-114 TISSUE 22-JUN-11 114	L1085007-115 TISSUE 22-JUN-11 115
Sample ID / Description / Sampled Date / Sampled Time / Client ID						
TISSUE						
Physical Tests	% Moisture (%)	77.4	79.2	76.2	77.6	76.3
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)					
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)					
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)					
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)					
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)					
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)					
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)					
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)					
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)					
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)					
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)					
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)					
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)					
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)					
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)					
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.144	0.365	0.0634	0.178	0.167

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-116	L1085007-117	L1085007-118	L1085007-119	L1085007-120
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	21-JUN-11	22-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11
Sampled Time					
Client ID	116	117	118	119	120
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	74.9	78.9	75.9	74.3	75.4
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)			<2.0	<2.0	
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)			<0.010	<0.010	
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)			<0.010	<0.010	
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)			<0.010	0.099	
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)			<0.10	<0.10	
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)			<0.030	<0.030	
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)			<0.0050	<0.0050	
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)			125	673	
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)			<0.10	<0.10	
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)			<0.020	<0.020	
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)			0.239	0.203	
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)			<0.020	<0.020	
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)			<0.10	<0.10	
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)			288	313	
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)			0.081	0.181	
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.232	0.238	0.0566	0.0400	0.0425

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-121	L1085007-122	L1085007-123	L1085007-124	L1085007-125
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	21-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11
	Sampled Time					
	Client ID	121	122	123	124	125
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	73.7	73.0	71.7	74.0	76.0
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)					
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)					
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)					
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)					
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)					
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)					
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)					
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)					
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)					
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)					
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)					
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)					
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)					
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)					
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)					
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.0334	0.0543	0.0352	0.0552	0.311

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-126	L1085007-127	L1085007-128	L1085007-129	L1085007-130
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	21-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11
	Sampled Time					
	Client ID	126	127	128	129	130
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	79.3	76.2	75.4	74.7	74.8
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)					
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)					
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)					
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)					
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)					
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)					
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)					
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)					
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)					
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)					
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)					
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)					
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)					
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)					
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)					
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.162	0.0481	0.0358	0.0473	0.158

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-131	L1085007-132	L1085007-133	L1085007-134	L1085007-135
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	21-JUN-11	21-JUN-11	05-JUN-11	24-JUN-11	23-JUN-11
Sampled Time					
Client ID	131	132	133	134	135
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	75.9	73.0	74.7	77.2	73.7
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)				<2.0	<2.0
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)				<0.010	<0.010
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)				0.013	0.029
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)				0.013	<0.010
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)				<0.10	<0.10
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)				<0.030	<0.030
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)				<0.0050	<0.0050
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)				205	69.1
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)				<0.10	<0.10
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)				<0.020	<0.020
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)				0.180	0.238
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)				<0.020	<0.020
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)				<0.10	<0.10
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)				264	271
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)				0.152	0.102
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.207	0.0222	0.0532	0.119	0.111

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-136	L1085007-137	L1085007-138	L1085007-139	L1085007-140
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	24-JUN-11	25-JUN-11	21-JUN-11	25-JUN-11	23-JUN-11
	Sampled Time					
	Client ID	136	137	138	139	140
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	75.3	69.1	75.1	74.5	70.3
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)	<2.0	<2.0		<2.0	<2.0
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)	<0.010	<0.010		<0.010	<0.010
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)	0.012	0.072		0.017	0.051
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)	0.028	0.013		0.037	0.275
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)	<0.10	<0.10		<0.10	<0.10
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)	<0.030	<0.030		<0.030	<0.030
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)	<0.0050	<0.0050		<0.0050	<0.0050
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)	66.7	79.0		293	66.7
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)	<0.10	<0.10		<0.10	<0.10
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)	<0.020	<0.020		<0.020	<0.020
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)	0.212	0.319		0.231	0.260
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)	<0.020	<0.020		<0.020	<0.020
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10		<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)	274	260		296	266
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)	0.082	0.096		0.173	0.088
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.106	0.0585	0.0407	0.127	0.0289

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-141	L1085007-142	L1085007-143	L1085007-144	L1085007-145
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	23-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11
Sampled Time					
Client ID	141	142	143	144	145
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	70.1	73.4	75.5	73.3	73.9
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)	<2.0		<2.0		
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)	<0.010		<0.010		
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)	0.039		<0.010		
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)	0.013		0.018		
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)	<0.10		<0.10		
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)	<0.030		<0.030		
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)	<0.0050		<0.0050		
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)	101		115		
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)	<0.10		<0.10		
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)	<0.020		<0.020		
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)	0.231		0.388		
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)	<0.020		<0.020		
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)	<0.10		<0.10		
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)	277		301		
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)	0.095		0.085		
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.0910	0.0487	0.0468	0.0341	0.0413

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-146	L1085007-147	L1085007-148	L1085007-149	L1085007-150
Description	TISSUE	TISSUE	BIOPSIES	BIOPSIES	TISSUE
Sampled Date	23-JUN-11	21-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11
Sampled Time					
Client ID	146	147	148	149	150
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	76.0	73.9			75.4
Metals Aluminum (Al)-Total (mg/kg)			5.7	2.3	
Aluminum (Al)-Total (mg/kg wwt)	<2.0	<2.0			
Antimony (Sb)-Total (mg/kg)			<0.010	<0.010	
Antimony (Sb)-Total (mg/kg wwt)	<0.010	<0.010			
Arsenic (As)-Total (mg/kg)			0.105	0.107	
Arsenic (As)-Total (mg/kg wwt)	0.014	<0.010			
Barium (Ba)-Total (mg/kg)			0.294	0.185	
Barium (Ba)-Total (mg/kg wwt)	0.022	0.036			
Beryllium (Be)-Total (mg/kg)			<0.010	<0.010	
Beryllium (Be)-Total (mg/kg wwt)	<0.10	<0.10			
Bismuth (Bi)-Total (mg/kg)			<0.010	<0.010	
Bismuth (Bi)-Total (mg/kg wwt)	<0.030	<0.030			
Boron (B)-Total (mg/kg)			<1.0	<1.0	
Cadmium (Cd)-Total (mg/kg)			0.011	<0.010	
Cadmium (Cd)-Total (mg/kg wwt)	<0.0050	<0.0050			
Calcium (Ca)-Total (mg/kg)			555	456	
Calcium (Ca)-Total (mg/kg wwt)	274	218			
Cesium (Cs)-Total (mg/kg)			0.0354	0.0110	
Chromium (Cr)-Total (mg/kg)			0.546	0.195	
Chromium (Cr)-Total (mg/kg wwt)	<0.10	<0.10			
Cobalt (Co)-Total (mg/kg)			<0.020	<0.020	
Cobalt (Co)-Total (mg/kg wwt)	<0.020	<0.020			
Copper (Cu)-Total (mg/kg)			1.44	0.613	
Copper (Cu)-Total (mg/kg wwt)	0.198	0.478			
Gallium (Ga)-Total (mg/kg)			<0.020	<0.020	
Iron (Fe)-Total (mg/kg)			21.1	6.5	
Lead (Pb)-Total (mg/kg)			0.086	0.027	
Lead (Pb)-Total (mg/kg wwt)	<0.020	<0.020			
Lithium (Li)-Total (mg/kg)			<0.10	<0.10	
Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.20 DLB			
Magnesium (Mg)-Total (mg/kg)			1090	519	
Magnesium (Mg)-Total (mg/kg wwt)	273	301			
Manganese (Mn)-Total (mg/kg)			0.771	0.221	
Manganese (Mn)-Total (mg/kg wwt)	0.117	0.111			
Mercury (Hg)-Total (mg/kg)			1.55	0.215	
Mercury (Hg)-Total (mg/kg wwt)	0.0886	0.0490			0.0679

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-151	L1085007-152	L1085007-153	L1085007-154	L1085007-155
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11
Sampled Time					
Client ID	151	152	153	154	155
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	75.5	75.0	76.8	73.6	77.1
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)				<2.0	
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)				<0.010	
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)				0.033	
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)				0.023	
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)				<0.10	
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)				<0.030	
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)				<0.0050	
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)				96.2	
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)				<0.10	
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)				<0.020	
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)				0.376	
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)				<0.020	
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)				<0.10	
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)				287	
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)				0.082	
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.0313	0.0220	0.0720	0.0302	0.0614

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-156	L1085007-157	L1085007-158	L1085007-159	L1085007-160
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11
Sampled Time					
Client ID	156	157	158	159	160
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	74.7	78.4	72.9	74.6	73.0
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)	<2.0	<2.0			
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)	<0.010	<0.010			
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)	0.024	<0.010			
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)	<0.010	0.033			
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)	<0.10	<0.10			
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)	<0.030	<0.030			
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)	<0.0050	<0.0050			
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)	65.5	183			
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)	<0.10	<0.10			
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)	0.022	<0.020			
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)	0.327	0.466			
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)	<0.020	<0.020			
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10			
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)	276	232			
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)	0.104	0.099			
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.0465	0.0831	0.0807	0.0449	0.0338

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-161	L1085007-162	L1085007-163	L1085007-164	L1085007-165
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11
	Sampled Time					
	Client ID	161	162	163	164	165
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	73.5	76.1	73.9	77.6	76.7
Metals	Aluminum (Al)-Total (mg/kg)					
	Aluminum (Al)-Total (mg/kg wwt)	<2.0	<2.0			<2.0
	Antimony (Sb)-Total (mg/kg)					
	Antimony (Sb)-Total (mg/kg wwt)	<0.010	<0.010			<0.010
	Arsenic (As)-Total (mg/kg)					
	Arsenic (As)-Total (mg/kg wwt)	<0.010	<0.010			0.011
	Barium (Ba)-Total (mg/kg)					
	Barium (Ba)-Total (mg/kg wwt)	0.015	0.025			0.013
	Beryllium (Be)-Total (mg/kg)					
	Beryllium (Be)-Total (mg/kg wwt)	<0.10	<0.10			<0.10
	Bismuth (Bi)-Total (mg/kg)					
	Bismuth (Bi)-Total (mg/kg wwt)	<0.030	<0.030			<0.030
	Boron (B)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg)					
	Cadmium (Cd)-Total (mg/kg wwt)	<0.0050	<0.0050			<0.0050
	Calcium (Ca)-Total (mg/kg)					
	Calcium (Ca)-Total (mg/kg wwt)	99.5	159			241
	Cesium (Cs)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg)					
	Chromium (Cr)-Total (mg/kg wwt)	<0.10	<0.10			<0.10
	Cobalt (Co)-Total (mg/kg)					
	Cobalt (Co)-Total (mg/kg wwt)	<0.020	<0.020			<0.020
	Copper (Cu)-Total (mg/kg)					
	Copper (Cu)-Total (mg/kg wwt)	0.344	0.197			0.214
	Gallium (Ga)-Total (mg/kg)					
	Iron (Fe)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg)					
	Lead (Pb)-Total (mg/kg wwt)	<0.020	<0.020			<0.020
	Lithium (Li)-Total (mg/kg)					
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10			<0.10
	Magnesium (Mg)-Total (mg/kg)					
	Magnesium (Mg)-Total (mg/kg wwt)	309	254			291
	Manganese (Mn)-Total (mg/kg)					
	Manganese (Mn)-Total (mg/kg wwt)	0.103	0.098			0.109
	Mercury (Hg)-Total (mg/kg)					
	Mercury (Hg)-Total (mg/kg wwt)	0.0373	0.0485	0.463	0.135	0.0927

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-166	L1085007-167	L1085007-168	L1085007-169	
Description	TISSUE	TISSUE	TISSUE	TISSUE	
Sampled Date	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11	
Sampled Time					
Client ID	166	167	168	169	
Grouping / **Analyte**					
TISSUE					
Physical Tests % Moisture (%)	74.3	72.3	76.4	74.5	
Metals Aluminum (Al)-Total (mg/kg)					
Aluminum (Al)-Total (mg/kg wwt)	<2.0				
Antimony (Sb)-Total (mg/kg)					
Antimony (Sb)-Total (mg/kg wwt)	<0.010				
Arsenic (As)-Total (mg/kg)					
Arsenic (As)-Total (mg/kg wwt)	0.017				
Barium (Ba)-Total (mg/kg)					
Barium (Ba)-Total (mg/kg wwt)	0.017				
Beryllium (Be)-Total (mg/kg)					
Beryllium (Be)-Total (mg/kg wwt)	<0.10				
Bismuth (Bi)-Total (mg/kg)					
Bismuth (Bi)-Total (mg/kg wwt)	<0.030				
Boron (B)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg)					
Cadmium (Cd)-Total (mg/kg wwt)	<0.0050				
Calcium (Ca)-Total (mg/kg)					
Calcium (Ca)-Total (mg/kg wwt)	180				
Cesium (Cs)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg)					
Chromium (Cr)-Total (mg/kg wwt)	<0.10				
Cobalt (Co)-Total (mg/kg)					
Cobalt (Co)-Total (mg/kg wwt)	<0.020				
Copper (Cu)-Total (mg/kg)					
Copper (Cu)-Total (mg/kg wwt)	0.220				
Gallium (Ga)-Total (mg/kg)					
Iron (Fe)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg)					
Lead (Pb)-Total (mg/kg wwt)	<0.020				
Lithium (Li)-Total (mg/kg)					
Lithium (Li)-Total (mg/kg wwt)	<0.10				
Magnesium (Mg)-Total (mg/kg)					
Magnesium (Mg)-Total (mg/kg wwt)	280				
Manganese (Mn)-Total (mg/kg)					
Manganese (Mn)-Total (mg/kg wwt)	0.110				
Mercury (Hg)-Total (mg/kg)					
Mercury (Hg)-Total (mg/kg wwt)	0.104	0.0063	0.0377	0.0437	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-1	L1085007-2	L1085007-3	L1085007-4	L1085007-5
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	17-JUL-11	17-JUL-11	17-JUL-11	17-JUL-11	17-JUL-11
	Sampled Time					
	Client ID	1	2	3	4	5
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)					
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)					
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)					
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)					
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)					
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)					
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)					
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)					
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)					
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-6	L1085007-7	L1085007-8	L1085007-9	L1085007-10
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	17-JUL-11	17-JUL-11	17-JUL-11	23-JUL-11	23-JUL-11
	Sampled Time					
	Client ID	6	7	8	9	10
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)					
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)					
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)					
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)					
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)					
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)					
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)					
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)					
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)					
	Zirconium (Zr)-Total (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-11	L1085007-12	L1085007-13	L1085007-14	L1085007-15
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	23-JUL-11	23-JUL-11	23-JUL-11	23-JUL-11	23-JUL-11
	Sampled Time					
	Client ID	11	12	13	14	15
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)					
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)					
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)					
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)					
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)					
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)					
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)					
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)					
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)					
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-16	L1085007-17	L1085007-18	L1085007-19	L1085007-20
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	23-JUL-11	23-JUL-11	23-JUL-11	03-SEP-11	03-SEP-11
	Sampled Time					
	Client ID	16	17	18	19	20
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)				<0.010	<0.010
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)				<0.10	<0.10
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)				0.51	0.43
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)				0.094	0.181
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)				<0.010	<0.010
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)				<0.050	<0.050
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)				<0.0020	<0.0020
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)				<0.10	<0.10
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)				6.01	5.54
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-21	L1085007-22	L1085007-23	L1085007-24	L1085007-25
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	03-SEP-11	03-SEP-11	03-SEP-11	27-AUG-11	27-AUG-11
Sampled Time					
Client ID	21	22	23	24	25
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)	<0.010	<0.010	<0.010		
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)	<0.10	<0.10	<0.10		
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)	0.43	0.55	0.43		
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)	0.057	0.264	0.465		
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)	<0.010	<0.010	<0.010		
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)	<0.050	<0.050	<0.050		
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020		
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)	<0.10	<0.10	<0.10		
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)	6.54	4.93	4.82		
Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-26	L1085007-27	L1085007-28	L1085007-29	L1085007-30
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	27-AUG-11	24-AUG-11	26-AUG-11	26-AUG-11	26-AUG-11
Sampled Time					
Client ID	26	27	28	29	30
Grouping / **Analyte**					
TISSUE					
Metals Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)		<0.010			
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)		<0.10			
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)		0.58			
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)		0.029			
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)		0.011			
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)		<0.050			
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)		<0.0020			
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)		<0.10			
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)		3.23			
Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-31	L1085007-32	L1085007-33	L1085007-34	L1085007-35
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	13-JUL-11	13-JUL-11	13-JUL-11	13-JUL-11	13-JUL-11
Sampled Time					
Client ID	31	32	33	34	35
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)	<0.010	<0.010	<0.010	<0.010	<0.010
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)	<0.10	<0.10	0.11	<0.10	<0.10
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)	0.58	0.55	0.72	1.02	0.62
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)	0.011	0.022	0.034	0.031	0.029
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)	0.013	0.011	<0.010	<0.010	0.015
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)	<0.050	0.060	<0.050	<0.050	<0.050
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)	3.87	3.50	4.15	4.85	3.62
Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-36	L1085007-37	L1085007-38	L1085007-39	L1085007-40
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	13-JUL-11	13-JUL-11	13-JUL-11	13-JUL-11	04-JUN-11
Sampled Time					
Client ID	36	37	38	39	40
Grouping / **Analyte**					
TISSUE					
Metals Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)	<0.010	<0.010	<0.010	<0.010	
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)	0.61	0.59	0.77	0.78	
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)	0.067	0.016	0.017	0.021	
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)	0.016	0.013	0.018	0.014	
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)	<0.050	0.055	<0.050	<0.050	
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	<0.0020	
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)	5.20	3.50	3.94	12.2	
Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-41	L1085007-42	L1085007-43	L1085007-44	L1085007-45
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	04-JUN-11	04-JUN-11	06-JUN-11	06-JUN-11	06-JUN-11
Sampled Time					
Client ID	41	42	43	44	45
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)		<0.010	<0.010	<0.010	<0.010
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)		<0.10	<0.10	<0.10	<0.10
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)		0.83	1.15	0.68	0.59
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)		0.034	0.294	0.024	0.024
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)		<0.010	<0.010	<0.010	0.013
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)		<0.050	<0.050	<0.050	<0.050
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)		<0.0020	<0.0020	<0.0020	<0.0020
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)		<0.10	<0.10	<0.10	<0.10
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)		4.71	4.46	4.85	5.48
Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-46	L1085007-47	L1085007-48	L1085007-49	L1085007-50
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	04-JUN-11	04-JUN-11	06-JUN-10	06-JUN-10	04-JUN-11
Sampled Time					
Client ID	46	47	48	49	50
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)		<0.010	<0.010	<0.010	
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)		<0.10	<0.10	<0.10	
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)		0.66	0.73	0.61	
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)		0.024	0.033	0.021	
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)		<0.010	0.011	<0.010	
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)		<0.050	<0.050	<0.050	
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)		<0.0020	<0.0020	<0.0020	
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)		<0.10	<0.10	<0.10	
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)		3.26	3.18	2.90	
Zirconium (Zr)-Total (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-51	L1085007-52	L1085007-53	L1085007-54	L1085007-55
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	04-JUN-11	06-JUN-11	04-JUN-11	04-JUN-11	04-JUN-11
	Sampled Time					
	Client ID	51	52	53	54	55
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)	<0.010				<0.010
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)	<0.10				<0.10
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)	0.96				0.60
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)	0.519				0.354
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)	<0.010				<0.010
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)	<0.050				<0.050
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)	<0.0020				<0.0020
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)	<0.10				<0.10
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)	4.14				2.91
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1085007-56 TISSUE 04-JUN-11 56	L1085007-57 TISSUE 04-JUN-11 57	L1085007-58 TISSUE 06-JUN-11 58	L1085007-59 TISSUE 06-JUN-11 59	L1085007-60 TISSUE 06-JUN-11 60
Sample ID						
Description						
Sampled Date						
Sampled Time						
Client ID						
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)	<0.010	<0.010	<0.010		
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)	<0.10	<0.10	<0.10		
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)	0.73	0.82	1.01		
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)	0.023	0.028	0.289		
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)	0.012	0.014	<0.010		
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)	<0.050	<0.050	<0.050		
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020		
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)	<0.10	<0.10	<0.10		
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)	3.90	3.52	3.50		
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-61	L1085007-62	L1085007-63	L1085007-64	L1085007-65
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	06-JUN-11	06-JUN-11	06-JUN-11	04-JUN-11	04-JUN-11
Sampled Time					
Client ID	61	62	63	64	65
Grouping / **Analyte**					
TISSUE					
Metals Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)		<0.010			
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)		<0.10			
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)		0.66			
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)		0.021			
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)		0.013			
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)		<0.050			
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)		<0.0020			
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)		<0.10			
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)		4.19			
Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1085007-66 TISSUE 04-JUN-11 66	L1085007-67 TISSUE 06-JUN-11 67	L1085007-68 TISSUE 05-JUN-11 68	L1085007-69 TISSUE 05-JUN-11 69	L1085007-70 TISSUE 05-JUN-11 70
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)			<0.010	<0.010	<0.010
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)			<0.10	<0.10	<0.10
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)			0.84	0.58	0.67
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)			0.027	0.018	0.038
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)			<0.010	<0.010	<0.010
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)			<0.050	<0.050	<0.050
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)			<0.0020	<0.0020	<0.0020
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)			<0.10	<0.10	<0.10
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)			5.18	2.87	3.49
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID Description Sampled Date Sampled Time Client ID	L1085007-71 TISSUE 04-JUN-11 71	L1085007-72 TISSUE 04-JUN-11 72	L1085007-73 TISSUE 12-JUL-11 73	L1085007-74 TISSUE 12-JUL-11 74	L1085007-75 TISSUE 12-JUL-11 75
TISSUE							
Metals	Molybdenum (Mo)-Total (mg/kg)						
	Molybdenum (Mo)-Total (mg/kg wwt)		<0.010		<0.010	<0.010	0.010
	Nickel (Ni)-Total (mg/kg)						
	Nickel (Ni)-Total (mg/kg wwt)		<0.10		<0.10	<0.10	<0.10
	Phosphorus (P)-Total (mg/kg)						
	Rhenium (Re)-Total (mg/kg)						
	Rubidium (Rb)-Total (mg/kg)						
	Selenium (Se)-Total (mg/kg)						
	Selenium (Se)-Total (mg/kg wwt)		0.79		0.81	0.81	0.55
	Sodium (Na)-Total (mg/kg)						
	Strontium (Sr)-Total (mg/kg)						
	Strontium (Sr)-Total (mg/kg wwt)		0.933		0.025	0.033	0.034
	Tellurium (Te)-Total (mg/kg)						
	Thallium (Tl)-Total (mg/kg)						
	Thallium (Tl)-Total (mg/kg wwt)		<0.010		0.015	0.011	0.013
	Thorium (Th)-Total (mg/kg)						
	Tin (Sn)-Total (mg/kg)						
	Tin (Sn)-Total (mg/kg wwt)		<0.050		<0.050	<0.050	<0.050
	Titanium (Ti)-Total (mg/kg)						
	Uranium (U)-Total (mg/kg)						
	Uranium (U)-Total (mg/kg wwt)		<0.0020		<0.0020	<0.0020	<0.0020
	Vanadium (V)-Total (mg/kg)						
	Vanadium (V)-Total (mg/kg wwt)		<0.10		<0.10	<0.10	<0.10
	Yttrium (Y)-Total (mg/kg)						
	Zinc (Zn)-Total (mg/kg)						
	Zinc (Zn)-Total (mg/kg wwt)		4.33		4.11	4.98	4.16
	Zirconium (Zr)-Total (mg/kg)						

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-76	L1085007-77	L1085007-78	L1085007-79	L1085007-80
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	12-JUL-11	12-JUL-11	12-JUL-11	12-JUL-11	12-JUL-11
Sampled Time					
Client ID	76	77	78	79	80
Grouping / **Analyte**					
TISSUE					
Metals Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)			0.011	0.017	
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)			<0.10	<0.10	
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)			0.59	0.77	
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)			0.072	0.052	
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)			0.019	0.011	
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)			<0.050	<0.050	
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)			<0.0020	<0.0020	
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)			<0.10	<0.10	
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)			3.31	4.14	
Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-81	L1085007-82	L1085007-83	L1085007-84	L1085007-85
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	12-JUL-11	12-JUL-11	12-JUL-11	16-JUL-11	16-JUL-11
Sampled Time					
Client ID	81	82	83	84	85
Grouping / **Analyte**					
TISSUE					
Metals Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)		0.014			
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)		<0.10			
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)		0.87			
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)		0.097			
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)		<0.010			
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)		<0.050			
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)		<0.0020			
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)		<0.10			
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)		4.25			
Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-86	L1085007-87	L1085007-88	L1085007-89	L1085007-90
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	16-JUL-11	16-JUL-11	16-JUL-11	16-JUL-11	16-JUL-11
	Sampled Time					
	Client ID	86	87	88	89	90
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)					
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)					
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)					
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)					
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)					
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)					
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)					
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)					
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)					
	Zirconium (Zr)-Total (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-91	L1085007-92	L1085007-93	L1085007-94	L1085007-95
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	16-JUL-11	16-JUL-11	16-JUL-11	16-JUL-11	16-JUL-11
Sampled Time					
Client ID	91	92	93	94	95
Grouping / **Analyte**					
TISSUE					
Metals Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)					0.012
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)					<0.10
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)					0.66
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)					0.042
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)					0.015
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)					<0.050
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)					<0.0020
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)					<0.10
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)					3.53
Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-96	L1085007-97	L1085007-98	L1085007-99	L1085007-100
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	16-JUL-11	16-JUL-11	16-JUL-11	16-JUL-11	16-JUL-11
Sampled Time					
Client ID	96	97	98	99	100
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)	0.011	<0.010			
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)	<0.10	<0.10			
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)	0.76	2.16			
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)	0.147	0.028			
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)	0.016	0.017			
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)	<0.050	<0.050			
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)	<0.0020	<0.0020			
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)	<0.10	<0.10			
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)	6.43	4.00			
Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-101	L1085007-102	L1085007-103	L1085007-104	L1085007-105
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	07-JUN-11	07-JUN-11	07-JUN-11	07-JUN-11	22-JUN-11
	Sampled Time					
	Client ID	101	102	103	104	105
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)					
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)					
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)					
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)					
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)					
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)					
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)					
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)					
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)					
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-106	L1085007-107	L1085007-108	L1085007-109	L1085007-110
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	22-JUN-11	22-JUN-11	22-JUN-11	22-JUN-11	22-JUN-11
Sampled Time					
Client ID	106	107	108	109	110
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)		<0.010	<0.010		
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)		<0.10	<0.10		
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)		0.31	0.84		
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)		0.021	0.025		
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)		<0.010	0.017		
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)		<0.050	<0.050		
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)		<0.0020	<0.0020		
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)		<0.10	<0.10		
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)		1.70	4.04		
Zirconium (Zr)-Total (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-111	L1085007-112	L1085007-113	L1085007-114	L1085007-115
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	22-JUN-11	22-JUN-11	22-JUN-11	22-JUN-11	22-JUN-11
	Sampled Time					
	Client ID	111	112	113	114	115
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)					
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)					
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)					
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)					
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)					
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)					
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)					
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)					
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)					
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-116	L1085007-117	L1085007-118	L1085007-119	L1085007-120
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	21-JUN-11	22-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11
Sampled Time					
Client ID	116	117	118	119	120
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)			<0.010	<0.010	
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)			<0.10	<0.10	
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)			0.82	0.91	
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)			0.047	0.380	
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)			<0.010	<0.010	
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)			<0.050	<0.050	
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)			<0.0020	<0.0020	
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)			<0.10	<0.10	
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)			4.11	4.38	
Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-121	L1085007-122	L1085007-123	L1085007-124	L1085007-125
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	21-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11
	Sampled Time					
	Client ID	121	122	123	124	125
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)					
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)					
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)					
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)					
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)					
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)					
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)					
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)					
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)					
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-126	L1085007-127	L1085007-128	L1085007-129	L1085007-130
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	21-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11
	Sampled Time					
	Client ID	126	127	128	129	130
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)					
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)					
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)					
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)					
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)					
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)					
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)					
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)					
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)					
	Zirconium (Zr)-Total (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-131	L1085007-132	L1085007-133	L1085007-134	L1085007-135
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	21-JUN-11	21-JUN-11	05-JUN-11	24-JUN-11	23-JUN-11
	Sampled Time					
	Client ID	131	132	133	134	135
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)				0.010	<0.010
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)				<0.10	<0.10
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)				0.73	0.76
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)				0.110	0.022
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)				0.012	0.012
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)				<0.050	<0.050
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)				<0.0020	<0.0020
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)				<0.10	<0.10
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)				3.58	3.68
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1085007-136 TISSUE 24-JUN-11 136	L1085007-137 TISSUE 25-JUN-11 137	L1085007-138 TISSUE 21-JUN-11 138	L1085007-139 TISSUE 25-JUN-11 139	L1085007-140 TISSUE 23-JUN-11 140
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)	<0.010	<0.010		<0.010	0.011
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)	<0.10	<0.10		<0.10	<0.10
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)	0.85	0.70		0.88	0.68
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)	0.021	0.029		0.177	0.025
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)	0.011	0.014		0.018	0.012
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)	<0.050	<0.050		<0.050	<0.050
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)	<0.0020	<0.0020		<0.0020	<0.0020
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)	<0.10	<0.10		<0.10	<0.10
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)	3.73	3.73		3.80	3.40
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-141	L1085007-142	L1085007-143	L1085007-144	L1085007-145
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	23-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11	21-JUN-11
	Sampled Time					
	Client ID	141	142	143	144	145
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)	0.012		<0.010		
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)	<0.10		<0.10		
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)	0.71		0.97		
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)	0.045		0.056		
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)	0.015		<0.010		
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)	<0.050		<0.050		
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)	<0.0020		<0.0020		
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)	<0.10		<0.10		
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)	6.27		3.99		
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-146	L1085007-147	L1085007-148	L1085007-149	L1085007-150
Description	TISSUE	TISSUE	BIOPSIES	BIOPSIES	TISSUE
Sampled Date	23-JUN-11	21-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11
Sampled Time					
Client ID	146	147	148	149	150
Grouping / **Analyte**					
TISSUE					
Metals Molybdenum (Mo)-Total (mg/kg)			<0.020	<0.020	
Molybdenum (Mo)-Total (mg/kg wwt)	<0.010	<0.010			
Nickel (Ni)-Total (mg/kg)			0.099	0.131	
Nickel (Ni)-Total (mg/kg wwt)	<0.10	<0.10			
Phosphorus (P)-Total (mg/kg)			10400	4200	
Rhenium (Re)-Total (mg/kg)			<0.010	<0.010	
Rubidium (Rb)-Total (mg/kg)			10.6	5.19	
Selenium (Se)-Total (mg/kg)			2.17	1.19	
Selenium (Se)-Total (mg/kg wwt)	0.78	1.00			
Sodium (Na)-Total (mg/kg)			923	344	
Strontium (Sr)-Total (mg/kg)			0.308	0.341	
Strontium (Sr)-Total (mg/kg wwt)	0.193	0.119			
Tellurium (Te)-Total (mg/kg)			<0.020	<0.020	
Thallium (Tl)-Total (mg/kg)			0.0455	0.0195	
Thallium (Tl)-Total (mg/kg wwt)	0.011	<0.010			
Thorium (Th)-Total (mg/kg)			<0.010	<0.010	
Tin (Sn)-Total (mg/kg)			0.052	0.106	
Tin (Sn)-Total (mg/kg wwt)	<0.050	<0.050			
Titanium (Ti)-Total (mg/kg)			0.183	0.068	
Uranium (U)-Total (mg/kg)			<0.0020	<0.0020	
Uranium (U)-Total (mg/kg wwt)	<0.0020	<0.0020			
Vanadium (V)-Total (mg/kg)			0.028	<0.020	
Vanadium (V)-Total (mg/kg wwt)	<0.10	<0.10			
Yttrium (Y)-Total (mg/kg)			<0.010	<0.010	
Zinc (Zn)-Total (mg/kg)			18.2	7.49	
Zinc (Zn)-Total (mg/kg wwt)	4.58	7.74			
Zirconium (Zr)-Total (mg/kg)			<0.20	<0.20	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-151	L1085007-152	L1085007-153	L1085007-154	L1085007-155
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11
	Sampled Time					
	Client ID	151	152	153	154	155
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)				0.012	
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)				<0.10	
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)				0.75	
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)				0.036	
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)				<0.010	
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)				<0.050	
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)				<0.0020	
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)				<0.10	
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)				4.34	
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-156	L1085007-157	L1085007-158	L1085007-159	L1085007-160
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11
Sampled Time					
Client ID	156	157	158	159	160
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)	<0.010	<0.010			
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)	<0.10	<0.10			
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)	0.66	0.62			
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)	0.011	0.089			
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)	0.020	0.012			
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)	<0.050	<0.050			
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)	<0.0020	<0.0020			
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)	<0.10	<0.10			
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)	3.67	5.28			
Zirconium (Zr)-Total (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1085007-161	L1085007-162	L1085007-163	L1085007-164	L1085007-165
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11
	Sampled Time					
	Client ID	161	162	163	164	165
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)					
	Molybdenum (Mo)-Total (mg/kg wwt)	0.012	<0.010			<0.010
	Nickel (Ni)-Total (mg/kg)					
	Nickel (Ni)-Total (mg/kg wwt)	<0.10	<0.10			<0.10
	Phosphorus (P)-Total (mg/kg)					
	Rhenium (Re)-Total (mg/kg)					
	Rubidium (Rb)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg)					
	Selenium (Se)-Total (mg/kg wwt)	1.07	0.79			0.73
	Sodium (Na)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg)					
	Strontium (Sr)-Total (mg/kg wwt)	0.047	0.081			0.127
	Tellurium (Te)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg)					
	Thallium (Tl)-Total (mg/kg wwt)	<0.010	<0.010			0.016
	Thorium (Th)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg)					
	Tin (Sn)-Total (mg/kg wwt)	<0.050	<0.050			<0.050
	Titanium (Ti)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg)					
	Uranium (U)-Total (mg/kg wwt)	<0.0020	<0.0020			<0.0020
	Vanadium (V)-Total (mg/kg)					
	Vanadium (V)-Total (mg/kg wwt)	<0.10	<0.10			<0.10
	Yttrium (Y)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg)					
	Zinc (Zn)-Total (mg/kg wwt)	5.23	3.42			3.30
	Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1085007-166	L1085007-167	L1085007-168	L1085007-169	
Description	TISSUE	TISSUE	TISSUE	TISSUE	
Sampled Date	24-JUN-11	24-JUN-11	24-JUN-11	24-JUN-11	
Sampled Time					
Client ID	166	167	168	169	
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)					
Molybdenum (Mo)-Total (mg/kg wwt)	<0.010				
Nickel (Ni)-Total (mg/kg)					
Nickel (Ni)-Total (mg/kg wwt)	<0.10				
Phosphorus (P)-Total (mg/kg)					
Rhenium (Re)-Total (mg/kg)					
Rubidium (Rb)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg)					
Selenium (Se)-Total (mg/kg wwt)	0.79				
Sodium (Na)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg)					
Strontium (Sr)-Total (mg/kg wwt)	0.103				
Tellurium (Te)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg)					
Thallium (Tl)-Total (mg/kg wwt)	0.015				
Thorium (Th)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg)					
Tin (Sn)-Total (mg/kg wwt)	<0.050				
Titanium (Ti)-Total (mg/kg)					
Uranium (U)-Total (mg/kg)					
Uranium (U)-Total (mg/kg wwt)	<0.0020				
Vanadium (V)-Total (mg/kg)					
Vanadium (V)-Total (mg/kg wwt)	<0.10				
Yttrium (Y)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg)					
Zinc (Zn)-Total (mg/kg wwt)	3.97				
Zirconium (Zr)-Total (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Barium (Ba)-Total	DUP-H	L1085007-19, -21, -22, -27, -38, -42, -43, -44, -45, -47, -48, -49, -55, -57
Duplicate	Copper (Cu)-Total	DUP-H	L1085007-19, -21, -22, -27, -38, -42, -43, -44, -45, -47, -48, -49, -55, -57
Duplicate	Manganese (Mn)-Total	DUP-H	L1085007-19, -21, -22, -27, -38, -42, -43, -44, -45, -47, -48, -49, -55, -57
Duplicate	Strontium (Sr)-Total	DUP-H	L1085007-19, -21, -22, -27, -38, -42, -43, -44, -45, -47, -48, -49, -55, -57
Duplicate	Zinc (Zn)-Total	DUP-H	L1085007-19, -21, -22, -27, -38, -42, -43, -44, -45, -47, -48, -49, -55, -57
Duplicate	Arsenic (As)-Total	DUP-H	L1085007-20, -23, -31, -35, -36, -39, -51, -56, -58, -62
Duplicate	Strontium (Sr)-Total	DUP-H	L1085007-20, -23, -31, -35, -36, -39, -51, -56, -58, -62
Duplicate	Zinc (Zn)-Total	DUP-H	L1085007-20, -23, -31, -35, -36, -39, -51, -56, -58, -62
Duplicate	Calcium (Ca)-Total	DUP-H	L1085007-101, -102, -105, -106, -107, -108, -109, -110, -113, -116, -121, -125, -126, -128, -129, -130, -131, -132, -133, -134, -135, -136, -137, -138, -139, -140, -141, -142, -145, -146, -147, -154, -155, -156, -157, -158, -159, -33, -34, -80, -81, -85, -89, -90, -97
Duplicate	Strontium (Sr)-Total	DUP-H	L1085007-101, -102, -105, -106, -107, -108, -109, -110, -113, -116, -121, -125, -126, -128, -129, -130, -131, -132, -133, -134, -135, -136, -137, -138, -139, -140, -141, -142, -145, -146, -147, -154, -155, -156, -157, -158, -159, -33, -34, -80, -81, -85, -89, -90, -97
Duplicate	Mercury (Hg)-Total	DUP-H	L1085007-101, -102, -105, -106, -107, -108, -109, -110, -113, -116, -121, -125, -126, -128, -129, -130, -131, -132, -133, -134, -135, -136, -137, -138, -139, -140, -141, -142, -145, -146, -147, -154, -155, -156, -157, -158, -159, -33, -34, -80, -81, -85, -89, -90, -97
Method Blank	Lithium (Li)-Total	MB-LOR	L1085007-19, -21, -22, -27, -38, -42, -43, -44, -45, -47, -48, -49, -55, -57
Method Blank	Lithium (Li)-Total	MB-LOR	L1085007-161, -162, -68, -69, -70, -71, -73, -74, -75, -78, -79, -82, -95, -96
Method Blank	Zinc (Zn)-Total	MB-LOR	L1085007-161, -162, -68, -69, -70, -71, -73, -74, -75, -78, -79, -82, -95, -96
Method Blank	Copper (Cu)-Total	MB-LOR	L1085007-20, -23, -31, -35, -36, -39, -51, -56, -58, -62
Method Blank	Lithium (Li)-Total	MB-LOR	L1085007-20, -23, -31, -35, -36, -39, -51, -56, -58, -62
Method Blank	Lithium (Li)-Total	MB-LOR	L1085007-20, -23, -31, -35, -36, -39, -51, -56, -58, -62
Method Blank	Manganese (Mn)-Total	MB-LOR	L1085007-148, -149
Method Blank	Iron (Fe)-Total	MB-LOR	L1085007-148, -149
Method Blank	Manganese (Mn)-Total	MB-LOR	L1085007-148, -149

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLB	Detection limit was raised due to detection of analyte at comparable level in Method Blank.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
MB-LOR	Method Blank exceeds ALS DQO. LORs adjusted for samples with positive hits below 5 times blank level. Please contact ALS if re-analysis is required.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-DRY-CVAFS-VA	Tissue	Mercury in Tissue by CVAFS (DRY)	EPA 200.3, EPA 245.7

This method is adapted from US EPA Method 200.3 "Sample Procedures for Spectrochemical Determination of Total Recoverable Elements in Biological Tissues" (1996). Tissue samples are homogenized and sub-sampled prior to hotblock digestion with nitric and hydrochloric acids, in combination with repeated additions of hydrogen peroxide. Analysis is by atomic fluorescence spectrophotometry, adapted from US EPA Method 245.7. This digestion procedure was implemented on October 5, 2009.

HG-WET-CVAFS-VA	Tissue	Mercury in Tissue by CVAFS (WET)	EPA 200.3, EPA 245.7

This method is adapted from US EPA Method 200.3 "Sample Procedures for Spectrochemical Determination of Total Recoverable Elements in Biological Tissues" (1996). Tissue samples are homogenized and sub-sampled prior to hotblock digestion with nitric and hydrochloric acids, in combination with repeated additions of hydrogen peroxide. Analysis is by atomic fluorescence spectrophotometry, adapted from US EPA Method 245.7. This digestion procedure was implemented on October 5, 2009.

MET-DRY-HRMS-VA	Tissue	Metals in Tissue by HR-ICPMS (DRY)	EPA 200.8

Reference Information

Trace metals in tissue are analyzed by high resolution inductively coupled plasma mass spectrometry (HR-ICPMS) modified from US EPA Method 200.8, (Revision 5.5). The sample preparation procedure is modified from US EPA 200.3. Analytical results are reported on dry weight basis.

MET-WET-MS-VA Tissue Metals in Tissue by ICPMS (WET) EPA 200.3, EPA 6020A

This method is adapted from US EPA Method 200.3 "Sample Procedures for Spectrochemical Determination of Total Recoverable Elements in Biological Tissues" (1996). Tissue samples are homogenized and sub-sampled prior to hotblock digestion with nitric and hydrochloric acids, in combination with repeated additions of hydrogen peroxide. Analysis is by Inductively Coupled Plasma - Mass Spectrometry, adapted from US EPA Method 6020A. This digestion procedure was implemented on October 5, 2009

MOISTURE-TISS-VA Tissue % Moisture in Tissues ASTM D2974-00 Method A

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BC, CANADA

Chain of Custody Numbers:

1	10	11	12	13
14	15	2	3	4
5	6	7	8	9

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
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.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES
Environmental Division

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC # _____

Report To		Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company:	Azimuth Consulting Group	☑ Standard ☐ Other	◉ Regular (Default)
Contact:	Randy Baker	☑ PDF ☑ Excel ☐ Digital ☐ Fax	○ Priority (Specify Date Required → →) Surcharges apply
Address:	218-2902 West Broadway	Email 1: rpattenden@mainstreamaquatics.ca	○ Emergency (1 Business Day) - 100% Surcharge
	Vancouver, BC V6K 2G8	Email 2: rbaker@azimuthgroup.ca; mmcconnell@azimuth	○ For Emergency
Phone:	604-730-1220 Fax: 604-739-8511	cpattenden@mainstreamaquatics.ca	
Invoice To	Same as Report ? ☐ Yes ☑ No	Client / Project Information	Please indic
Company:	Mainstream Aquatics Ltd.	Job #: BCH-10-01	
Contact:	Rick Pattenden	PO / AFE:	
Address:	6956 Roper Road	LSD:	
	Edmonton, Alberta T6B 3H9		
Phone:	780-440-1334 Fax: 780-440-1252	Quote #: Q30122	
Lab Work Order # (lab use only)	L1085007	ALS Contact: Elle Diniz	Sampler:

L1085007-COFC

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA	Number of Containers
[redacted]	1	17-Jul-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	2	17-Jul-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	3	17-Jul-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	4	17-Jul-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	5	17-Jul-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	6	17-Jul-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	7	17-Jul-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	8	17-Jul-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	9	23-Jul-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	10	23-Jul-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	11	23-Jul-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	12	23-Jul-11		Tissue	X	X	X	X	X	X	X	1

Special Instructions / Regulations / Hazardous Details

this is FISH Tissue Fillets

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.
Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	14-Nov-11		bcm	15/Nov	12:36pm	-5.5 °C				

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Chain of Custody / Analytical Requ
Canada Toll Free: 1 800 668 9
www.alsglobal.com

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Report To		Report Format / Distribution		Analysis subject to availability)
Company:	Azimuth Consulting Group	☑ Standard ☐ Other		◉ Regular (Default)
Contact:	Randy Baker	☑ PDF ☑ Excel ☐ Digital ☐ Fax		○ Priority (Specify Date Required → →) Surcharges apply
Address:	218-2902 West Broadway	Email 1: rpattenden@mainstreamaquatics.ca		○ Emergency (1 Business Day) - 100% Surcharge
	Vancouver, BC V6K 2G8	Email 2: rbaker@azimuthgroup.ca; mmcconnell@azimuth		○ For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone:	604-730-1220 Fax: 604-739-8511			**Analysis Request**
Invoice To	Same as Report ? ☐ Yes ☑ No	**Client / Project Information**		Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:	Mainstream Aquatics Ltd.	Job #: BCH-10-01		
Contact:	Rick Pattenden	PO / AFE:		
Address:	6956 Roper Road	LSD:		
	Edmonton, Alberta T6B 3H9			
Phone:	780-440-1334 Fax: 780-440-1252	Quote #: Q30122		
Lab Work Order # (lab use only)	L1085007	**ALS Contact:** Elle Diniz	**Sampler:**	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA	Number of Containers
	109	22-Jun-11		Tissue	X	X	X	X	X	X	X	1
	110	22-Jun-11		Tissue	X	X	X	X	X	X	X	1
	111	22-Jun-11		Tissue	X	X	X	X	X	X	X	1
	112	22-Jun-11		Tissue	X	X	X	X	X	X	X	1
	113	22-Jun-11		Tissue	X	X	X	X	X	X	X	1
	114	22-Jun-11		Tissue	X	X	X	X	X	X	X	1
	115	22-Jun-11		Tissue	X	X	X	X	X	X	X	1
	116	21-Jun-11		Tissue	X	X	X	X	X	X	X	1
	117	22-Jun-11		Tissue	X	X	X	X	X	X	X	1
	118	21-Jun-11		Tissue	X	X	X	X	X	X	X	1
	119	21-Jun-11		Tissue	X	X	X	X	X	X	X	1
	120	21-Jun-11		Tissue	X	X	X	X	X	X	X	1

Special Instructions / Regulations / Hazardous Details

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	14-Nov-11		DCa	15/NOV/11	12:36	-5.5 °C				

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Chain of Custody / Analytical Request

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

L1085007-COFC

Report To		Report Format / Distribution		Turnaround Time (TAT) Requirement (TAT is subject to availability)
Company:	Azimuth Consulting Group	☑ Standard ☐ Other		◉ Regular (Default)
Contact:	Randy Baker	☑ PDF ☑ Excel ☐ Digital ☐ Fax		○ Priority (Specify Date Required → →) Surcharges apply
Address:	218-2902 West Broadway	Email 1:	rpattenden@mainstreamaquatics.ca	○ Emergency (1 Business Day) - 100% Surcharge
	Vancouver, BC V6K 2G8	Email 2:	rbaker@azimuthgroup.ca; mmcconnell@azimuth	○ For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone:	604-730-1220 Fax: 604-739-8511			
Invoice To	Same as Report ? ☐ Yes ☑ No	**Client / Project Information**		**Analysis Request**
Company:	Mainstream Aquatics Ltd.	Job #:	BCH-10-01	Please indicate below Filtered, Preserved or both (F, P, F/P)
Contact:	Rick Pattenden	PO / AFE:		
Address:	6956 Roper Road	LSD:		
	Edmonton, Alberta T6B 3H9			
Phone:	780-440-1334 Fax: 780-440-1252	Quote #:	Q30122	
Lab Work Order # (lab use only)	L1085007	ALS Contact:	Elle Diniz	Sampler:

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA						Number of Containers
[redacted]	121	21-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	122	21-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	123	21-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	124	21-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	125	21-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	126	21-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	127	21-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	128	21-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	129	21-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	130	21-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	131	21-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	132	21-Jun-11		Tissue	X	X	X	X	X	X	X						1

Special Instructions / Regulations / Hazardous Details

this is FISH Tissue FIllets

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	14-Nov-11		OCm	15/11/11	1236	-5.5 °C				

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

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COC # _____

Page 12 of 15

L10850007-COFC

Report To			
Company:	Azimuth Consulting Group		
Contact:	Randy Baker	☑ PDF ☑ Excel ☐ Digital ☐ Fax	
Address:	218-2902 West Broadway	Email 1:	rpattenden@mainstreamaquatics.ca
	Vancouver, BC V6K 2G8	Email 2:	rbaker@azimuthgroup.ca; mmcconnell@azimuth
Phone:	604-730-1220 Fax: 604-739-8511		
Invoice To	Same as Report ? ☐ Yes ☑ No	**Client / Project Information**	
Company:	Mainstream Aquatics Ltd.	Job #:	BCH-10-01
Contact:	Rick Pattenden	PO / AFE:	
Address:	6956 Roper Road	LSD:	
	Edmonton, Alberta T6B 3H9		
Phone:	780-440-1334 Fax: 780-440-1252	Quote #:	Q30122
Lab Work Order # (lab use only)	L1085007	ALS Contact:	Elle Diniz
		Sampler:	

Service Requested (Rush for routine analysis subject to availability)

- ◉ Regular (Default)
- ○ Priority (Specify Date Required → →) Surcharges apply
- ○ Emergency (1 Business Day) - 100% Surcharge
- ○ For Emergency < 1 Day, ASAP or Weekend - Contact ALS

Analysis Request

Please indicate below Filtered, Preserved or both (F, P, F/P)

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA	Number of Containers
[redacted]	133	05-Jun-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	134	24-Jun-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	135	23-Jun-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	136	24-Jun-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	137	25-Jun-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	138	21-Jun-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	139	25-Jun-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	140	23-Jun-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	141	23-Jun-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	142	21-Jun-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	143	21-Jun-11		Tissue	X	X	X	X	X	X	X	1
[redacted]	144	21-Jun-11		Tissue	X	X	X	X	X	X	X	1

Special Instructions / Regulations / Hazardous Details

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	14-Nov-11		Ocm	15Nov11	1236	-5.5 °C				

GENF 18.02 Front

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

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COC #

Report To		Report Format / Distribution		Service Requested (Rush for routine analysis subject to availability)
Company:	Azimuth Consulting Group	☑ Standard ☐ Other		◉ Regular (Default)
Contact:	Randy Baker	☑ PDF ☑ Excel ☐ Digital ☐ Fax		○ Priority (Specify Date Required → →) Surcharges apply
Address:	218-2902 West Broadway	Email 1:	rpattenden@mainstreamaquatics.ca	○ Emergency (1 Business Day) - 100% Surcharge
	Vancouver, BC V6K 2G8	Email 2:	rbaker@azimuthgroup.ca; mmcconnell@azimuth	○ For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone:	604-730-1220 Fax: 604-739-8511			
Invoice To	Same as Report ? ☐ Yes ☑ No	Client / Project Information		Analysis Request
Company:	Mainstream Aquatics Ltd.	Job #:	BCH-10-01	Please indicate below Filtered, Preserved or both (F, P, F/P)
Contact:	Rick Pattenden	PO / AFE:		
Address:	6956 Roper Road	LSD:		
	Edmonton, Alberta T6B 3H9			
Phone:	780-440-1334 Fax: 780-440-1252	Quote #:	Q30122	
Lab Work Order # (lab use only)	L1085007	ALS Contact:	Elle Diniz	Sampler:

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA	Number of Containers
	145	21-Jun-11		Tissue	X	X	X	X	X	X	X	1
	146	23-Jun-11		Tissue	X	X	X	X	X	X	X	1
	147	21-Jun-11		Tissue	X	X	X	X	X	X	X	1
	148	24-Jun-11		Tissue	X	X	X	X	X	X	X	1
	149	24-Jun-11		Tissue	X	X	X	X	X	X	X	1
	150	24-Jun-11		Tissue	X	X	X	X	X	X	X	1
	151	24-Jun-11		Tissue	X	X	X	X	X	X	X	1
	152	24-Jun-11		Tissue	X	X	X	X	X	X	X	1
	153	24-Jun-11		Tissue	X	X	X	X	X	X	X	1
	154	24-Jun-11		Tissue	X	X	X	X	X	X	X	1
	155	24-Jun-11		Tissue	X	X	X	X	X	X	X	1
	156	24-Jun-11		Tissue	X	X	X	X	X	X	X	1

Special Instructions / Regulations / Hazardous Details

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Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	14-Nov-11		DCan	15/11/11	12:36	-5.5 °C				

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Chain of Ca

COC #

Report To		Report Format / Distribution	Turnaround Time Requested (Rush for routine analysis subject to availability)
Company:	Azimuth Consulting Group	☑ Standard ☐ Other	◉ Regular (Default)
Contact:	Randy Baker	☑ PDF ☑ Excel ☐ Digital ☐ Fax	○ Priority (Specify Date Required → →) Surcharges apply
Address:	218-2902 West Broadway	Email 1: rpattenden@mainstreamaquatics.ca	○ Emergency (1 Business Day) - 100% Surcharge
	Vancouver, BC V6K 2G8	Email 2: rbaker@azimuthgroup.ca; mmcconnell@azimuth	○ For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone:	604-730-1220 Fax: 604-739-8511		
Invoice To	Same as Report ? ☐ Yes ☑ No	Client / Project Information	Analysis Request
Company:	Mainstream Aquatics Ltd.	Job #: BCH-10-01	Please indicate below Filtered, Preserved or both (F, P, F/P)
Contact:	Rick Pattenden	PO / AFE:	
Address:	6956 Roper Road	LSD:	
	Edmonton, Alberta T6B 3H9		
Phone:	780-440-1334 Fax: 780-440-1252	Quote #: Q30122	
Lab Work Order # (lab use only)	L1085007	ALS Contact: Elle Diniz	Sampler:

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA						Number of Containers
[redacted]	157	24-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	158	24-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	159	24-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	160	24-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	161	24-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	162	24-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	163	24-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	164	24-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	165	24-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	166	24-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	167	24-Jun-11		Tissue	X	X	X	X	X	X	X						1
[redacted]	168	24-Jun-11		Tissue	X	X	X	X	X	X	X						1

Special Instructions / Regulations / Hazardous Details

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	14-Nov-11		[redacted]	15/NOV/11	12:36	-5.5 °C				

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Chain of Custody / Analysis Request Form

COC #

Page 15 of 15

L1085007-COFC

Report To			
Company:	Azimuth Consulting Group	☑ Excel ☐ Digital ☐ Fax	
Contact:	Randy Baker	Email 1:	rpattenden@mainstreamaquatics.ca
Address:	218-2902 West Broadway	Email 2:	rbaker@azimuthgroup.ca; mmcconnell@azimuth
	Vancouver, BC V6K 2G8		
Phone:	604-730-1220 Fax: 604-739-8511		

Invoice To	Same as Report ? ☐ Yes ☑ No	Client / Project Information	
Company:	Mainstream Aquatics Ltd.	Job #:	BCH-10-01
Contact:	Rick Pattenden	PO / AFE:	
Address:	6956 Roper Road	LSD:	
	Edmonton, Alberta T6B 3H9		
Phone:	780-440-1334 Fax: 780-440-1252	Quote #:	Q30122

Lab Work Order # (lab use only)	L1085007	ALS Contact:	Elle Diniz	Sampler:	

Service Requested (Rush for routine analysis subject to availability)

- (●) Regular (Default)
- ( ) Priority (Specify Date Required → →) — Surcharges apply
- ( ) Emergency (1 Business Day) - 100% Surcharge
- ( ) For Emergency < 1 Day, ASAP or Weekend - Contact ALS

Analysis Request

Please indicate below Filtered, Preserved or both (F, P, F/P)

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA	Number of Containers
	169	24-Jun-11		Tissue	X	X	X	X	X	X	X	1

Special Instructions / Regulations / Hazardous Details

this is FISH Tissue Fillets

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	14-Nov-11			15Nov11	12:36	-5.5 °C				

GENF 18.02 Front

Report To		Report Format / Distribution		Routine analysis subject to availability)
Company:	Azimuth Consulting Group	☑ Standard ☐ Other		◉ Regular (Default)
Contact:	Randy Baker	☑ PDF ☑ Excel ☐ Digital ☐ Fax		○ Priority (Specify Date Required → →) Surcharges apply
Address:	218-2902 West Broadway	Email 1:	rpattenden@mainstreamaquatics.ca	○ Emergency (1 Business Day) - 100% Surcharge
	Vancouver, BC V6K 2G8	Email 2:	rbaker@azimuthgroup.ca; mmcconnell@azimuth	○ For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone:	604-730-1220 Fax: 604-739-8511			
Invoice To	Same as Report ? ☐ Yes ☑ No	Client / Project Information		Analysis Request
Company:	Mainstream Aquatics Ltd.	Job #:	BCH-10-01	Please indicate below Filtered, Preserved or both (F, P, F/P)
Contact:	Rick Pattenden	PO / AFE:		
Address:	6956 Roper Road	LSD:		
	Edmonton, Alberta T6B 3H9			
Phone:	780-440-1334 Fax: 780-440-1252	Quote #:	Q30122	
Lab Work Order # (lab use only)	L1085007	ALS Contact:	Elle Diniz	Sampler:

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA	Number of Containers
	13	23-Jul-11		Tissue	X	X	X	X	X	X	X	1
	14	23-Jul-11		Tissue	X	X	X	X	X	X	X	1
	15	23-Jul-11		Tissue	X	X	X	X	X	X	X	1
	16	23-Jul-11		Tissue	X	X	X	X	X	X	X	1
	17	23-Jul-11		Tissue	X	X	X	X	X	X	X	1
	18	23-Jul-11		Tissue	X	X	X	X	X	X	X	1
	19	03-Sep-11		Tissue	X	X	X	X	X	X	X	1
	20	03-Sep-11		Tissue	X	X	X	X	X	X	X	1
	21	03-Sep-11		Tissue	X	X	X	X	X	X	X	1
	22	03-Sep-11		Tissue	X	X	X	X	X	X	X	1
	23	03-Sep-11		Tissue	X	X	X	X	X	X	X	1
	24	27-Aug-11		Tissue	X	X	X	X	X	X	X	1

Special Instructions / Regulations / Hazardous Details

this is FISH Tissue Fillets

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	14-Nov-11		DGm	15/11/11	1236	-5.5 °C				

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Environmental Division

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L1085007-COFC

COC #

Report To		Report Format / Distribution					or routine analysis subject to availability)
Company:	Azimuth Consulting Group	☑ Standard	☐ Other				◉ Regular (Default)
Contact:	Randy Baker	☑ PDF	☑ Excel	☐ Digital	☐ Fax		○ Priority (Specify Date Required → →) Surcharges apply
Address:	218-2902 West Broadway	Email 1:	rpattenden@mainstreamaquatics.ca				○ Emergency (1 Business Day) - 100% Surcharge
	Vancouver, BC V6K 2G8	Email 2:	rbaker@azimuthgroup.ca; mmcconnell@azimuth				○ For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone:	604-730-1220 Fax: 604-739-8511						Analysis Request
Invoice To	Same as Report ? ☐ Yes ☑ No	Client / Project Information					Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:	Mainstream Aquatics Ltd.	Job #:	BCH-10-01				
Contact:	Rick Pattenden	PO / AFE:					
Address:	6956 Roper Road	LSD:					
	Edmonton, Alberta T6B 3H9						
Phone:	780-440-1334 Fax: 780-440-1252	Quote #:	Q30122				
Lab Work Order # (lab use only)	L1085007	ALS Contact:	Elle Diniz	Sampler:			

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA	Number of Containers
	25	27-Aug-11		Tissue	X	X	X	X	X	X	X	1
	26	27-Aug-11		Tissue	X	X	X	X	X	X	X	1
	27	24-Aug-11		Tissue	X	X	X	X	X	X	X	1
	28	26-Aug-11		Tissue	X	X	X	X	X	X	X	1
	29	26-Aug-11		Tissue	X	X	X	X	X	X	X	1
	30	26-Aug-11		Tissue	X	X	X	X	X	X	X	1
	31	13-Jul-11		Tissue	X	X	X	X	X	X	X	1
	32	13-Jul-11		Tissue	X	X	X	X	X	X	X	1
	33	13-Jul-11		Tissue	X	X	X	X	X	X	X	1
	34	13-Jul-11		Tissue	X	X	X	X	X	X	X	1
	35	13-Jul-11		Tissue	X	X	X	X	X	X	X	1
	36	13-Jul-11		Tissue	X	X	X	X	X	X	X	1

Special Instructions / Regulations / Hazardous Details

this is FISH Tissue Fillets

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Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	14-Nov-11		DGM	15Nov11	12:36	-5.5 °C				

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ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

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L1085007-COFC

COC #

Report To		Report Format / Distribution		ine analysis subject to availability)
Company:	Azimuth Consulting Group	☑ Standard ☐ Other		◉ Regular (Default)
Contact:	Randy Baker	☑ PDF ☑ Excel ☐ Digital ☐ Fax		○ Priority (Specify Date Required → →) Surcharges apply
Address:	218-2902 West Broadway	Email 1: rpattenden@mainstreamaquatics.ca		○ Emergency (1 Business Day) - 100% Surcharge
	Vancouver, BC V6K 2G8	Email 2: rbaker@azimuthgroup.ca; mmcconnell@azimuth		○ For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone:	604-730-1220 Fax: 604-739-8511			Analysis Request
Invoice To	Same as Report ? ☐ Yes ☑ No	Client / Project Information		Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:	Mainstream Aquatics Ltd.	Job #: BCH-10-01		
Contact:	Rick Pattenden	PO / AFE:		
Address:	6956 Roper Road	LSD:		
	Edmonton, Alberta T6B 3H9			
Phone:	780-440-1334 Fax: 780-440-1252	Quote #: Q30122		
Lab Work Order # (lab use only)	L1085007	ALS Contact: Elle Diniz	Sampler:	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA	Number of Containers
	37	13-Jul-11		Tissue	X	X	X	X	X	X	X	1
	38	13-Jul-11		Tissue	X	X	X	X	X	X	X	1
	39	13-Jul-11		Tissue	X	X	X	X	X	X	X	1
	40	04-Jun-11		Tissue	X	X	X	X	X	X	X	1
	41	04-Jun-11		Tissue	X	X	X	X	X	X	X	1
	42	04-Jun-11		Tissue	X	X	X	X	X	X	X	1
	43	06-Jun-11		Tissue	X	X	X	X	X	X	X	1
	44	06-Jun-11		Tissue	X	X	X	X	X	X	X	1
	45	06-Jun-11		Tissue	X	X	X	X	X	X	X	1
	46	04-Jun-11		Tissue	X	X	X	X	X	X	X	1
	47	04-Jun-11		Tissue	X	X	X	X	X	X	X	1
	48	06-Jun-11		Tissue	X	X	X	X	X	X	X	1

Special Instructions / Regulations / Hazardous Details

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Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
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Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	14-Nov-11			15/Nov/11	12:36	5.5 °C				

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Page 5 of 15

Report To		Report Format / Distribution		for routine analysis subject to availability)
Company:	Azimuth Consulting Group	☑ Standard ☐ Other		◉ Regular (Default)
Contact:	Randy Baker	☑ PDF ☑ Excel ☐ Digital ☐ Fax		○ Priority (Specify Date Required → →) Surcharges apply
Address:	218-2902 West Broadway	Email 1:	rpattenden@mainstreamaquatics.ca	○ Emergency (1 Business Day) - 100% Surcharge
	Vancouver, BC V6K 2G8	Email 2:	rbaker@azimuthgroup.ca; mmcconnell@azimuth	○ For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone:	604-730-1220 Fax: 604-739-8511			
Invoice To	Same as Report ? ☐ Yes ☑ No	Client / Project Information		Analysis Request
Company:	Mainstream Aquatics Ltd.	Job #:	BCH-10-01	Please indicate below Filtered, Preserved or both (F, P, F/P)
Contact:	Rick Pattenden	PO / AFE:		
Address:	6956 Roper Road	LSD:		
	Edmonton, Alberta T6B 3H9			
Phone:	780-440-1334 Fax: 780-440-1252	Quote #:	Q30122	
Lab Work Order # (lab use only)	L1085007	ALS Contact:	Elle Diniz	Sampler:

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA	Number of Containers
	49	06-Jun-11		Tissue	X	X	X	X	X	X	X	1
	50	04-Jun-11		Tissue	X	X	X	X	X	X	X	1
	51	04-Jun-11		Tissue	X	X	X	X	X	X	X	1
	52	06-Jun-11		Tissue	X	X	X	X	X	X	X	1
	53	04-Jun-11		Tissue	X	X	X	X	X	X	X	1
	54	04-Jun-11		Tissue	X	X	X	X	X	X	X	1
	55	04-Jun-11		Tissue	X	X	X	X	X	X	X	1
	56	04-Jun-11		Tissue	X	X	X	X	X	X	X	1
	57	04-Jun-11		Tissue	X	X	X	X	X	X	X	1
	58	06-Jun-11		Tissue	X	X	X	X	X	X	X	1
	59	06-Jun-11		Tissue	X	X	X	X	X	X	X	1
	60	06-Jun-11		Tissue	X	X	X	X	X	X	X	1

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	4-Nov-11		ocm	Nov 11	1236	5.5 °C				

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COC #

Report To		Report Format / Distribution	
Company:	Azimuth Consulting Group	☑ Standard ☐ Other	
Contact:	Randy Baker	☑ PDF ☑ Excel ☐ Digital ☐ Fax	
Address:	218-2902 West Broadway	Email 1:	rpattenden@mainstreamaquatics.ca
	Vancouver, BC V6K 2G8	Email 2:	rbaker@azimuthgroup.ca; mmcconnell@azimuth
Phone:	604-730-1220 Fax: 604-739-8511		
Invoice To	Same as Report ? ☐ Yes ☑ No	Client / Project Information	
Company:	Mainstream Aquatics Ltd.	Job #:	BCH-10-01
Contact:	Rick Pattenden	PO / AFE:	
Address:	6956 Roper Road	LSD:	
	Edmonton, Alberta T6B 3H9		
Phone:	780-440-1334 Fax: 780-440-1252	Quote #:	Q30122
Lab Work Order # (lab use only)	L1085007	ALS Contact: Elle Diniz	Sampler:

...e analysis subject to availability)

○ Priority (Specify Date Required → →) Surcharges apply
○ Emergency (1 Business Day) - 100% Surcharge
○ For Emergency < 1 Day, ASAP or Weekend - Contact ALS

Analysis Request

Please indicate below Filtered, Preserved or both (F, P, F/P)

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA						Number of Containers
	61	06-Jun-11		Tissue	X	X	X	X	X	X	X						1
	62	06-Jun-11		Tissue	X	X	X	X	X	X	X						1
	63	06-Jun-11		Tissue	X	X	X	X	X	X	X						1
	64	04-Jun-11		Tissue	X	X	X	X	X	X	X						1
	65	04-Jun-11		Tissue	X	X	X	X	X	X	X						1
	66	04-Jun-11		Tissue	X	X	X	X	X	X	X						1
	67	06-Jun-11		Tissue	X	X	X	X	X	X	X						1
	68	05-Jun-11		Tissue	X	X	X	X	X	X	X						1
	69	05-Jun-11		Tissue	X	X	X	X	X	X	X						1
	70	05-Jun-11		Tissue	X	X	X	X	X	X	X						1
	71	04-Jun-11		Tissue	X	X	X	X	X	X	X						1
	72	04-Jun-11		Tissue	X	X	X	X	X	X	X						1

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	14-Nov-11		scm	15Nov11	1236	5.5 °C				

Report To		Report Format / Distribution					e analysis subject to availability)
Company:	Azimuth Consulting Group	☑ Standard	☐ Other				◉ Regular (Default)
Contact:	Randy Baker	☑ PDF	☑ Excel	☐ Digital	☐ Fax		○ Priority (Specify Date Required → →) Surcharges apply
Address:	218-2902 West Broadway	Email 1:	rpattenden@mainstreamaquatics.ca				○ Emergency (1 Business Day) - 100% Surcharge
	Vancouver, BC V6K 2G8	Email 2:	rbaker@azimuthgroup.ca; mmcconnell@azimuth				○ For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone:	604-730-1220 Fax: 604-739-8511						
Invoice To	Same as Report ? ☐ Yes ☑ No	Client / Project Information					Analysis Request
Company:	Mainstream Aquatics Ltd.	Job #:	BCH-10-01				Please indicate below Filtered, Preserved or both (F, P, F/P)
Contact:	Rick Pattenden	PO / AFE:					
Address:	6956 Roper Road	LSD:					
	Edmonton, Alberta T6B 3H9						
Phone:	780-440-1334 Fax: 780-440-1252	Quote #:	Q30122				
Lab Work Order # (lab use only)	L1085007	ALS Contact:	Elle Diniz	Sampler:			

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA	Number of Containers
	73	12-Jul-11		Tissue	X	X	X	X	X	X	X	1
	74	12-Jul-11		Tissue	X	X	X	X	X	X	X	1
	75	12-Jul-11		Tissue	X	X	X	X	X	X	X	1
	76	12-Jul-11		Tissue	X	X	X	X	X	X	X	1
	77	12-Jul-11		Tissue	X	X	X	X	X	X	X	1
	78	12-Jul-11		Tissue	X	X	X	X	X	X	X	1
	79	12-Jul-11		Tissue	X	X	X	X	X	X	X	1
	80	12-Jul-11		Tissue	X	X	X	X	X	X	X	1
	81	12-Jul-11		Tissue	X	X	X	X	X	X	X	1
	82	12-Jul-11		Tissue	X	X	X	X	X	X	X	1
	83	12-Jul-11		Tissue	X	X	X	X	X	X	X	1
	84	16-Jul-11		Tissue	X	X	X	X	X	X	X	1

Special Instructions / Regulations / Hazardous Details

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Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	14-Nov-11		OCM	15/Nov/11	12:36	-5.5 °C				

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ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

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www.alsglobal.com

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Report To		Report Format / Distribution		Service Requested (Rush - subject to availability)
Company:	Azimuth Consulting Group	☑ Standard ☐ Other		◉ Regular (Default)
Contact:	Randy Baker	☑ PDF ☑ Excel ☐ Digital ☐ Fax		○ Priority (Specify Date Required → →) Surcharges apply
Address:	218-2902 West Broadway	Email 1:	rpattenden@mainstreamaquatics.ca	○ Emergency (1 Business Day) - 100% Surcharge
	Vancouver, BC V6K 2G8	Email 2:	rbaker@azimuthgroup.ca; mmcconnell@azimuth	○ For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone:	604-730-1220 Fax: 604-739-8511			

Invoice To	Same as Report ? ☐ Yes ☑ No	Client / Project Information	
Company:	Mainstream Aquatics Ltd.	Job #:	BCH-10-01
Contact:	Rick Pattenden	PO / AFE:	
Address:	6956 Roper Road	LSD:	
	Edmonton, Alberta T6B 3H9		
Phone:	780-440-1334 Fax: 780-440-1252	Quote #:	Q30122
Lab Work Order # (lab use only)	L1085007	ALS Contact: Elle Diniz	Sampler:

Analysis Request — Please indicate below Filtered, Preserved or both (F, P, F/P)

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA						Number of Containers
	85	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	86	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	87	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	88	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	89	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	90	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	91	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	92	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	93	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	94	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	95	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	96	16-Jul-11		Tissue	X	X	X	X	X	X	X						1

Special Instructions / Regulations / Hazardous Details

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Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by: Chantal Pattenden	Date (dd-mmm-yy) 14-Nov-11	Time (hh-mm)	Received by: DCm	Date: 15Nov11	Time: 12:36	Temperature: -5.5 °C	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

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COC #

Report To		Report Format / Distribution		Turnaround Time (TAT) Requested (TAT is subject to availability)
Company:	Azimuth Consulting Group	☑ Standard ☐ Other		◉ Regular (Default)
Contact:	Randy Baker	☑ PDF ☑ Excel ☐ Digital ☐ Fax		○ Priority (Specify Date Required → →) Surcharges apply
Address:	218-2902 West Broadway	Email 1:	rpattenden@mainstreamaquatics.ca	○ Emergency (1 Business Day) - 100% Surcharge
	Vancouver, BC V6K 2G8	Email 2:	rbaker@azimuthgroup.ca; mmcconnell@azimuth	○ For Emergency < 1 Day, ASAP or Weekend - Contact ALS
Phone:	604-730-1220 Fax: 604-739-8511			
Invoice To	Same as Report ? ☐ Yes ☑ No	**Client / Project Information**		**Analysis Request**
Company:	Mainstream Aquatics Ltd.	Job #:	BCH-10-01	Please indicate below Filtered, Preserved or both (F, P, F/P)
Contact:	Rick Pattenden	PO / AFE:		
Address:	6956 Roper Road	LSD:		
	Edmonton, Alberta T6B 3H9			
Phone:	780-440-1334 Fax: 780-440-1252	Quote #:	Q30122	

Lab Work Order # (lab use only): L1085007

ALS Contact: Elle Diniz

Sampler:

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	PREP-BSY-DIGEST-VA	PREP-TISS-DIGEST-VA	MOISTURE-TISS-VA	HG-WET-CVAFS-VA	MET-DRY-HRMS-VA	HG-DRY-CVAFS-VA	MET-WET-MS-VA						Number of Containers
	97	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	98	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	99	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	100	16-Jul-11		Tissue	X	X	X	X	X	X	X						1
	101	07-Jun-11		Tissue	X	X	X	X	X	X	X						1
	102	07-Jun-11		Tissue	X	X	X	X	X	X	X						1
	103	07-Jun-11		Tissue	X	X	X	X	X	X	X						1
	104	07-Jun-11		Tissue	X	X	X	X	X	X	X						1
	105	22-Jun-11		Tissue	X	X	X	X	X	X	X						1
	106	22-Jun-11		Tissue	X	X	X	X	X	X	X						1
	107	22-Jun-11		Tissue	X	X	X	X	X	X	X						1
	108	22-Jun-11		Tissue	X	X	X	X	X	X	X						1

Special Instructions / Regulations / Hazardous Details

this is FISH Tissue Fillets

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.
Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Chantal Pattenden	14-Nov-11			15/a/11	12:36	-5.5 °C				

SAMPLE TYPE	RANDY ID#	SINLAB ID	Date	Line	Amount	CO2 Ampl	N2 Ampl	d13C
invertebrate	S1-1 Trichoptera	RBA 391	1-Feb-12	88	0.380	3.442	1.926	-36.61
invertebrate	S1-1 Trichoptera	RBA 391R	1-Feb-12	95	0.425	3.569	2.248	-36.43
invertebrate	S1-3 EPT	RBA 392	1-Feb-12	89	0.435	3.709	2.247	-32.38
invertebrate	S1-3 Trichoptera	RBA 393	1-Feb-12	90	0.408	3.353	2.022	-34.57
invertebrate	S1-14 Trichoptera	RBA 394	1-Feb-12	91	0.410	3.224	1.999	-32.71
invertebrate	S1-1-3-14 Ephem Plecop	RBA 395	1-Feb-12	92	0.388	3.143	1.980	-32.81
invertebrate	S1-1-14 Chirinomid	RBA 396	1-Feb-12	93	0.391	2.510	1.719	-28.81
invertebrate	S1-14 Corixidae	RBA 397	1-Feb-12	94	0.384	3.384	1.722	-32.91

SINLAB ID	Date	Line	Amount	CO2 Ampl	N2 Ampl	d13C	d15N	%C	%N	C/N	Comment	EA Mass Spec
CH7	1-Feb-12	53	0.337	4.642		-32.01		86.63				NC2500 - XP
N2	1-Feb-12	6	0.180		1.944		20.28		21.10			NC2500 - XP
ACETANILIDE	1-Feb-12	2	0.231	2.591	1.229	-31.50	-2.43	71.09	10.36	6.86		NC2500 - XP
ACETANILIDE	1-Feb-12	25	0.217	2.422	1.143	-31.50	-2.43	70.17	10.28	6.82		NC2500 - XP
ACETANILIDE	1-Feb-12	49	0.203	2.224	1.047	-31.57	-2.15	68.69	10.01	6.86		NC2500 - XP
ACETANILIDE	1-Feb-12	73	0.225	2.565	1.218	-31.60	-2.45	71.42	10.52	6.79		NC2500 - XP
ACETANILIDE	1-Feb-12	96	0.218	2.487	1.191	-31.51	-1.81	71.47	10.53	6.78		NC2500 - XP
					avg	-31.54	-2.25					
					std	0.04	0.25					
NICOTINAMIDE	1-Feb-12	5	0.141	1.336	1.694	-34.49	-1.72	60.11	23.58	2.55		NC2500 - XP
NICOTINAMIDE	1-Feb-12	52	0.101	0.934	1.161	-34.51	-1.72	57.86	22.39	2.58		NC2500 - XP
NICOTINAMIDE	1-Feb-12	76	0.244	2.322	2.949	-34.52	-1.73	59.58	23.36	2.55		NC2500 - XP
					avg	-34.51	-1.72					
					std	0.01	0.00					
BLS	1-Feb-12	3	0.220	1.762	1.227	-18.72	7.10	50.42	10.83	4.66		NC2500 - XP
BLS	1-Feb-12	50	0.165	1.302	0.894	-18.80	7.36	49.22	10.54	4.67		NC2500 - XP
BLS	1-Feb-12	74	0.292	2.331	1.641	-18.74	7.14	49.81	10.81	4.61		NC2500 - XP
					avg	-18.75	7.20					
					std	0.04	0.11					
SMB-M	1-Feb-12	4	0.186	1.391	1.426	-23.35	12.28	47.12	14.91	3.16		NC2500 - XP
SMB-M	1-Feb-12	51	0.156	1.155	1.166	-23.39	12.22	46.22	14.59	3.17		NC2500 - XP
SMB-M	1-Feb-12	75	0.305	2.241	2.317	-23.46	12.27	45.89	14.68	3.13		NC2500 - XP
					avg	-23.40	12.26					
					std	0.04	0.03					
PROTEIN	1-Feb-12	26	0.402	2.979	2.815	-27.19	5.95	46.50	13.55	3.43		NC2500 - XP

d15N	%C	%N	C/N	Comment	EA Mass Spec
9.31	56.69	9.70	5.85		NC2500 - XP
9.64	52.59	10.10	5.21		NC2500 - XP
5.28	53.44	9.87	5.41		NC2500 - XP
6.83	51.37	9.50	5.41		NC2500 - XP
5.71	49.13	9.35	5.26		NC2500 - XP
8.08	50.63	9.78	5.18		NC2500 - XP
3.86	40.13	8.48	4.73		NC2500 - XP
4.51	55.24	8.60	6.42		NC2500 - XP

Comments	SAMPLE TYPE	Randy ID#	SINLAB ID#	SINLAB ID	Date	Line	Amount	CO2 Ampl	N2 Ampl	d13C	d15N	%C	%N	C/N	Comment	EA-Mass Spec
	ZOOPLANKTON	DUP-ZOOP	RBA 001	RBA 001RR	17-Nov-10	53	1.619	4.668	1.110	-26.41	5.18	17.06	1.19	14.38		4010 - XP
	ZOOPLANKTON	PR-ZOOP-1	RBA 002	RBA 002	15-Nov-10	8	0.305	1.800	0.818	-33.42	6.69	34.17	4.71	7.25		4010 - XP
	ZOOPLANKTON	PR-ZOOP-2	RBA 003	RBA 003RR	17-Nov-10	97	1.819	5.117	1.074	-25.49	6.73	16.65	1.02	16.38		4010 - XP
	ZOOPLANKTON	PR-ZOOP-3	RBA 004	RBA 004RR	17-Nov-10	98	2.100	4.786	1.084	-26.27	2.56	13.53	0.90	15.08		4010 - XP
	ZOOPLANKTON	DINO-ZOOP-UP	RBA 005	RBA 005	15-Nov-10	11	0.309	2.280	1.274	-35.29	5.82	42.71	7.20	5.94		4010 - XP
	ZOOPLANKTON	DINO-ZOOP-DOWN	RBA 006	RBA 006	15-Nov-10	12	0.295	2.184	0.992	-37.06	5.78	42.79	5.87	7.29		4010 - XP
	ZOOPLANKTON	DINO-ZOOP-MID	RBA 007	RBA 007	15-Nov-10	13	0.321	3.107	1.395	-37.59	5.70	55.87	7.51	7.44		4010 - XP
	BENTHOS	PR-BEN-1	RBA 008	RBA 008	15-Nov-10	14	0.320	2.125	1.302	-31.44	6.34	38.52	7.11	5.42		4010 - XP
	BENTHOS	PR-BEN-2	RBA 009	RBA 009RR	17-Nov-10	99	0.654	2.783	1.741	-31.94	5.11	24.98	4.65	5.37		4010 - XP
	BENTHOS	PR-BEN-3	RBA 010	RBA 010	15-Nov-10	16	0.296	2.378	1.470	-25.89	3.74	46.50	8.63	5.39		4010 - XP
	BENTHOS	DUP-BEN	RBA 011	RBA 011	15-Nov-10	17	0.317	1.274	0.731	-31.44	6.31	23.46	4.11	5.70		4010 - XP
	Fish Tissue	GN02 MNWH3	RBA 012	RBA 012	15-Nov-10	18	0.311	2.565	2.350	-27.02	7.76	47.73	13.12	3.64		4010 - XP
	Fish Tissue	GN02 MNWH4	RBA 013	RBA 013	15-Nov-10	19	0.291	2.456	2.203	-27.50	8.38	48.84	13.11	3.72		4010 - XP
	Fish Tissue	GN02 MNWH6	RBA 014	RBA 014	15-Nov-10	20	0.284	2.401	2.252	-26.21	7.93	48.93	13.73	3.57		4010 - XP
	Fish Tissue	GN02 MNWH8	RBA 015	RBA 015	15-Nov-10	21	0.291	2.392	2.332	-26.56	7.97	47.58	13.88	3.43		4010 - XP
	Fish Tissue	GN02 MNWH9	RBA 016	RBA 016	15-Nov-10	22	0.316	2.667	2.491	-26.43	8.56	48.78	13.59	3.59		4010 - XP
	Fish Tissue	GN04 MNWH17	RBA 017	RBA 017	15-Nov-10	23	0.287	2.371	2.094	-27.88	8.76	47.74	12.65	3.78		4010 - XP
	Fish Tissue	GN04 MNWH18	RBA 018	RBA 018	15-Nov-10	26	0.302	2.520	2.153	-26.77	8.85	48.20	12.36	3.90		4010 - XP
	Fish Tissue	GN04 MNWH18	RBA 018	RBA 018R	15-Nov-10	48	0.323	2.567	2.553	-26.02	8.67	45.89	13.62	3.37		4010 - XP
	Fish Tissue	GN06 MNWH31	RBA 019	RBA 019	15-Nov-10	27	0.310	2.652	2.453	-28.06	7.98	49.38	13.66	3.61		4010 - XP
	Fish Tissue	GN06 MNWH32	RBA 020	RBA 020	15-Nov-10	28	0.296	2.599	2.117	-27.83	8.08	50.67	12.38	4.09		4010 - XP
	Fish Tissue	GN06 MNWH33	RBA 021	RBA 021	15-Nov-10	29	0.307	2.668	2.085	-28.74	8.27	50.16	11.74	4.27		4010 - XP
	Fish Tissue	GN04 LKTR57	RBA 022	RBA 022	15-Nov-10	30	0.296	2.428	2.544	-30.48	11.64	47.39	14.88	3.19		4010 - XP
	Fish Tissue	ANG01 LKTR1	RBA 023	RBA 023	15-Nov-10	31	0.294	2.411	2.392	-31.68	12.33	47.30	14.06	3.36		4010 - XP
	Fish Tissue	ANG01 LKTR2	RBA 024	RBA 024	15-Nov-10	32	0.290	2.263	2.350	-31.91	13.07	45.03	14.02	3.21		4010 - XP
	Fish Tissue	ANG01 LKTR3	RBA 025	RBA 025	15-Nov-10	33	0.315	2.577	2.643	-30.03	11.18	47.16	14.47	3.26		4010 - XP
	Fish Tissue	ANG01 LKTR19	RBA 026	RBA 026	15-Nov-10	34	0.296	2.486	2.367	-31.97	11.46	48.48	13.83	3.51		4010 - XP
	Fish Tissue	ANG01 LKTR20	RBA 027	RBA 027	15-Nov-10	35	0.291	2.362	2.327	-31.58	12.40	46.85	13.82	3.39		4010 - XP
is sample ANG2 LKTR 20 (verified by Rick)	Fish Tissue	ANG01 LKTR21	RBA 028	RBA 028	15-Nov-10	36	0.291	2.652	1.918	-33.66	11.85	52.51	11.39	4.61	LIPID RICH	4010 - XP
	Fish Tissue	ANG01 LKTR22	RBA 029	RBA 029	15-Nov-10	37	0.306	2.620	2.551	-31.56	12.44	49.43	14.38	3.44		4010 - XP
	Fish Tissue	BS01 BLTR25	RBA 030	RBA 030	15-Nov-10	38	0.290	2.812	1.585	-34.52	11.90	55.82	9.40	5.94	LIPID RICH	4010 - XP
	Fish Tissue	ANG02 BLTR26	RBA 031	RBA 031	15-Nov-10	39	0.323	2.689	2.694	-31.73	10.37	48.10	14.39	3.34		4010 - XP
	Fish Tissue	BS01 BLTR20	RBA 032	RBA 032	15-Nov-10	40	0.287	2.633	1.953	-33.32	11.70	54.59	11.72	4.66		4010 - XP
	Fish Tissue	ANG02 LKTR21	RBA 033	RBA 033	15-Nov-10	41	0.283	2.389	2.391	-31.76	11.69	48.80	14.61	3.34		4010 - XP
	Fish Tissue	ANG02 LKTR22	RBA 034	RBA 034	15-Nov-10	42	0.280	2.413	2.187	-32.52	11.49	49.78	13.50	3.69		4010 - XP
	Fish Tissue	ANG02 LKTR23	RBA 035	RBA 035	15-Nov-10	43	0.329	3.145	2.308	-33.55	11.95	55.11	12.03	4.58		4010 - XP
	Fish Tissue	ANG02 LKTR24	RBA 036	RBA 036	15-Nov-10	44	0.321	2.800	2.311	-32.98	12.12	50.39	12.39	4.07		4010 - XP
	Fish Tissue	ANG02 LKTR25	RBA 037	RBA 037	15-Nov-10	45	0.318	3.160	1.580	-35.40	11.62	57.26	8.52	6.72	LIPID RICH	4010 - XP
	Fish Tissue	ANG02 LKTR26	RBA 038	RBA 038	15-Nov-10	46	0.328	2.926	2.446	-32.77	11.81	51.56	12.84	4.02		4010 - XP
	Fish Tissue	ANG02 LKTR27	RBA 039	RBA 039	15-Nov-10	47	0.301	2.969	1.686	-35.11	11.32	56.88	9.64	5.90		4010 - XP
	Fish Tissue	ANG02 LKTR28	RBA 040	RBA 040	15-Nov-10	54	0.325	3.163	1.833	-35.13	12.29	56.13	9.68	5.80	LIPID RICH	4010 - XP
	Fish Tissue	ANG02 LKTR28	RBA 040	RBA 040R	15-Nov-10	72	0.314	3.083	1.780	-35.10	12.09	56.61	9.70	5.84	LIPID RICH	4010 - XP
	Fish Tissue	ANG02 LKTR29	RBA 041	RBA 041	15-Nov-10	55	0.320	2.688	2.478	-32.39	11.52	48.44	13.30	3.64		4010 - XP
SAMPLE LABEL not easy to read	Fish Tissue	ANG02 LKTR30	RBA 042	RBA 042	15-Nov-10	56	0.309	2.890	1.908	-34.07	11.54	53.97	10.62	5.08	LIPID RICH	4010 - XP

Date	Waterbody	Site	Samplers	Nad	Zone	East	North	Species	Length	Type	RANDY ID#	SINLAB ID	Date	Line	Amount	CO2 Ampl	N2 Ampl	d13C	d15N	%C	%N	C/N	Comment	EA Mass Spec
17-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Mountain whitefish	350	Fillet	1	RBA 222	7-Dec-11	85	0.411	2.788	3.060	-26.58	11.21	43.27	14.06	3.08		NC2500 - XP
17-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Mountain whitefish	312	Fillet	2	RBA 223	7-Dec-11	86	0.409	6.177	5.256	-30.12	7.56	98.26	24.30	4.04		NC2500 - XP
17-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Mountain whitefish	286	Fillet	3	RBA 224	7-Dec-11	87	0.404	3.004	2.860	-28.05	8.09	47.49	13.46	3.53		NC2500 - XP
17-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Longnose sucker	442	Fillet	4	RBA 225	7-Dec-11	88	0.402	2.959	2.500	-28.53	7.52	47.03	11.79	3.99		NC2500 - XP
17-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Mountain whitefish	392	Fillet	5	RBA 226	7-Dec-11	89	0.437	3.477	2.513	-30.52	7.98	50.95	10.93	4.66		NC2500 - XP
17-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Mountain whitefish	319	Fillet	6	RBA 227	7-Dec-11	90	0.397	2.891	2.686	-29.45	7.22	46.46	12.77	3.64		NC2500 - XP
17-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Longnose sucker	415	Fillet	7	RBA 228	7-Dec-11	91	0.400	2.933	2.661	-28.85	6.24	46.74	12.58	3.72		NC2500 - XP
17-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Longnose sucker	317	Fillet	8	RBA 229	7-Dec-11	92	0.405	3.012	2.677	-28.63	6.40	47.42	12.48	3.80		NC2500 - XP
23-Jul-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Longnose sucker	380	Fillet	9	RBA 230	7-Dec-11	93	0.411	3.126	2.843	-28.17	7.37	48.50	13.04	3.72		NC2500 - XP
23-Jul-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Longnose sucker	395	Fillet	10	RBA 231	7-Dec-11	94	0.431	3.155	2.726	-28.66	7.16	46.69	11.98	3.90		NC2500 - XP
23-Jul-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Longnose sucker	429	Fillet	11	RBA 232	7-Dec-11	95	0.431	3.142	3.108	-28.07	7.73	46.58	13.69	3.40		NC2500 - XP
23-Jul-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Longnose sucker	442	Fillet	12	RBA 233	8-Dec-11	48	0.399	3.061	2.789	-27.28	7.55	48.57	12.99	3.74		NC2500 - XP
23-Jul-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Longnose sucker	442	Fillet	12	RBA 233 R	8-Dec-11	65	0.388	2.993	2.602	-27.62	7.37	48.95	12.47	3.92		NC2500 - XP
23-Jul-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Longnose sucker	399	Fillet	13	RBA 234	8-Dec-11	49	0.409	3.297	2.609	-28.23	8.59	51.07	11.86	4.31		NC2500 - XP
23-Jul-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Longnose sucker	402	Fillet	14	RBA 235	8-Dec-11	50	0.397	3.006	2.711	-27.06	9.22	47.93	12.66	3.78		NC2500 - XP
23-Jul-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Longnose sucker	410	Fillet	15	RBA 236	8-Dec-11	51	0.402	3.231	2.326	-28.60	7.37	51.01	10.79	4.73		NC2500 - XP
23-Jul-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Longnose sucker	388	Fillet	16	RBA 237	8-Dec-11	52	0.393	2.881	2.932	-27.36	7.80	46.48	13.88	3.35		NC2500 - XP
23-Jul-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Longnose sucker	412	Fillet	17	RBA 238	8-Dec-11	53	0.402	3.003	2.765	-27.47	8.51	47.29	12.79	3.70		NC2500 - XP
23-Jul-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Longnose sucker	373	Fillet	18	RBA 239	8-Dec-11	54	0.396	3.161	2.595	-28.51	7.38	50.54	12.21	4.14		NC2500 - XP
3-Sep-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Longnose sucker	392	Fillet	19	RBA 240	8-Dec-11	55	0.443	3.681	2.375	-30.26	8.22	52.80	10.06	5.25		NC2500 - XP
3-Sep-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Longnose sucker	415	Fillet	20	RBA 241	8-Dec-11	56	0.418	3.452	2.475	-30.53	8.38	52.36	11.01	4.76		NC2500 - XP
3-Sep-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Longnose sucker	414	Fillet	21	RBA 242	8-Dec-11	57	0.387	3.147	2.587	-30.21	7.53	51.49	12.47	4.13		NC2500 - XP
3-Sep-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Longnose sucker	423	Fillet	22	RBA 243	8-Dec-11	58	0.401	3.134	2.788	-26.31	7.91	49.57	12.94	3.83		NC2500 - XP
3-Sep-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Longnose sucker	442	Fillet	23	RBA 244	8-Dec-11	59	0.402	3.081	3.044	-27.32	7.22	48.52	14.06	3.45		NC2500 - XP
27-Aug-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Longnose sucker	392	Fillet	24	RBA 245	8-Dec-11	60	0.380	2.863	2.469	-29.55	8.44	47.80	12.13	3.94		NC2500 - XP
27-Aug-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Longnose sucker	380	Fillet	25	RBA 246	8-Dec-11	61	0.407	3.063	2.959	-28.76	8.79	47.64	13.53	3.52		NC2500 - XP
27-Aug-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Longnose sucker	400	Fillet	26	RBA 247	8-Dec-11	62	0.396	3.039	2.561	-30.00	8.39	48.60	12.04	4.04		NC2500 - XP
24-Aug-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Bull trout	754	Fillet	27	RBA 248	8-Dec-11	63	0.396	2.895	2.930	-28.09	11.04	46.31	13.73	3.37		NC2500 - XP
26-Aug-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Longnose sucker	398	Fillet	28	RBA 249	8-Dec-11	64	0.416	3.682	2.029	-31.34	8.98	56.35	9.18	6.14		NC2500 - XP
26-Aug-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Longnose sucker	397	Fillet	29	RBA 250	8-Dec-11	67	0.422	3.328	2.889	-29.68	6.70	50.03	12.73	3.93		NC2500 - XP
26-Aug-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Longnose sucker	397	Fillet	29	RBA 250 R	8-Dec-11	89	0.401	3.091	2.911	-29.31	6.74	48.72	13.44	3.63		NC2500 - XP
26-Aug-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Longnose sucker	407	Fillet	30	RBA 251	8-Dec-11	68	0.424	3.266	2.648	-28.34	8.12	48.88	11.61	4.21		NC2500 - XP
13-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Rainbow trout	440	Fillet	31	RBA 252	8-Dec-11	69	0.403	2.941	2.971	-28.50	9.31	46.18	13.65	3.38		NC2500 - XP
13-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Rainbow trout	405	Fillet	32	RBA 253	8-Dec-11	70	0.423	2.999	3.235	-27.89	9.29	44.90	14.15	3.17		NC2500 - XP
13-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Rainbow trout	412	Fillet	33	RBA 254	8-Dec-11	71	0.394	3.035	2.906	-28.05	8.76	48.87	13.71	3.56		NC2500 - XP
13-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Rainbow trout	333	Fillet	34	RBA 255	8-Dec-11	72	0.414	3.028	3.112	-25.82	8.39	46.28	13.88	3.33		NC2500 - XP
13-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Mountain whitefish	419	Fillet	35	RBA 256	8-Dec-11	73	0.425	3.234	3.046	-30.72	9.91	48.13	13.24	3.63		NC2500 - XP
13-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Mountain whitefish	458	Fillet	36	RBA 257	8-Dec-11	74	0.418	3.146	2.940	-30.27	11.02	47.76	13.04	3.66		NC2500 - XP
13-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Mountain whitefish	425	Fillet	37	RBA 258	8-Dec-11	75	0.389	2.799	2.895	-29.41	11.35	45.54	13.75	3.31		NC2500 - XP
13-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Mountain whitefish	408	Fillet	38	RBA 259	8-Dec-11	76	0.402	3.033	2.894	-31.72	10.30	47.84	13.34	3.59		NC2500 - XP
13-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Mountain whitefish	362	Fillet	39	RBA 260	8-Dec-11	77	0.410	3.315	2.556	-33.09	10.21	51.10	11.51	4.44		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Mountain whitefish	292	Fillet	40	RBA 261	8-Dec-11	78	0.390	3.035	2.595	-29.35	8.47	49.24	12.32	4.00		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Mountain whitefish	295	Fillet	41	RBA 262	8-Dec-11	79	0.433	3.189	3.242	-26.85	8.42	46.57	13.80	3.37		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Walleye	406	Fillet	42	RBA 263	8-Dec-11	80	0.411	2.975	3.133	-25.71	10.65	45.88	14.13	3.25		NC2500 - XP
6-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Goldeye	375	Fillet	43	RBA 264	8-Dec-11	81	0.398	3.106	2.863	-26.13	9.85	49.38	13.30	3.71		NC2500 - XP
6-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Walleye	449	Fillet	44	RBA 265	8-Dec-11	82	0.405	3.042	3.182	-26.34	12.69	47.52	14.51	3.27		NC2500 - XP
6-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Walleye	430	Fillet	45	RBA 266	8-Dec-11	83	0.399	2.906	2.978	-26.28	12.04	46.14	13.82	3.34		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Walleye	444	Fillet	46	RBA 267	8-Dec-11	84	0.390	2.821	3.003	-25.66	10.77	45.73	14.26	3.21		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Bull trout	500	Fillet	47	RBA 268	8-Dec-11	85	0.426	3.209	3.148	-27.25	11.18	47.70	13.69	3.48		NC2500 - XP
6-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Walleye	420	Fillet	48	RBA 269	8-Dec-11	86	0.380	2.848	2.969	-25.96	11.46	47.40	14.47	3.27		NC2500 - XP
6-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Walleye	457	Fillet	49	RBA 270	8-Dec-11	87	0.419	3.026	3.235	-25.67	10.43	45.76	14.34	3.19		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Mountain whitefish	281	Fillet	50	RBA 271	8-Dec-11	88	0.393	2.968	2.929	-27.94	8.01	47.79	13.82	3.46		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Goldeye	396	Fillet	51	RBA 272	8-Dec-11	95	0.410	3.179	2.903	-26.60	9.10	49.02	13.05	3.76		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Goldeye	396	Fillet	51	RBA 272 R	8-Dec-11	113	0.413	3.229	2.978	-26.57	9.18	49.52	13.37	3.70		NC2500 - XP
6-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Walleye	444	Fillet	52	RBA 273	8-Dec-11	96	0.434	3.212	3.412	-25.44	10.96	46.93	14.55	3.22		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Mountain whitefish	349	Fillet	53	RBA 274	8-Dec-11	97	0.399	2.550	2.766	-27.83	7.95	40.33	12.81	3.15		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Mountain whitefish	396	Fillet	54	RBA 275	8-Dec-11	98	0.421	3.086	3.232	-27.37	8.96	46.36	14.17	3.27		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Goldeye	410	Fillet	55	RBA 276	8-Dec-11	99	0.412	3.030	3.103	-25.78	8.69	46.60	13.97	3.34		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Walleye	435	Fillet	56	RBA 277	8-Dec-11	100	0.386	2.753	2.882	-25.74	11.06	45.23	13.89	3.26		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Walleye	445	Fillet	57	RBA 278	8-Dec-11	101	0.433	3.203	3.417	-25.53	10.56	46.81	14.57	3.21		NC2500 - XP
6-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Goldeye	386	Fillet	58	RBA 279	8-Dec-11	102	0.404	2.913	3.051	-25.35	10.13	45.66	13.98	3.27		NC2500 - XP
6-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Goldeye	404	Fillet	59	RBA 280	8-Dec-11	103	0.390	2.819	3.001	-25.53	9.42	45.64	14.24	3.21		NC2500 - XP
6-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Walleye	434	Fillet	60	RBA 281	8-Dec-11	104	0.384	2.690	2.834	-25.73	11.94	44.21	13.67	3.23		NC2500 - XP
6-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Walleye	412	Fillet	61	RBA 282	8-Dec-11	105	0.418	3.067	3.170	-25.53	10.72	46.40	14.02	3.31		NC2500 - XP
6-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Walleye	479	Fillet	62	RBA 283	8-Dec-11	106	0.403	2.926	3.077	-25.71	10.94	45.88	14.08	3.26		NC2500 - XP
6-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Walleye	411	Fillet	63	RBA 284	8-Dec-11	107	0.415	3.086	3.272	-25.61	11.43	46.95	14.51	3.24		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Mountain whitefish	322	Fillet	64	RBA 285	8-Dec-11	108	0.415	3.280	2.789	-27.54	10.05	49.97	12.44	4.02		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Mountain whitefish	324	Fillet	65	RBA 286	8-Dec-11	109	0.404	2.990	2.853	-28.04	9.31	46.76	13.05	3.58		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Mountain whitefish	344	Fillet	66	RBA 287	8-Dec-11	110	0.387	2.835	2.817	-27.53	9.34	46.45	13.56	3.42		NC2500 - XP
6-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Walleye	411	Fillet	67	RBA 288	8-Dec-11	111	0.402	2.640	2.781	-25.78	12.13	41.51	12.85	3.23		NC2500 - XP
5-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Walleye	399	Fillet	68	RBA 289	8-Dec-11	112	0.416	3.028	3.261	-25.07	10.48	45.98	14.42	3.19		NC2500 - XP

Date	Waterbody	Site	Samplers	Nad	Zone	East	North	Species	Length	Type	RANDY ID#	SINLAB ID	Date	Line	Amount	CO2 Ampl	N2 Ampl	d13C	d15N	%C	%N	C/N	Comment	EA Mass Spec
5-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Bull trout	558	Fillet	69	RBA 290	8-Dec-11	118	0.394	3.144	2.681	-27.71	11.09	50.36	12.60	4.00		NC2500 - XP
5-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Bull trout	558	Fillet	69	RBA 290 R	8-Dec-11	136	0.408	3.307	2.769	-27.71	10.94	51.24	12.63	4.06		NC2500 - XP
5-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Walleye	420	Fillet	70	RBA 291	8-Dec-11	119	0.395	2.887	3.061	-25.55	10.66	46.15	14.33	3.22		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Goldeye	366	Fillet	71	RBA 292	8-Dec-11	120	0.406	3.096	2.874	-26.59	9.19	48.13	13.03	3.69		NC2500 - XP
4-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Mountain whitefish	237	Fillet	72	RBA 293	8-Dec-11	121	0.401	3.060	2.924	-27.90	9.28	48.23	13.50	3.57		NC2500 - XP
12-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Rainbow trout	305	Fillet	73	RBA 294	8-Dec-11	122	0.389	2.860	3.019	-28.87	9.45	46.46	14.37	3.23		NC2500 - XP
12-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Rainbow trout	215	Fillet	74	RBA 295	8-Dec-11	123	0.422	3.123	3.197	-26.56	8.63	46.75	13.94	3.35		NC2500 - XP
12-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Rainbow trout	273	Fillet	75	RBA 296	8-Dec-11	124	0.406	3.777	3.173	-29.82	10.16	58.89	14.38	4.09		NC2500 - XP
12-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Mountain whitefish	342	Fillet	76	RBA 297	8-Dec-11	125	0.402	3.239	2.722	-31.07	9.82	50.88	12.55	4.05		NC2500 - XP
12-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Mountain whitefish	352	Fillet	77	RBA 298	8-Dec-11	126	0.404	3.268	2.541	-30.06	8.65	51.13	11.70	4.37		NC2500 - XP
12-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Rainbow trout	325	Fillet	78	RBA 299	13-Dec-11	63	0.386	2.815	2.967	-29.20	9.94	46.01	14.32	3.21		NC2500 - XP
12-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Rainbow trout	326	Fillet	79	RBA 300	13-Dec-11	64	0.411	3.076	3.300	-28.12	9.52	47.29	14.89	3.18		NC2500 - XP
12-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Mountain whitefish	388	Fillet	80	RBA 301	13-Dec-11	65	0.399	2.903	2.930	-29.06	8.41	45.99	13.71	3.35		NC2500 - XP
12-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Mountain whitefish	396	Fillet	81	RBA 302	13-Dec-11	66	0.394	3.019	2.925	-30.35	9.79	48.41	13.79	3.51		NC2500 - XP
12-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Rainbow trout	269	Fillet	82	RBA 303	13-Dec-11	67	0.402	2.970	3.152	-25.91	8.38	46.72	14.58	3.20		NC2500 - XP
12-Jul-11	Peace River	Section 1	Mainstream Aquatics Ltd.	83	10	577407	6219341	Mountain whitefish	372	Fillet	83	RBA 304	13-Dec-11	68	0.386	2.961	2.639	-29.11	8.14	48.39	12.71	3.81		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Longnose sucker	295	Fillet	84	RBA 305	13-Dec-11	69	0.415	3.140	3.033	-29.51	5.72	47.83	13.53	3.53		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Mountain whitefish	435	Fillet	85	RBA 306	13-Dec-11	70	0.406	3.158	2.797	-28.72	8.57	49.06	12.77	3.84		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Longnose sucker	370	Fillet	86	RBA 307	8-Dec-11	135	0.414	3.405	2.553	-29.92	6.37	52.00	11.39	4.57		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Longnose sucker	327	Fillet	87	RBA 308	10-Jan-12	7	0.410	2.835	2.710	-28.91	6.33	49.09	13.10	3.75		NC2500 - XP
	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Longnose sucker	327	Fillet	87	RBA 308R	10-Jan-12	24	0.414	2.871	2.624	-29.15	6.35	49.11	12.54	3.92		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Mountain whitefish	388	Fillet	88	RBA 309	10-Jan-12	8	0.386	2.830	2.334	-29.29	8.92	52.04	12.03	4.32		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Mountain whitefish	320	Fillet	89	RBA 310	10-Jan-12	9	0.398	2.812	2.399	-30.34	7.68	50.17	11.98	4.19		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Mountain whitefish	318	Fillet	90	RBA 311	10-Jan-12	10	0.414	2.690	2.711	-29.05	8.21	46.09	13.03	3.54		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Longnose sucker	327	Fillet	91	RBA 312	10-Jan-12	11	0.403	2.805	2.682	-28.69	5.96	49.38	13.26	3.72		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Mountain whitefish	433	Fillet	92	RBA 313	10-Jan-12	12	0.387	3.085	1.814	-32.58	8.49	56.57	9.44	5.99	VERY LIPID RICH	NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Mountain whitefish	279	Fillet	93	RBA 314	10-Jan-12	13	0.420	2.947	2.715	-30.41	7.14	49.72	12.93	3.85		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Mountain whitefish	304	Fillet	94	RBA 315	10-Jan-12	14	0.421	2.842	2.826	-29.84	7.71	47.89	13.45	3.56		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Bull trout	408	Fillet	95	RBA 316	10-Jan-12	15	0.400	2.607	2.866	-27.42	9.73	46.17	14.37	3.21		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Bull trout	325	Fillet	96	RBA 317	10-Jan-12	16	0.414	2.770	3.064	-28.15	9.71	47.36	14.83	3.19		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Bull trout	390	Fillet	97	RBA 318	10-Jan-12	17	0.393	2.583	2.879	-30.30	10.16	46.59	14.68	3.17		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Longnose sucker	419	Fillet	98	RBA 319	10-Jan-12	18	0.444	3.177	2.782	-28.31	7.37	50.74	12.52	4.05		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Longnose sucker	432	Fillet	99	RBA 320	10-Jan-12	19	0.404	2.790	2.765	-28.19	7.12	48.96	13.68	3.58		NC2500 - XP
16-Jul-11	Peace River	Section 3	Mainstream Aquatics Ltd.	83	10	607690	6235034	Longnose sucker	364	Fillet	100	RBA 321	10-Jan-12	20	0.391	2.739	2.536	-28.99	6.05	49.63	12.95	3.83		NC2500 - XP
7-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Goldeye	382	Fillet	101	RBA 322	10-Jan-12	21	0.422	2.699	2.982	-25.22	9.55	45.29	14.04	3.22		NC2500 - XP
7-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Goldeye	392	Fillet	102	RBA 323	10-Jan-12	22	0.401	2.710	2.670	-26.77	9.82	47.85	13.21	3.62		NC2500 - XP
7-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Goldeye	372	Fillet	103	RBA 324	10-Jan-12	23	0.380	2.560	2.342	-26.46	10.10	47.72	12.23	3.90		NC2500 - XP
7-Jun-11	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Goldeye	310	Fillet	104	RBA 325	10-Jan-12	26	0.395	2.681	2.761	-26.68	9.62	48.04	13.82	3.47		NC2500 - XP
	Peace River	Section 8	Mainstream Aquatics Ltd.	83	11	331911	6228494	Goldeye	310	Fillet	104	RBA 325R	10-Jan-12	48	0.388	2.501	2.605	-26.72	9.47	45.49	13.34	3.41		NC2500 - XP
22-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Mountain whitefish	385	Fillet	105	RBA 326	10-Jan-12	27	0.409	2.648	2.684	-27.85	10.93	45.81	12.98	3.53		NC2500 - XP
22-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Rainbow trout	282	Fillet	106	RBA 327	10-Jan-12	28	0.387	2.485	2.726	-26.65	9.09	45.41	13.95	3.25		NC2500 - XP
22-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Lake trout	304	Fillet	107	RBA 328	10-Jan-12	29	0.388	2.591	2.796	-27.06	12.27	47.23	14.29	3.31		NC2500 - XP
22-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Lake trout	400	Fillet	108	RBA 329	10-Jan-12	30	0.428	2.824	2.976	-28.75	12.03	46.68	13.78	3.39		NC2500 - XP
22-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Mountain whitefish	309	Fillet	109	RBA 330	10-Jan-12	31	0.390	2.521	2.617	-27.40	9.64	45.75	13.33	3.43		NC2500 - XP
22-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Rainbow trout	284	Fillet	110	RBA 331	10-Jan-12	32	0.399	2.714	2.912	-25.72	8.77	48.10	14.47	3.32		NC2500 - XP
22-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Longnose sucker	393	Fillet	111	RBA 332	10-Jan-12	33	0.384	2.534	2.411	-27.81	9.31	46.64	12.49	3.73		NC2500 - XP
22-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Longnose sucker	422	Fillet	112	RBA 333	10-Jan-12	34	0.426	2.841	2.876	-28.70	9.43	47.15	13.38	3.52		NC2500 - XP
22-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Longnose sucker	268	Fillet	113	RBA 334	10-Jan-12	35	0.419	2.857	2.917	-28.07	8.96	48.22	13.79	3.50		NC2500 - XP
22-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Longnose sucker	416	Fillet	114	RBA 335	10-Jan-12	36	0.409	2.680	2.884	-26.09	8.73	46.28	13.97	3.31		NC2500 - XP
22-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Longnose sucker	364	Fillet	115	RBA 336	10-Jan-12	37	0.412	2.793	2.851	-29.25	9.89	47.93	13.69	3.50		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Longnose sucker	434	Fillet	116	RBA 337	10-Jan-12	38	0.397	2.591	2.689	-30.01	10.31	46.08	13.41	3.44		NC2500 - XP
22-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Longnose sucker	378	Fillet	117	RBA 338	10-Jan-12	39	0.394	2.550	2.622	-28.62	9.63	45.73	13.19	3.47		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Rainbow trout	308	Fillet	118	RBA 339	10-Jan-12	40	0.409	2.706	2.701	-26.65	8.91	46.77	13.08	3.58		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Rainbow trout	313	Fillet	119	RBA 340	10-Jan-12	41	0.380	2.490	2.778	-25.42	8.22	46.33	14.51	3.19		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Rainbow trout	293	Fillet	120	RBA 341	10-Jan-12	42	0.388	2.583	2.865	-25.92	8.30	47.08	14.65	3.21		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Mountain whitefish	316	Fillet	121	RBA 342	10-Jan-12	43	0.400	2.705	2.787	-28.36	8.51	47.79	13.80	3.46		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Mountain whitefish	345	Fillet	122	RBA 343	10-Jan-12	44	0.390	2.571	2.612	-27.58	8.87	46.54	13.28	3.50		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Mountain whitefish	283	Fillet	123	RBA 344	10-Jan-12	45	0.427	2.727	2.655	-27.78	8.54	45.09	12.33	3.66		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Mountain whitefish	264	Fillet	124	RBA 345	10-Jan-12	46	0.437	2.876	3.106	-23.37	8.72	46.48	14.07	3.30		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Longnose sucker	422	Fillet	125	RBA 346	10-Jan-12	47	0.416	2.572	2.674	-27.89	8.84	43.70	12.80	3.42		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Longnose sucker	371	Fillet	126	RBA 347	10-Jan-12	54	0.416	2.773	2.920	-27.14	9.26	46.97	13.85	3.39		NC2500 - XP
	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Longnose sucker	371	Fillet	126	RBA 347R	10-Jan-12	72	0.386	2.584	2.721	-27.09	9.28	47.13	13.91	3.39		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Rainbow trout	283	Fillet	127	RBA 348	10-Jan-12	55	0.411	2.805	3.078	-25.56	8.49	48.10	14.75	3.26		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Rainbow trout	265	Fillet	128	RBA 349	10-Jan-12	56	0.404	2.710	2.910	-25.50	7.91	47.32	14.26	3.32		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Mountain whitefish	310	Fillet	129	RBA 350	10-Jan-12	57	0.405	2.694	2.880	-27.43	8.91	46.92	14.09	3.33		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Longnose sucker	430	Fillet	130	RBA 351	10-Jan-12	58	0.408	2.795	2.671	-29.25	7.88	48.26	12.95	3.73		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Longnose sucker	412	Fillet	131	RBA 352	10-Jan-12	59	0.422	2.962	2.722	-28.98	9.40	49.47	12.76	3.88		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Mountain whitefish	287	Fillet	132	RBA 353	10-Jan-12	60	0.410	2.749	2.907	-25.78	8.42	47.26	14.02	3.37		NC2500 - XP
5-Jun-11	Peace River	Section 7	Mainstream Aquatics Ltd.	83	10	676743	6220010	Mountain whitefish	353	Fillet	133	RBA 354	10-Jan-12	61	0.419	2.746	2.901	-28.56	8.76	46.18	13.69	3.37		NC2500 - XP
24-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	557619	6202482	Lake trout	305	Fillet	134	RBA 355	10-Jan-12	62	0.399	2.623	2.942	-29.28	13.08	46.30	14.60	3.17		NC2500 - XP
23-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	557619	6202482	Lake trout	410	Fillet	135	RBA 356	10-Jan-12	63	0.459	3.142	3.071	-31.49	12.45	48.27	13.27	3.64		NC2500 - XP

Date	Waterbody	Site	Samplers	Nad	Zone	East	North	Species	Length	Type	RANDY ID#	SINLAB ID	Date	Line	Amount	CO2 Ampl	N2 Ampl	d13C	d15N	%C	%N	C/N	Comment	EA Mass Spec
24-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	557619	6202482	Lake trout	352	Fillet	136	RBA 357	10-Jan-12	64	0.397	2.683	2.904	-28.90	12.51	47.61	14.57	3.27		NC2500 - XP
25-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562415	6204187	Lake trout	522	Fillet	137	RBA 358	10-Jan-12	65	0.432	3.282	2.424	-33.60	12.09	53.53	11.16	4.80	VERY LIPID RICH	NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Rainbow trout	295	Fillet	138	RBA 359	10-Jan-12	66	0.403	2.700	3.032	-25.44	8.18	47.20	14.98	3.15		NC2500 - XP
25-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562415	6204187	Lake trout	260	Fillet	139	RBA 360	10-Jan-12	67	0.426	2.935	3.033	-28.65	12.23	48.55	14.11	3.44		NC2500 - XP
23-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	557619	6202482	Lake trout	487	Fillet	140	RBA 361	10-Jan-12	68	0.458	3.447	2.461	-33.95	11.91	53.09	10.66	4.98	VERY LIPID RICH	NC2500 - XP
23-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	547959	6206792	Lake trout	480	Fillet	141	RBA 362	10-Jan-12	69	0.430	3.042	2.702	-32.86	11.83	49.99	12.42	4.03	LIPID RICH TWO CAPS	NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Mountain whitefish	279	Fillet	142	RBA 363	10-Jan-12	70	0.419	2.821	3.084	-27.50	8.32	47.44	14.56	3.26		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	562153	6204025	Rainbow trout	296	Fillet	143	RBA 364	10-Jan-12	71	0.414	2.723	3.014	-25.05	8.37	46.30	14.34	3.23		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Mountain whitefish	302	Fillet	144	RBA 365	10-Jan-12	77	0.408	2.764	2.910	-26.97	8.79	47.68	14.01	3.40		NC2500 - XP
	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Mountain whitefish	302	Fillet	144	RBA 365R	10-Jan-12	95	0.416	2.784	2.928	-27.02	8.72	47.25	13.92	3.39		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Mountain whitefish	284	Fillet	145	RBA 366	10-Jan-12	78	0.405	2.721	2.790	-26.77	8.97	47.33	13.57	3.49		NC2500 - XP
23-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	557619	6202482	Lake trout	387	Fillet	146	RBA 367	10-Jan-12	79	0.416	2.769	3.133	-28.91	11.63	46.92	14.85	3.16		NC2500 - XP
21-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	561732	6203846	Rainbow trout	298	Fillet	147	RBA 368	10-Jan-12	80	0.423	2.817	3.104	-27.76	8.52	46.93	14.46	3.24		NC2500 - XP
24-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	557619	6202482	Bull trout	720	Biopsy	148	RBA 369	10-Jan-12	81	0.414	2.961	2.835	-31.78	12.38	50.42	13.50	3.73		NC2500 - XP
24-Jun-11	Dinosaur Reservoir	General	Mainstream Aquatics Ltd.	83	10	557619	6202482	Bull trout	423	Biopsy	149	RBA 370	10-Jan-12	82	0.437	3.341	2.277	-33.86	11.40	53.93	10.27	5.25	LIPID RICH	NC2500 - XP
								SPILT		Fillet	150	RBA 371	10-Jan-12	83	0.394	2.738	2.743	-30.64	10.35	48.95	13.74	3.56		NC2500 - XP
								SPILT		Fillet	151	RBA 372	10-Jan-12	84	0.379	2.649	2.597	-27.70	7.43	49.26	13.53	3.64		NC2500 - XP
								SPILT		Fillet	152	RBA 373	10-Jan-12	85	0.427	3.109	2.646	-29.74	6.27	51.39	12.25	4.19		NC2500 - XP
								SPILT		Fillet	153	RBA 374	10-Jan-12	86	0.388	2.585	2.701	-27.81	7.07	47.01	13.77	3.41		NC2500 - XP
								SPILT		Fillet	154	RBA 375	10-Jan-12	87	0.424	2.824	2.884	-27.93	8.66	46.96	13.41	3.50		NC2500 - XP
								SPILT		Fillet	155	RBA 376	10-Jan-12	88	0.388	2.608	2.868	-28.28	9.26	47.38	14.59	3.25		NC2500 - XP
								SPILT		Fillet	156	RBA 377	10-Jan-12	89	0.396	2.672	2.470	-30.82	10.67	47.60	12.33	3.86		NC2500 - XP
								SPILT		Fillet	157	RBA 378	10-Jan-12	90	0.411	2.670	3.072	-27.91	9.53	45.82	14.75	3.11		NC2500 - XP
								SPILT		Fillet	158	RBA 379	10-Jan-12	91	0.420	2.875	2.588	-32.52	10.48	48.27	12.16	3.97		NC2500 - XP
								SPILT		Fillet	159	RBA 380	10-Jan-12	92	0.380	2.630	2.416	-28.63	8.53	48.82	12.58	3.88		NC2500 - XP
								SPILT		Fillet	160	RBA 381	10-Jan-12	93	0.428	3.052	2.461	-29.52	9.01	50.28	11.36	4.43		NC2500 - XP
								SPILT		Fillet	161	RBA 382	10-Jan-12	94	0.412	2.749	3.029	-25.60	8.61	47.04	14.51	3.24		NC2500 - XP
								SPILT		Fillet	162	RBA 383	13-Dec-11	54	0.382	2.727	2.947	-26.54	8.94	45.01	14.35	3.14		NC2500 - XP
								SPILT		Fillet	163	RBA 384	13-Dec-11	55	0.422	3.239	2.986	-28.97	9.37	48.43	13.10	3.70		NC2500 - XP
								SPILT		Fillet	164	RBA 385	13-Dec-11	56	0.409	3.051	3.100	-27.48	9.29	47.10	14.09	3.34		NC2500 - XP
								SPILT		Fillet	165	RBA 386	13-Dec-11	57	0.386	2.852	2.939	-28.40	11.66	46.66	14.27	3.27		NC2500 - XP
								SPILT		Fillet	166	RBA 387	13-Dec-11	58	0.417	3.155	3.264	-26.96	12.12	47.78	14.51	3.29		NC2500 - XP
								SPILT		Fillet	167	RBA 388	13-Dec-11	59	0.420	3.320	2.734	-28.70	10.71	49.97	12.08	4.14		NC2500 - XP
								SPILT		Fillet	168	RBA 389	13-Dec-11	60	0.412	2.965	3.012	-27.22	9.45	45.41	13.61	3.34		NC2500 - XP
								SPILT		Fillet	169	RBA 390	13-Dec-11	61	0.412	3.292	2.700	-30.80	8.24	50.51	12.18	4.15		NC2500 - XP

SINLAB ID	Date	Line	Amount	CO2 Ampl	N2 Ampl	d13C	d15N	%C	%N	C/N	Comment	EA Mass Spec
CH7	7-Dec-11	53	0.238	3.193		-32.32		86.13				NC2500 - XP
CH7	8-Dec-11	94	0.190	2.645		-32.12		88.04				NC2500 - XP
CH7	13-Dec-11	53	0.288	3.952		-32.12		86.91				NC2500 - XP
CH7	10-Jan-12	53	0.283	3.481		-32.13		86.81				NC2500 - XP
					avg	-32.17						
					std	0.10						
N2	7-Dec-11	6	0.158		1.755		20.30		21.42			NC2500 - XP
N2	8-Dec-11	6	0.167		1.886		20.44		21.37			NC2500 - XP
N2	13-Dec-11	6	0.070		0.774		20.18		22.14			NC2500 - XP
N2	10-Jan-12	6	0.164		1.627		20.23		20.06			NC2500 - XP
						avg	20.29					
						std	0.11					
ACETANILIDE	7-Dec-11	2	0.204	2.235	1.096	-32.02	-2.27	71.09	10.36	6.86	BATCH 149699	NC2500 - XP
ACETANILIDE	7-Dec-11	25	0.204	2.277	1.100	-31.92	-2.30	71.37	10.10	7.07	BATCH 149699	NC2500 - XP
ACETANILIDE	7-Dec-11	49	0.223	2.421	1.167	-31.89	-2.34	69.28	9.90	7.00	BATCH 149699	NC2500 - XP
ACETANILIDE	7-Dec-11	73	0.212	2.356	1.119	-31.56	-2.18	70.77	9.95	7.11	BATCH 149699	NC2500 - XP
ACETANILIDE	7-Dec-11	96	0.241	2.635	1.258	-31.87	-2.24	69.34	9.85	7.04	BATCH 149699	NC2500 - XP
ACETANILIDE	8-Dec-11	2	0.201	2.130	1.021	-31.59	-2.21	68.09	9.96	6.84	BATCH 149699	NC2500 - XP
ACETANILIDE	8-Dec-11	31	0.204	2.279	1.100	-31.64	-2.25	70.22	10.38	6.76	BATCH 149699	NC2500 - XP
ACETANILIDE	8-Dec-11	43	0.210	2.371	1.140	-31.63	-2.42	71.09	10.36	6.86	BATCH 149699	NC2500 - XP
ACETANILIDE	8-Dec-11	66	0.203	2.267	1.097	-31.54	-2.37	70.36	10.49	6.70	BATCH 149699	NC2500 - XP
ACETANILIDE	8-Dec-11	90	0.228	2.603	1.272	-31.65	-2.32	71.86	10.62	6.76	BATCH 149699	NC2500 - XP
ACETANILIDE	8-Dec-11	114	0.223	2.561	1.261	-31.56	-2.10	72.30	10.76	6.72	BATCH 149699	NC2500 - XP
ACETANILIDE	8-Dec-11	137	0.219	2.457	1.203	-31.59	-2.10	70.69	10.57	6.69	BATCH 149699	NC2500 - XP
ACETANILIDE	13-Dec-11	2	0.220	2.345	1.146	-31.69	-2.25	67.80	10.13	6.69	BATCH 149699	NC2500 - XP
ACETANILIDE	13-Dec-11	25	0.229	2.583	1.253	-31.61	-2.35	71.09	10.36	6.86	BATCH 149699	NC2500 - XP
ACETANILIDE	13-Dec-11	49	0.220	2.497	1.218	-31.64	-2.31	71.60	10.66	6.72	BATCH 149699	NC2500 - XP
ACETANILIDE	13-Dec-11	73	0.217	2.502	1.224	-31.65	-2.25	72.63	10.84	6.70	BATCH 149699	NC2500 - XP
ACETANILIDE	13-Dec-11	96	0.222	2.541	1.242	-31.64	-2.25	72.11	10.73	6.72	BATCH 149699	NC2500 - XP
ACETANILIDE	10-Jan-12	2	0.232	2.120	1.095	-31.58	-2.55	66.37	9.54	6.96	BATCH 149699	NC2500 - XP
ACETANILIDE	10-Jan-12	25	0.242	2.433	1.254	-31.59	-2.37	71.60	10.36	6.91	BATCH 149699	NC2500 - XP
ACETANILIDE	10-Jan-12	49	0.218	2.177	1.119	-31.56	-2.36	71.09	10.36	6.86	BATCH 149699	NC2500 - XP
ACETANILIDE	10-Jan-12	73	0.212	2.071	1.070	-31.60	-2.37	69.37	10.09	6.87	BATCH 149699	NC2500 - XP
ACETANILIDE	10-Jan-12	96	0.240	2.387	1.240	-31.58	-2.35	70.74	10.41	6.80	BATCH 149699	NC2500 - XP
					avg	-31.66	-2.30					
					std	0.13	0.10					
NICOTINAMIDE	7-Dec-11	5	0.131	1.227	1.603	-34.80	-1.65	60.35	23.69	2.55		NC2500 - XP
NICOTINAMIDE	7-Dec-11	52	0.109	0.958	1.214	-34.84	-1.70	55.98	21.19	2.64		NC2500 - XP
NICOTINAMIDE	7-Dec-11	76	0.259	2.318	2.971	-34.83	-1.71	56.99	21.87	2.61		NC2500 - XP
NICOTINAMIDE	8-Dec-11	5	0.109	0.922	1.165	-34.47	-1.54	53.70	20.75	2.59		NC2500 - XP
NICOTINAMIDE	8-Dec-11	47	0.169	1.426	1.848	-34.63	-1.72	52.98	20.59	2.57		NC2500 - XP
NICOTINAMIDE	8-Dec-11	93	0.158	1.487	1.940	-34.52	-1.72	59.12	23.11	2.56		NC2500 - XP
NICOTINAMIDE	8-Dec-11	117	0.239	2.200	2.879	-34.40	-1.69	57.91	22.41	2.58		NC2500 - XP
NICOTINAMIDE	13-Dec-11	5	0.111	1.078	1.392	-34.52	-1.75	61.22	24.13	2.54		NC2500 - XP
NICOTINAMIDE	13-Dec-11	52	0.162	1.518	1.995	-34.52	-1.61	58.80	23.23	2.53		NC2500 - XP
NICOTINAMIDE	13-Dec-11	76	0.233	2.154	2.839	-34.52	-1.76	58.20	22.72	2.56		NC2500 - XP
NICOTINAMIDE	10-Jan-12	5	0.163	1.353	1.867	-34.51	-1.76	59.95	23.02	2.60		NC2500 - XP
NICOTINAMIDE	10-Jan-12	52	0.091	0.758	1.036	-34.48	-1.65	59.84	23.08	2.59		NC2500 - XP
NICOTINAMIDE	10-Jan-12	76	0.257	2.116	2.948	-34.52	-1.70	58.55	22.67	2.58		NC2500 - XP
					avg	-34.58	-1.69					
					std	0.15	0.06					
BLS	7-Dec-11	3	0.218	1.643	1.189	-19.10	6.99	48.61	10.49	4.63		NC2500 - XP
BLS	7-Dec-11	50	0.179	1.388	0.967	-18.96	7.23	49.30	10.11	4.87		NC2500 - XP
BLS	7-Dec-11	74	0.292	2.258	1.609	-19.08	7.12	49.04	10.42	4.71		NC2500 - XP
BLS	8-Dec-11	3	0.147	1.145	0.808	-18.81	6.97	49.72	10.97	4.53		NC2500 - XP
BLS	8-Dec-11	45	0.241	1.884	1.329	-18.69	7.21	49.22	10.53	4.67		NC2500 - XP

SINLAB ID	Date	Line	Amount	CO2 Ampl	N2 Ampl	d13C	d15N	%C	%N	C/N	Comment	EA Mass Spec
BLS	8-Dec-11	91	0.212	1.677	1.194	-18.79	7.02	49.69	10.85	4.58		NC2500 - XP
BLS	8-Dec-11	115	0.340	2.546	1.848	-18.70	7.01	47.41	10.23	4.63		NC2500 - XP
BLS	13-Dec-11	3	0.143	1.116	0.777	-18.81	7.06	49.29	10.69	4.61		NC2500 - XP
BLS	13-Dec-11	50	0.203	1.587	1.128	-18.79	7.31	49.09	10.64	4.61		NC2500 - XP
BLS	13-Dec-11	74	0.308	2.423	1.757	-18.77	7.11	49.57	10.75	4.61		NC2500 - XP
BLS	10-Jan-12	3	0.222	1.524	1.146	-18.76	7.05	49.45	10.38	4.76		NC2500 - XP
BLS	10-Jan-12	50	0.162	1.102	0.835	-18.74	7.10	48.51	10.63	4.57		NC2500 - XP
BLS	10-Jan-12	74	0.299	2.106	1.603	-18.72	7.33	49.61	10.60	4.68		NC2500 - XP
					avg	-18.83	7.11					
					std	0.14	0.12					
SMB-M	7-Dec-11	4	0.206	1.481	1.579	-23.80	12.36	46.30	14.71	3.15		NC2500 - XP
SMB-M	7-Dec-11	51	0.149	1.011	1.042	-23.73	12.25	43.15	13.20	3.27		NC2500 - XP
SMB-M	7-Dec-11	75	0.304	2.273	2.381	-23.88	12.35	47.42	14.82	3.20		NC2500 - XP
SMB-M	8-Dec-11	4	0.156	1.051	1.084	-23.34	12.35	42.83	13.53	3.17		NC2500 - XP
SMB-M	8-Dec-11	46	0.238	1.709	1.787	-23.41	12.41	45.19	14.14	3.20		NC2500 - XP
SMB-M	8-Dec-11	92	0.215	1.614	1.711	-23.44	12.27	47.20	15.05	3.14		NC2500 - XP
SMB-M	8-Dec-11	116	0.294	2.158	2.326	-23.43	12.37	46.10	14.73	3.13		NC2500 - XP
SMB-M	13-Dec-11	4	0.142	1.061	1.116	-23.34	12.37	47.08	15.12	3.11		NC2500 - XP
SMB-M	13-Dec-11	51	0.230	1.720	1.813	-23.38	12.18	46.95	14.92	3.15		NC2500 - XP
SMB-M	13-Dec-11	75	0.245	1.664	1.764	-23.33	12.30	42.68	13.59	3.14		NC2500 - XP
SMB-M	10-Jan-12	4	0.179	1.127	1.253	-23.46	12.30	45.48	14.13	3.22		NC2500 - XP
SMB-M	10-Jan-12	51	0.159	0.977	1.089	-23.40	12.14	43.92	13.90	3.16		NC2500 - XP
SMB-M	10-Jan-12	75	0.282	1.828	2.049	-23.38	12.42	45.75	14.39	3.18		NC2500 - XP
					avg	-23.49	12.31					
					std	0.19	0.09					
PROTEIN	8-Dec-11	44	0.390	2.772	2.680	-27.20	6.05	45.11	12.85	3.51		NC2500 - XP
PROTEIN	13-Dec-11	62	0.413	2.998	2.937	-27.22	6.01	45.86	13.22	3.47		NC2500 - XP
PROTEIN	10-Jan-12	97	0.393	2.635	2.740	-27.23	6.02	47.38	13.83	3.43		NC2500 - XP
					avg	-27.22	6.02					
					std	0.02	0.02					

Comments	SAMPLE TYPE	Randy ID#	SINLAB ID#	SINLAB ID	Date	Line	Amount	CO2 Ampl	N2 Ampl	d13C	d15N	%C	%N	C/N	Comment	EA-Mass Spec
	Fish Tissue	ANG02 LKTR33	RBA 043	RBA 043	15-Nov-10	57	0.284	2.334	1.947	-32.86	11.49	47.59	11.87	4.01	LIPID RICH	4010 - XP
	Fish Tissue	ANG02 BLTR34	RBA 044	RBA 044	15-Nov-10	58	0.300	2.589	2.491	-32.66	10.50	49.84	14.30	3.49		4010 - XP
	Fish Tissue	ANG02 LKTR35	RBA 045	RBA 045	15-Nov-10	59	0.292	2.429	2.329	-31.43	11.79	48.03	13.75	3.49		4010 - XP
	Fish Tissue	EF02 MNWH4	RBA 046	RBA 046	15-Nov-10	60	0.329	2.565	2.635	-26.26	9.14	45.01	13.77	3.27		4010 - XP
	Fish Tissue	EF03 MNWH5	RBA 047	RBA 047	15-Nov-10	61	0.276	1.849	1.895	-29.46	8.83	38.82	11.91	3.26		4010 - XP
	Fish Tissue	EF03 MNWH6	RBA 048	RBA 048	15-Nov-10	62	0.303	2.497	2.314	-28.73	9.48	47.73	13.20	3.62		4010 - XP
	Fish Tissue	EF09 LNSC8	RBA 049	RBA 049	15-Nov-10	63	0.286	2.260	1.880	-28.46	9.37	45.60	11.33	4.02		4010 - XP
	Fish Tissue	EF09 MNWH9	RBA 050	RBA 050	15-Nov-10	64	0.321	2.756	2.482	-27.72	8.90	49.57	13.30	3.73		4010 - XP
	Fish Tissue	EF09 MNWH10	RBA 051	RBA 051	15-Nov-10	65	0.323	2.694	2.584	-25.04	8.42	48.13	13.74	3.50		4010 - XP
	Fish Tissue	BS01 BLTR1	RBA 052	RBA 052	15-Nov-10	66	0.317	3.070	1.645	-34.50	11.78	55.92	8.92	6.27	LIPID RICH	4010 - XP
	Fish Tissue	BS01 BLTR2	RBA 053	RBA 053	15-Nov-10	67	0.287	2.866	1.418	-35.37	10.96	57.70	8.50	6.79	LIPID RICH	4010 - XP
	Fish Tissue	BS01 BLTR3	RBA 054	RBA 054	15-Nov-10	68	0.339	3.562	1.371	-36.18	10.99	60.68	6.93	8.76	LIPID RICH	4010 - XP
	Fish Tissue	BS01 BLTR4	RBA 055	RBA 055	15-Nov-10	69	0.278	2.854	1.201	-35.53	11.32	59.28	7.43	7.98	LIPID RICH	4010 - XP
	Fish Tissue	BS01 BLTR5	RBA 056	RBA 056	15-Nov-10	70	0.272	2.925	1.008	-36.24	11.65	62.19	6.40	9.72	LIPID RICH	4010 - XP
	Fish Tissue	BS01 BLTR6	RBA 057	RBA 057	15-Nov-10	71	0.321	3.240	1.529	-35.34	11.54	58.25	8.15	7.14	LIPID RICH	4010 - XP
	Fish Tissue	BS01 BLTR7	RBA 058	RBA 058	15-Nov-10	77	0.287	2.853	1.322	-35.48	11.56	57.33	7.90	7.26	LIPID RICH	4010 - XP
	Fish Tissue	BS01 BLTR7	RBA 058	RBA 058R	15-Nov-10	95	0.303	3.150	1.474	-35.43	11.35	60.05	8.31	7.22	LIPID RICH	4010 - XP
	Fish Tissue	BS01 BLTR8	RBA 059	RBA 059	15-Nov-10	78	0.340	3.248	1.963	-34.37	11.15	55.18	9.89	5.58	LIPID RICH	4010 - XP
	Fish Tissue	GN01 BLTR39	RBA 060	RBA 060	15-Nov-10	79	0.301	2.482	2.466	-29.09	11.08	47.72	14.14	3.38		4010 - XP
	Fish Tissue	EF0302 BLTR49	RBA 061	RBA 061	15-Nov-10	80	0.291	2.420	2.428	-28.79	9.95	48.08	14.37	3.34		4010 - XP
	Fish Tissue	EF0301 BLTR Pit: 6292	RBA 062	RBA 062	15-Nov-10	81	0.289	2.531	2.106	-29.97	10.25	50.63	12.55	4.03		4010 - XP
	Fish Tissue	EF0301 BLTR Pit: 5772	RBA 063	RBA 063	15-Nov-10	82	0.305	2.817	2.067	-29.39	9.59	53.37	11.63	4.59		4010 - XP
	Fish Tissue	EF0303 LNSC1	RBA 064	RBA 064	15-Nov-10	83	0.303	2.578	2.102	-29.50	6.51	49.12	11.91	4.13		4010 - XP
	Fish Tissue	EF0303 LNSC2	RBA 065	RBA 065	15-Nov-10	84	0.317	2.639	2.300	-29.73	6.80	48.09	12.46	3.86		4010 - XP
	Fish Tissue	EF0303 LNSC3	RBA 066	RBA 066	15-Nov-10	85	0.318	2.674	2.360	-27.19	8.49	48.61	12.73	3.82		4010 - XP
	Fish Tissue	EF0303 LNSC4	RBA 067	RBA 067	15-Nov-10	86	0.308	2.623	2.205	-28.55	6.01	49.27	12.30	4.01		4010 - XP
	Fish Tissue	EF0303 LNSC5	RBA 068	RBA 068	15-Nov-10	87	0.323	3.026	2.074	-29.18	6.16	54.12	10.98	4.93		4010 - XP
	Fish Tissue	EF0303 LNSC6	RBA 069	RBA 069	15-Nov-10	88	0.321	2.556	2.429	-29.26	6.32	46.04	13.00	3.54		4010 - XP
	Fish Tissue	EF0303 LNSC7	RBA 070	RBA 070	15-Nov-10	89	0.328	2.816	2.408	-29.16	8.12	49.59	12.59	3.94		4010 - XP
	Fish Tissue	EF0303 LNSC8	RBA 071	RBA 071	15-Nov-10	90	0.297	2.697	1.926	-29.08	6.67	52.53	11.15	4.71		4010 - XP
	Fish Tissue	EF0303 LNSC9	RBA 072	RBA 072	15-Nov-10	91	0.318	2.818	2.052	-30.06	6.14	51.28	11.09	4.62		4010 - XP
	Fish Tissue	EF0303 LNSC10	RBA 073	RBA 073	15-Nov-10	92	0.312	2.853	1.863	-30.39	7.25	52.83	10.24	5.16		4010 - XP
	Fish Tissue	EF0303 MNWH12	RBA 074	RBA 074	15-Nov-10	93	0.316	2.637	1.760	-30.03	7.93	48.27	9.58	5.04		4010 - XP
	Fish Tissue	EF0305 BLTR Pit: 8415	RBA 075	RBA 075	15-Nov-10	94	0.335	3.061	2.516	-29.07	10.52	52.75	12.83	4.11		4010 - XP
	Fish Tissue	EF0305 MNWH13	RBA 076	RBA 076	1-Nov-10	36	0.297	2.409	2.318	-27.41	7.48	47.76	14.03	3.40		4010 - XP
	Fish Tissue	EF0305 MNWH13	RBA 076	RBA 076R	1-Nov-10	53	0.291	2.521	2.163	-28.16	7.65	51.00	13.37	3.81		4010 - XP
	Fish Tissue	EF0305 MNWH14	RBA 077	RBA 077	1-Nov-10	37	0.299	2.657	2.120	-29.49	7.30	52.21	12.70	4.11		4010 - XP
	Fish Tissue	EF0305 MNWH15	RBA 078	RBA 078	1-Nov-10	38	0.318	2.955	2.018	-29.59	8.05	54.82	11.41	4.80		4010 - XP
	Fish Tissue	EF0305 MNWH16	RBA 079	RBA 079	1-Nov-10	39	0.316	2.803	1.982	-29.25	7.60	52.27	11.26	4.64		4010 - XP
	Fish Tissue	EF0305 MNWH17	RBA 080	RBA 080	1-Nov-10	40	0.279	2.324	2.138	-29.02	7.22	48.96	13.77	3.56		4010 - XP
	Fish Tissue	EF0305 MNWH18	RBA 081	RBA 081	1-Nov-10	41	0.307	2.485	2.063	-29.86	7.65	47.60	12.08	3.94		4010 - XP
	Fish Tissue	EF0305 MNWH19	RBA 082	RBA 082	1-Nov-10	42	0.320	2.534	2.181	-28.94	6.99	46.59	12.23	3.81		4010 - XP
	Fish Tissue	EF0305 MNWH22	RBA 083	RBA 083	1-Nov-10	43	0.281	2.398	1.859	-30.15	7.40	50.26	11.90	4.22		4010 - XP
	Fish Tissue	EF0305 MNWH23	RBA 084	RBA 084	1-Nov-10	44	0.302	2.519	2.189	-28.93	7.16	49.14	13.07	3.76		4010 - XP
	Fish Tissue	EF0305 MNWH24	RBA 085	RBA 085	1-Nov-10	45	0.333	2.925	2.309	-29.46	7.39	51.76	12.45	4.16		4010 - XP
	Fish Tissue	EF0305 MNWH25	RBA 086	RBA 086	1-Nov-10	46	0.302	2.384	2.184	-28.71	6.74	46.34	12.99	3.57		4010 - XP
	Fish Tissue	EF0305 MNWH26	RBA 087	RBA 087	1-Nov-10	47	0.300	2.599	2.061	-28.75	6.49	50.96	12.34	4.13		4010 - XP
	Fish Tissue	EF0305 MNWH28	RBA 088	RBA 088	1-Nov-10	48	0.302	2.390	2.157	-29.69	9.04	46.57	12.86	3.62		4010 - XP
	Fish Tissue	EF0306 MNWH30	RBA 089	RBA 089	1-Nov-10	49	0.296	2.624	1.598	-33.06	9.75	52.13	9.68	5.39		4010 - XP
	Fish Tissue	EF0307 MNWH1	RBA 090	RBA 090	1-Nov-10	50	0.290	2.417	1.829	-30.66	8.77	49.01	11.32	4.33		4010 - XP
	Fish Tissue	EF0307 MNWH2	RBA 091	RBA 091	1-Nov-10	51	0.318	2.586	2.191	-29.77	8.60	47.92	12.39	3.87		4010 - XP
	Fish Tissue	EF0316 BLTR Pit: 7155	RBA 092	RBA 092	1-Nov-10	52	0.315	2.704	2.067	-29.39	10.61	50.53	11.77	4.29		4010 - XP

Comments	SAMPLE TYPE	Randy ID#	SINLAB ID#	SINLAB ID	Date	Line	Amount	CO2 Ampl	N2 Ampl	d13C	d15N	%C	%N	C/N	Comment	EA-Mass Spec
	Fish Tissue	EF0308 BLTR Pit: 3336	RBA 093	RBA 093	1-Nov-10	55	0.292	2.348	2.226	-28.25	9.51	47.34	13.71	3.45		4010 - XP
	Fish Tissue	EF0308 BLTR Pit: 3336	RBA 093	RBA 093R	1-Nov-10	77	0.329	2.667	2.516	-28.32	9.45	47.78	13.77	3.47		4010 - XP
Label reads Aug 25th ANG310 PIT 1473, not EF310	Fish Tissue	EF0310 BLTR Pit: 1473	RBA 094	RBA 094	1-Nov-10	56	0.301	2.520	2.199	-28.91	10.15	49.28	13.12	3.76		4010 - XP
Label reads Aug 25th ANG310, not EF310 and there is no#, just says LKTR	Fish Tissue	EF0310 LKTR4	RBA 095	RBA 095	1-Nov-10	57	0.301	2.387	2.468	-26.86	11.01	46.73	14.79	3.16		4010 - XP
	Fish Tissue	EF0311 BLTR Pit: 6319	RBA 096	RBA 096	1-Nov-10	58	0.328	2.648	2.549	-27.85	10.51	47.54	13.97	3.40		4010 - XP
	Fish Tissue	EF01 RDSH18	RBA 097	RBA 097	1-Nov-10	59	0.292	2.365	2.373	-25.83	8.17	47.66	14.62	3.26		4010 - XP
	Fish Tissue	EF01 RDSH19	RBA 098	RBA 098	1-Nov-10	60	0.289	2.381	2.441	-25.56	8.57	48.48	15.18	3.19		4010 - XP
	Fish Tissue	EF01 RDSH20	RBA 099	RBA 099	1-Nov-10	61	0.307	2.565	2.546	-25.41	7.59	49.21	14.93	3.30		4010 - XP
	Fish Tissue	EF01 RDSH21	RBA 100	RBA 100	1-Nov-10	62	0.290	2.401	2.433	-25.58	7.91	48.70	15.07	3.23		4010 - XP
	Fish Tissue	EF01 RDSH22	RBA 101	RBA 101	1-Nov-10	63	0.278	2.300	2.348	-25.49	8.46	48.72	15.22	3.20		4010 - XP
	Fish Tissue	EF01 RDSH23	RBA 102	RBA 102	1-Nov-10	64	0.292	2.353	2.320	-25.22	8.21	47.61	14.38	3.31		4010 - XP
	Fish Tissue	EF01 RDSH24	RBA 103	RBA 103	1-Nov-10	65	0.314	2.574	2.519	-24.30	8.27	48.31	14.43	3.35		4010 - XP
	Fish Tissue	EF01 RDSH25	RBA 104	RBA 104	1-Nov-10	66	0.296	2.406	2.412	-25.63	7.88	47.89	14.65	3.27		4010 - XP
	Fish Tissue	EF01 RDSH26	RBA 105	RBA 105	1-Nov-10	67	0.293	2.367	2.392	-25.34	8.04	47.64	14.74	3.23		4010 - XP
	Fish Tissue	EF01 RDSH27	RBA 106	RBA 106	1-Nov-10	68	0.285	2.320	2.328	-25.88	8.17	47.95	14.72	3.26		4010 - XP
	Fish Tissue	EF01 RDSH28	RBA 107	RBA 107	1-Nov-10	69	0.289	2.444	2.332	-25.96	8.02	49.76	14.49	3.43		4010 - XP
	Fish Tissue	EF06 BLTR10	RBA 108	RBA 108	1-Nov-10	70	0.325	2.610	2.568	-27.63	10.75	47.40	14.26	3.32		4010 - XP
	Fish Tissue	#400 BLTR	RBA 109	RBA 109	1-Nov-10	71	0.315	2.530	2.514	-28.43	9.98	47.32	14.38	3.29		4010 - XP
	Fish Tissue	#407 BLTR	RBA 110	RBA 110	1-Nov-10	72	0.282	2.492	2.043	-29.09	10.44	52.05	13.02	4.00		4010 - XP
	Fish Tissue	#399 BLTR	RBA 111	RBA 111	1-Nov-10	73	0.302	2.339	2.399	-27.55	10.00	45.63	14.32	3.19		4010 - XP
	Fish Tissue	#368 BLTR	RBA 112	RBA 112	1-Nov-10	74	0.288	2.453	2.323	-28.68	8.98	50.12	14.50	3.46		4010 - XP
	Fish Tissue	DUP-DI-FISH-1	RBA 113	RBA 113	1-Nov-10	75	0.298	2.416	2.328	-26.46	7.93	47.78	14.09	3.39		4010 - XP
	Fish Tissue	DUP-DI-FISH-2	RBA 114	RBA 114	1-Nov-10	76	0.300	2.436	2.262	-26.40	8.46	47.86	13.60	3.52		4010 - XP
	Fish Tissue	DUP-DI-FISH-3	RBA 115	RBA 115	1-Nov-10	82	0.294	2.279	2.170	-27.87	9.01	45.62	13.29	3.43		4010 - XP
	Fish Tissue	DUP-DI-FISH-3	RBA 115	RBA 115R	1-Nov-10	96	0.287	2.328	2.087	-28.05	9.02	47.85	13.13	3.64		4010 - XP
	Fish Tissue	DUP-DI-FISH-4	RBA 116	RBA 116	1-Nov-10	83	0.296	2.459	2.259	-29.56	11.13	48.90	13.75	3.56		4010 - XP
	Fish Tissue	DUP-PE-FISH-1	RBA 117	RBA 117	1-Nov-10	84	0.332	2.805	2.262	-30.09	6.21	49.89	12.27	4.07	LR	4010 - XP
	Fish Tissue	DUP-PE-FISH-2	RBA 118	RBA 118	1-Nov-10	85	0.279	2.576	1.650	-30.49	5.95	54.41	10.61	5.13		4010 - XP
	Fish Tissue	DUP-PE-FISH-3	RBA 119	RBA 119	1-Nov-10	86	0.303	2.634	2.100	-29.38	6.92	51.29	12.49	4.11		4010 - XP
	Fish Tissue	DUP-PE-FISH-4	RBA 120	RBA 120	1-Nov-10	87	0.316	2.820	1.888	-31.34	8.54	52.72	10.76	4.90		4010 - XP
EXTRA, NOT ON LIST THAT WAS SENT	Fish Tissue	EF302 BLTR 31	RBA 121	RBA 121	1-Nov-10	88	0.301	2.423	2.419	-28.72	10.40	47.47	14.50	3.27		4010 - XP
EXTRA, NOT ON LIST THAT WAS SENT	Fish Tissue	PEF 0216(?) BLTR 14	RBA 122	RBA 122	1-Nov-10	89	0.316	2.878	1.880	-29.91	10.72	53.84	10.71	5.03	LR	4010 - XP
re labeled sample RBA 028 as per Ricks instruction	Fish Tissue	ANG2 LKTR 20	RBA 123	RBA 123	see RBA 028											
	chironomid	Dino-Ben-Down+mid 19-Oct-2010	RBA 124	RBA 124	15-Nov-10	97	0.319	2.574	1.706	-24.34	6.72	46.74	9.22	5.07		4010 - XP
	empididae	GN-10m-2010(this is what was on the bags)	RBA 125	RBA 125	15-Nov-10	98	0.312	2.733	1.554	-26.64	5.64	50.72	8.58	5.91		4010 - XP
acid treated	gastropod		RBA 126	RBA 126	17-Nov-10	94	0.345	0.623	0.526	-26.61	4.77	10.71	2.68	4.00	ACID TREATED	4010 - XP

STANDARDS

SINLAB ID	Date	Line	Amount	CO2 Ampl	N2 Ampl	d13C	d15N	%C	%N	C/N	Comment	EA - Mass Spec
CH7	1-Nov-10	17	0.253	3.706		-32.09		86.26				4010 - XP
CH7	15-Nov-10	53	0.169	2.572		-32.12		87.53				4010 - XP
CH7	17-Nov-10	6	0.162	2.578		-32.06		85.66				4010 - XP
					avg	-32.09						
					std	0.03						
N2	1-Nov-10	6	0.143		1.608		20.37		20.54			4010 - XP
N2	15-Nov-10	6	0.155		1.895		20.42		21.59			4010 - XP
N2	17-Nov-10	6	0.174		1.975		20.21		21.16			4010 - XP
						avg	20.34					
						std	0.11					
ACETANILIDE	1-Nov-10	2	0.229	2.752	1.321	-27.84	-1.91	71.09	10.36	6.86	BATCH 2880	4010 - XP
ACETANILIDE	1-Nov-10	13	0.238	2.932	1.405	-27.87	-2.13	72.75	10.61	6.86	BATCH 2880	4010 - XP
ACETANILIDE	1-Nov-10	35	0.221	2.635	1.258	-27.77	-2.04	70.45	10.25	6.87	BATCH 2880	4010 - XP
ACETANILIDE	1-Nov-10	54	0.206	2.450	1.171	-27.74	-2.05	70.23	10.26	6.85	BATCH 2880	4010 - XP
ACETANILIDE	1-Nov-10	78	0.228	2.779	1.334	-27.78	-1.98	71.91	10.50	6.85	BATCH 2880	4010 - XP
ACETANILIDE	1-Nov-10	97	0.225	2.671	1.283	-27.73	-1.98	70.24	10.27	6.84	BATCH 2880	4010 - XP
ACETANILDE	15-Nov-10	2	0.210	2.572	1.258	-27.85	-1.93	71.09	10.36	6.86	BATCH 2880	4010 - XP
ACETANILDE	15-Nov-10	25	0.220	2.847	1.370	-27.95	-2.06	74.92	10.78	6.95	BATCH 2880	4010 - XP
ACETANILDE	15-Nov-10	49	0.242	2.981	1.443	-27.87	-1.98	71.37	10.27	6.95	BATCH 2880	4010 - XP
ACETANILDE	15-Nov-10	73	0.233	2.859	1.381	-27.85	-2.13	71.28	10.24	6.96	BATCH 2880	4010 - XP
ACETANILDE	15-Nov-10	96	0.239	2.948	1.427	-27.87	-2.15	71.69	10.28	6.97	BATCH 2880	4010 - XP
ACETANILDE	17-Nov-10	2	0.209	2.525	1.233	-27.75	-1.92	71.09	10.36	6.86	BATCH 2880	4010 - XP
ACETANILDE	17-Nov-10	25	0.232	2.802	1.365	-27.83	-1.88	71.17	10.30	6.91	BATCH 2880	4010 - XP
ACETANILDE	17-Nov-10	49	0.226	2.703	1.305	-27.85	-1.98	70.42	10.09	6.98	BATCH 2880	4010 - XP
ACETANILDE	17-Nov-10	73	0.228	2.595	1.253	-27.98	-2.06	67.02	9.62	6.96	BATCH 2880	4010 - XP
ACETANILDE	17-Nov-10	96	0.219	2.592	1.255	-27.81	-1.78	69.78	10.04	6.95	BATCH 2880	4010 - XP
					avg	-27.83	-2.00					
					std	0.07	0.10					
NICOTINAMIDE	1-Nov-10	5	0.108	1.029	1.288	-34.51	-1.78	56.38	21.69	2.60		4010 - XP
NICOTINAMIDE	1-Nov-10	16	0.263	2.658	3.422	-34.54	-1.67	59.74	23.50	2.54		4010 - XP
NICOTINAMIDE	1-Nov-10	81	0.167	1.597	2.033	-34.47	-1.73	56.58	22.11	2.56		4010 - XP
NICOTINAMIDE	15-Nov-10	5	0.114	1.123	1.450	-34.49	-1.64	57.23	22.26	2.57		4010 - XP
NICOTINAMIDE	15-Nov-10	52	0.145	1.474	1.888	-34.45	-1.82	59.02	22.66	2.60		4010 - XP
NICOTINAMIDE	15-Nov-10	76	0.264	2.734	3.571	-34.60	-1.65	60.15	23.29	2.58		4010 - XP
NICOTINAMIDE	17-Nov-10	5	0.093	0.916	1.175	-34.45	-1.78	57.77	22.30	2.59		4010 - XP
NICOTINAMIDE	17-Nov-10	52	0.146	1.382	1.781	-34.51	-1.66	55.89	21.59	2.59		4010 - XP
NICOTINAMIDE	17-Nov-10	76	0.274	2.594	3.360	-34.56	-1.70	55.86	21.57	2.59		4010 - XP
					avg	-34.51	-1.71					
					std	0.05	0.07					
BLS	1-Nov-10	3	0.141	1.167	0.810	-18.79	7.16	48.92	10.39	4.71		4010 - XP
BLS	1-Nov-10	14	0.305	2.527	1.778	-18.76	7.21	48.70	10.43	4.67		4010 - XP
BLS	1-Nov-10	79	0.207	1.783	1.253	-18.72	7.26	50.67	10.90	4.65		4010 - XP
BLS	15-Nov-10	3	0.166	1.431	1.015	-18.75	7.24	50.08	10.69	4.68		4010 - XP
BLS	15-Nov-10	50	0.227	1.944	1.368	-18.78	7.13	49.63	10.49	4.73		4010 - XP
BLS	15-Nov-10	74	0.294	2.583	1.840	-18.78	7.09	50.78	10.77	4.72		4010 - XP
BLS	17-Nov-10	3	0.164	1.397	0.990	-18.79	7.14	50.10	10.64	4.71		4010 - XP
BLS	17-Nov-10	50	0.201	1.684	1.200	-18.72	7.16	49.39	10.52	4.70		4010 - XP
BLS	17-Nov-10	74	0.322	2.625	1.872	-18.74	7.21	47.79	10.17	4.70		4010 - XP
					avg	-18.76	7.18					
					std	0.03	0.06					
SMB-M	1-Nov-10	4	0.170	1.335	1.367	-23.45	12.26	46.30	14.54	3.18		4010 - XP
SMB-M	1-Nov-10	15	0.314	2.363	2.460	-23.40	12.27	44.27	14.10	3.14		4010 - XP
SMB-M	1-Nov-10	80	0.216	1.700	1.763	-23.33	12.23	46.35	14.77	3.14		4010 - XP
SMB-M	15-Nov-10	4	0.156	1.186	1.235	-23.36	12.35	44.27	13.92	3.18		4010 - XP
SMB-M	15-Nov-10	51	0.239	1.897	1.993	-23.39	12.22	45.99	14.49	3.17		4010 - XP
SMB-M	15-Nov-10	75	0.313	2.490	2.621	-23.38	12.29	46.05	14.43	3.19		4010 - XP
SMB-M	17-Nov-10	4	0.161	1.285	1.347	-23.41	12.37	46.89	14.75	3.18		4010 - XP
SMB-M	17-Nov-10	51	0.201	1.540	1.613	-23.43	12.29	45.13	14.13	3.19		4010 - XP
SMB-M	17-Nov-10	75	0.331	2.510	2.651	-23.37	12.20	44.41	14.00	3.17		4010 - XP
					avg	-23.39	12.28					
					std	0.04	0.06					