Lambton Facility 2017 Annual Landfill Report Biomonitoring Program
2016 Field Year

Prepared for:
Clean Harbors Canada Inc.
4090 Telfer Road, RR 1
Corunna ON N0N 1G0

Prepared by:
Stantec Consulting Ltd.
70 Southgate Drive, Suite 1
Guelph ON N1G 4P5

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Technical Summary

In 1991, Laidlaw Environmental Services Inc. initiated an annual Biomonitoring Program near their hazardous waste landfill and liquid-injection incinerator (the Lambton Facility) located on Lot 9, Concession 10, St. Clair Township in Lambton County, Ontario. The Lambton Facility is a hazardous waste management complex which includes a high temperature incinerator and a secure landfill and is currently owned and operated by Clean Harbors Canada Inc. (Clean Harbors).

The Biomonitoring Program is one of the Lambton Facility's ongoing monitoring programs, which are required under condition 9 of the Facility's Environmental Compliance Approval No. A031806 dated September 5, 1997 and as amended. The Biomonitoring Program provides an indication of trends, through time, in the concentration of analytes in several environmental media at a network of test sites located within approximately 1.5 km of the Lambton Facility boundary. Each year, samples from up to four environmental media (soil, drainage ditch sediment, natural vegetation and agricultural crops) from each of the test sites are collected and submitted to the analytical laboratory to determine the concentration of selected metals, pesticides, chlorinated phenols, and dioxins and furans. In 2016, 13 test sites were monitored. Site S7 was introduced to the Biomonitoring Program in the 2016 Field Year to replace Site S3 (removed from the Biomonitoring Program in the 2015 Field Year after being disturbed during the expansion of the landfill within the Lambton Facility). Monitoring at Site S7 will begin in the 2017 Field Year.

The review and comparison of the 2016 data relative to the upper control limits (UL15)[1] for each site and on a site-wide basis was completed for inorganic analytes. The concentrations of 22 inorganic analytes (15 Group 1[2] analytes and seven Group 2 analytes[3]) exceeded their respective site-specific UL15 while four Group 1 analytes and one Group 2 analyte exceeded their site-wide UL15.

Concentrations of a limited number of inorganic chemicals in sediment, natural grasses and soil collected and analyzed in 2016 exceeded the Ontario Typical Ranges for Rural Parkland Soil (rural parkland OTR_{98}) (Ministry of the Environment and Climate Change, MOECC, 2011), the rural Upper Limit of Normal (ULN) (MOECC, 1989), the MOECC O.Reg.153/04 Table 1 Sediment Site

[1] The Upper Control Limits (UL) is the mean concentration of the analyte plus three standard deviations of the sample population. Site-specific and site-wide UL15 values were calculated using data collected from 1991-2014.
[2] Group 1 Analytes are ubiquitous or required nutrients in the environment and are not expected to have harmful effects on plant, human and animal health from chemical toxicity (Appendix A).
[3] Group 2 Analytes are known to have toxicological effects (Appendix A).

Condition Standard (SCS), the MOECC O.Reg.153/04 Table 1 Soil SCS (MOECC, 2011), or the Provincial Sediment Quality Guidelines (PSQG) (MOECC, 2008).

Overall, the majority of exceedances of the UL15 in the 2016 Field Year were identified for Group 1 inorganic analytes (barium, beryllium, calcium, chloride, chromium, iron, magnesium, manganese, molybdenum, nickel, phosphorus, potassium, sodium, strontium and sulfur). The exceedances of the Group 1 analytes do not warrant additional investigation at this time.

A select number of Group 2 analytes were found to have exceeded the site-specific UL15 (aluminum, arsenic, copper, lead, mercury, vanadium and zinc). However, the concentrations of these analytes were below levels associated with potential phytotoxicity. Consequently, continued monitoring is recommended but additional investigation is not justified at this time.

Concentration trend lines using linear regression statistics were updated on a site-wide basis for inorganic analytes. The purpose was to identify trends in the concentration of analytes (i.e., downward, upward, no change) over time. Overall, the regression analyses produced 51 significant trend lines with $p < 0.003$. These 51 trend lines, representing 17 downward trends and 34 upward trends.

Group 3 organic analytes[4] were not detected at concentrations representative of concern for ecological health during the 2016 Field Year.

A select number of organochlorine pesticides (OCP) analytes were measured at concentrations above their applicable reporting detection limit (RDL)[5]. However, all detected concentrations of OCPs were below the applicable rural parkland OTR_{98} and MOECC 153/04 Table 1 SCS, where available for comparison.

Polychlorinated biphenyls (PCBs) and pentachlorophenols (PCPs) were not identified at concentrations greater than their respective RDLs. Monitoring should continue but no additional examination is proposed.

Dioxins/furans (PCDD/DF) were not reported at concentrations greater than the rural parkland OTR_{98}.

The range of results indicates that the Biomonitoring Program continues to effectively meet its specific objectives of monitoring environmental concentrations and identifying the trends in concentrations over time.

[4] Organic analytes with reported toxicity that are produced when certain waste streams are incinerated. These organic analytes are documented to accumulate in the environment.
[5] The low concentration at which laboratory analyses will consistently detect the analytes when present.

Changes to the Biomonitoring Program have been proposed to the MOECC[6] to streamline the program and to accommodate the Landfill Expansion currently underway. Upon approval by the MOECC, these changes could be implemented during the next cycle of the Biomonitoring Program.

[6] Proposed changes to the Biomonitoring Program are provided in Appendix G.

Abbreviations

CALA	Canadian Association for Laboratory Accreditation Inc.
CEC	Cation exchange capacity
GLP	Good Laboratory Practice
GC/HRMS	High resolution mass spectrometry/gas chromatography
H^+	Hydrogen ion
ISO	International Organization for Standardization
LEL	Lowest effect level
LL	Lower Control Limit
MDL	Method detection limit
meq	Milliequivalent
MOECC	Ministry of the Environment and Climate Change (formerly the Ministry of the Environment (MOE))
ND	Not detected
OCDD	Octachlorodibenzodioxin
OCP	Organochlorinated pesticide
OM	Organic matter
OECD	Organization for Economic Cooperation and Development
OTR_{98}	Ontario Typical Range
PCB	Polychlorinated biphenyls
PCDD	Polychlorodibenzo-p-dioxin
PCDF	Polychlorodibenzo-furan
PCP	Pentachlorophenol
pH	-log[H+]
pg	Picograms
ppm	Parts per million
PSQG	Provincial Sediment Quality Guidelines

Abbreviations
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QA/QC	Quality assurance/quality control
RDFN	Raw Data File Notebook
RDL	Reporting Detection Limit
RPD	Relative Percent Difference
SCC	Standards Council of Canada
SCS	Site Condition Standard
SWEDAC	Swedish Board for Accreditation and Conformity Assessment
SEL	Severe effect level
TEF	Toxic equivalency factor
TEQ	Toxicity equivalents
UL	Upper control limit
ULN	Upper Limit of Normal
US EPA	United States Environmental Protection Agency
WHO	World Health Organization

1.0 INTRODUCTION

In 1991, Laidlaw Environmental Services Inc. initiated an annual Biomonitoring Program near their hazardous waste landfill and liquid-injection incinerator (the Lambton Facility) located on lot 9, concession 10, St. Clair Township in Lambton County, Ontario. The Lambton Facility is a hazardous waste management complex which includes a high temperature incinerator and a secure landfill and is currently owned and operated by Clean Harbors Canada Inc. (Clean Harbors). The Biomonitoring Program continues as one of the facility's ongoing monitoring programs required under condition 9 of its Environmental Compliance Approval (ECA No. A031806) dated September 5, 1997 and as amended. The Biomonitoring Program establishes baseline levels of selected chemicals in environmental media (soil, drainage ditch sediment, natural vegetation and agricultural crops) at selected locations (sites) within approximately 1.5 kilometres of the Lambton Facility and provides an indication of trends, through time, in the concentration of analytes of the sampled media.

Biomonitoring is used to monitor the concentration, or presence/absence, of selected chemicals in environmental media associated with a facility or operation. The use of biological monitors allows changes in the concentration of chemicals in environmental media to be tracked over time. This is particularly important if changes in the concentration of one or more chemicals indicate an upward trend such that unacceptable threshold concentrations may be approached or exceeded.

Stantec Consulting Limited (Stantec) carried out the Biomonitoring Program for the year 2016 and compared these data to accumulated biomonitoring data. Analytical testing of the 2016 media samples was undertaken by ALS Laboratories.

1.1 OBJECTIVES

The overall purpose of the Biomonitoring Program is to document through time the concentrations of selected analytes in environmental media (soil, sediment, natural vegetation and agricultural crops) in the vicinity of the Lambton Facility and evaluate if concentrations are changing relative to baseline or benchmark data.

The specific objectives of the program include:

1. Determine the concentrations of selected chemicals in environmental media at select sites within approximately 1.5 km of the Lambton Facility and compare with past Biomonitoring Program year's analyte concentrations and relevant published guidelines.
2. Identify trends in chemical concentration over time for environmental media at sites within approximately 1.5 km of the Lambton Facility, which, along with the results of other

monitoring programs, may be used to determine the need for mitigative action on facility outputs or to direct potential remediation in the areas surrounding the site.

3. Gather information (e.g., crop growth, sediment fertility and characterization[7] data) from the sites that could be used to assist in the assessment of impacts if upset conditions (e.g., potential release of chemicals) were to occur at the Lambton Facility.

1.2 RATIONALE FOR PROGRAM APPROACH

The rationale for the selection of chemicals analyzed, environmental media sampled, test site locations and the frequency of sampling for the Biomonitoring Program is summarized in the text below.

1.2.1 Selection of Chemicals for Analysis

The Biomonitoring Program monitors the concentrations of selected analytes at select locations within approximately 1.5 km of the Lambton Facility. Initially, the program was designed to address concerns identified in human health/environmental risk assessments conducted during previous environmental assessments (Laidlaw Environmental Services Inc., 1991; Laidlaw Environmental Services Inc., 1996). The selection of analytes was based on the results of the above-mentioned risk assessments.

The types of information considered when selecting the analytes included the nature of the Lambton Facility operations as a hazardous waste management facility, sources of potential release of chemicals, results of environmental monitoring in the Lambton county area, the types and composition of wastes to be incinerated or buried in the landfill site and the toxicity of the chemicals in the wastes. The list of analytes required by the MOECC to monitor is provided in **Table 1-1** and in the design and operation manual which is an attachment to operating Environmental Compliance Approval No. A031806.

Table 1-1: List of Analytes, by Group, Monitored during the 2016 Biomonitoring Program, Lambton Facility

GROUP 1 ANALYTES		
Barium	Iron	Silicon
Beryllium	Magnesium	Silver
Boron	Manganese	Sodium
Calcium	Molybdenum	Strontium
Chloride	Nickel	Sulphur
Chromium	Phosphorus	Titanium
Cobalt	Potassium	Zirconium

[7] The influence of soil and sediment characterization/fertility is discussed in Section 2.2 and Appendix B.

GROUP 2 ANALYTES		
Aluminum	Copper	Thallium
Arsenic	Lead	Vanadium
Cadmium	Mercury	Zinc
GROUP 3 ANALYTES		
Organochlorine Pesticides (OCPs)		
Aldrin	p,p' DDD	Endrin
a-BHC	p,p' DDE	Endrin Aldehyde
b-BHC	p,p' DDT	Heptachlor
g-BHC (Lindane)	Dieldrin	Heptachlor Epoxide
d-BHC	a Endosulfan	Methoxychlor
a-Chlordane	b Endosulfan	Mirex
g Chlordane	Endosulfan Sulphate	Toxaphene
Total Polychlorinated Biphenyls (PCB)		
Pentachlorophenol (PCP)		
Furans and Dioxins (PCDD/DF)		
Total Tetrachlorodibenzofurans (T4CDF)	Total Tetrachlorodibenzo-p-dioxins (T4CDD)	
Total Pentachlorodibenzofurans (T5CDF)	Total Pentachlorodibenzo-p-dioxins (T5CDD)	
Total Hexachlorodibenzofurans (T6CDF)	Total Hexachlorodibenzo-p-dioxins (T6CDD)	
Total Heptachlorodibenzofurans (T7CDF)	Total Heptachlorodibenzo-p-dioxins (T7CDD)	
Octachlorodibenzofuran (8CDF)	Octochlorodibenzo-p-dioxin (8CDD)	

Based on toxicity information in the scientific literature and on public perception of chemicals the analytes were grouped into three categories (**Table 1-1**):

Group 1: Inorganic analytes representing the lowest potential threat to livestock or to the consuming public that eats crops from the area. At the time of establishing the Biomonitoring Program in 1991, reports of toxic effects in either humans or livestock were not identified in the literature for exposures to the analyte at concentrations considered 'typical' in the environment.

Group 2: Inorganic analytes reported or theorized in the literature to have toxic effects on environmental receptors. However, at the time of establishing the Biomonitoring Program these analytes were not considered to be toxic contaminants that occur on a widespread or common basis.

Group 3: Organic analytes with reported toxicity that are produced when certain waste streams are incinerated. These organic analytes are documented to accumulate in the environment.

1.2.2 Selection of Environmental Media for Analysis

Several natural and agricultural media were considered for inclusion in the Biomonitoring Program. These included soil, grass from hay or pastured fields, grain and oilseed crops, corn silage, maple trees and sediment from drainage ditches. Consideration was also given to the typical practices used during crop production and the species of plants that grow as part of the natural vegetation surrounding the facility. For example, soybean/winter wheat rotations and natural grasses are more prevalent in the vicinity of the Lambton Facility than other agricultural crops and natural vegetation. The environmental media being tested for Group 1, 2 and 3 analytes are provided in **Table 1-2**.

Table 1-2: List of Analytes, by Group and Environmental Matrix, Monitored during the Biomonitoring Program, Lambton Facility

Group	Environmental Media			
	Soil	Drainage Ditch Sediment	Natural Grasses	Agricultural Crop
1	All	All	All	All
2	All	All	All	All
3	All (except PCP)	All (except PCDD/DF and PCP)	All (except PCP)	All

1.2.3 Selection of Test Sites

When the Biomonitoring Program was established in 1991, test site selection was based mainly on projections of the location of contaminants that could be dispersed by the facility's on-site liquid waste incinerator and that could have potential impacts on the surrounding environment. In order to include all potential emissions from the facility (i.e., to include fugitive and dust emissions from the landfill and other on-site activities), the site selection criteria were modified. Specifically, these modifications resulted in the selection of test sites that were spaced at approximately equal distances, and located to the north, south, east and west of the Lambton Facility (**Figure 1** of **Appendix A**). The selection of sites was based on criteria that would allow long-term, representative sampling of the media of interest. Existing test site information (e.g., years in program and location relative to the facility) is provided in **Table 2-2**.

1.2.4 Frequency of Sampling

The frequency of sampling was based on the outcomes from the first six years (1991-1996) of the Biomonitoring Program.

The content of emissions released from the Lambton Facility between 1991 and 1996 varied. As such, sampling on less than an annual basis could result in an incomplete understanding of changes in the concentrations of analytes in environmental media over time. Hence, annual sampling events were continued.

1.3 SCOPE OF WORK

The scope of work documented in this report includes the following tasks:

1. Collect samples of natural grasses, soil, sediment and agricultural crops during the appropriate time of year using the appropriate sampling techniques as outlined in the Revised 2016 Biomonitoring Sampling Program (Stantec, 2016a).
2. Send samples to analytical testing facility for sample processing and analysis.
3. Conduct quality assurance and quality control on the analytical data received from the laboratory.
4. Review and compare 2016 data to the upper control limits (UL15) for each site and on a site-wide basis. Results with concentrations above the UL15 (referred to as exceedances) have been reviewed and reported herein.
5. Review and compare the UL15 exceedances (inorganic analytes) or detections (organic analytes) in the 2016 data to applicable guidelines relevant for various media, which include the rural parkland Ontario Typical Range (OTR_{98}) (MOECC, 2011), Upper Limit of Normal (ULN) (MOECC, 1989), O. Reg. 153/04 Table 1 site condition standards[8] (SCS) (MOECC, 2011) and the Provincial Sediment Quality Guidelines (PSQG) (MOECC, 2008).
6. Develop site-wide trend lines to determine if concentrations of inorganic analytes in the vicinity of the Lambton Facility are increasing, decreasing or remaining constant.
7. Follow up on recommendations identified in the 2016 Annual Landfill Report (Clean Harbors, 2015).
8. Provide recommendations regarding further investigation or issues to consider during future Biomonitoring Program events.

[8] O.Reg.153/04 Soil, Ground Water and Sediment Standards for use Under Part XV.1 of the *Environmental Protection Act*

2.0 MATERIALS AND METHODS

The sampling and reporting cycles; location and management of test sites; and methods used to characterize, collect, analyze and statistically analyze the data are summarized below. The field protocol for the 2016 Biomonitoring Program and field phase test records from the 2016 Field Year are included within the Raw Data File Notebook (RDFN) (Stantec, 2016b). The field protocol for the Biomonitoring Program describes the methods used during the field and analytical phases of the program.

The following table details the sampling and reporting cycles of the Clean Harbors Biomonitoring Program (**Table 2-1**).

Table 2-1: Sampling and Reporting Cycles, Biomonitoring Program, Lambton Facility

Task	Timing	Dataset	2016 Report	2017 Report	2018 Report	2019 Report	2020 Report
			2015 Field Year	2016 Field Year	2017 Field Year	2018 Field Year	2019 Field Year
Sampling Task							
Collect biomonitoring chemistry samples at all sites	annual	N/A	X	X	X	X	X
Collect sediment fertility & characterization samples at applicable sites	annual	N/A	X	X	X	X	X
Collect soil fertility samples at all sites	6 yr cycle	N/A			X		
Collect soil characterization samples at all sites	6 yr cycle	N/A			X		
Reporting Task							
Compare annual findings with control chart upper limits	annual	Current year	X	X	X*	X	X
Compare annual findings with government guidelines, where they exist	annual	Current year	X	X	X	X	X
Follow up on identified issues, if any	annual	N/A	X	X	X	X	X
Update control chart limits used for annual comparisons (inorganic and organic if applicable)	3 yr cycle	1991 - current year			X (UL18, LL18)		
Update inorganic site-specific trends	3 yr cycle	1991- current year	X			X	
Update inorganic site-wide trends	3 yr cycle	1991- current year		X			X
Update organic site-specific/site-wide trends	6 yr cycle	1991- current year					X

Notes:
* Although control charts are updated this year, the current year's data is compared to the previous control chart limits (i.e., 2017 field year data is compared to the UL15).

2.1 LOCATION AND MANAGEMENT OF TEST SITES

The lands surrounding the Facility are predominantly agricultural for the production of crops. General descriptions of the test sites are provided in **Table 2-2**. Additional detail about the location of each test site is not provided in order to respect landowner confidentiality. A diagram of the facility and the relative locations of the test sites is provided in **Figure 1** of **Appendix A**. Site S7, within the Clean Harbors facility, was added to the Biomonitoring Program in the 2016 Field Year to replace Site S3. Site S3 was removed from the Biomonitoring Program after being disturbed during the expansion of the landfill within the Lambton Facility. All sites, except three within the Clean Harbor facility (i.e., S7, E6, N5), were managed under a crop rotation that included soybean, winter wheat and field corn. In 2016, two of the sites were cultivated with soybean (N2 and S4), seven with field corn (N4, E1, E5, S1, S2, S5 and W4) and two sites with winter wheat (E2 and W2).

Table 2-2: Name and Location of Test Sites, Biomonitoring Program, Lambton Facility

Site	Years in Program	Location Relative to the Facility
N2	1991-present	North: located in an agricultural field approx. 700 m from the property boundary
N4	2001-present	North: located in an agricultural field approx. 400 m from the property boundary
N5	2002-present	North: located on a naturally landscaped, but previously disturbed, area at the northern property boundary
E1	1991-present	East: located in an agricultural field approx. 0.1 km from the property boundary
E2	1991-present	East: located in an agricultural field approx. 2.0 km from the property boundary
E5	1992-present	East: located in an agricultural field approx. 0.25 km from the property boundary
E6	2000-present	East: located on the cap of a previously filled waste cell at the property
S1	1991-present	South: located in an agricultural field approx. 0.2 km from the property boundary 1
S2	1991-present	South: located in an agricultural field approx. 0.4 km from the property boundary
S3	1991-2015	South: located on the cap of a previously filled waste cell at the property
S4	1991-present	South: located in an agricultural field approx. 2.4 km from the property boundary
S5	1995-present	South: located in an agricultural field approx. 0.8 km from the property boundary

Site	Years in Program	Location Relative to the Facility
S7	2016-present	South: located on the cap of a previously filled waste cell at the property
W2	1991-present	West: located in an agricultural field approx. 0.1 km from the property boundary
W4	1997-present	West: located in an agricultural field approx. 1.4 km from the property boundary

1. The drainage ditch at S1 was moved to a location next to a gravel road (2004-2008) and in 2009 was moved back to its original location north of the agricultural field.
2. Only sediment monitored from 1991-1992; all media in 1993–present.

Typical tillage systems for agricultural practice in this area disturb approximately 15 cm of soil depth, although no-till management systems which disturb approximately 5 cm of soil depth in 30% of the soil surface, have gained in popularity.

Based on the cultural practices surveys[9] completed by the land managers (farmers) responsible for crop cultivation at the various test sites, Sites E1, E5, S1, S2 and S5 were managed using a cultivator in May 2016 at a depth of 5.1 cm. Site N2 was managed using a no-till system in 2016. Site N4 was managed using a plow in the fall of 2015 at a depth of 17.8 cm and using a cultivator in the spring of 2016 at a depth of 6.4 cm. Site W2 was managed with a moulboard plow in the fall of 2016 at a depth of 12.7 cm. Site W4 was managed using a ripper in the fall of 2015 at a depth of 15.2 cm and a cultivator in the spring of 2016 at a depth of 7.6 cm. Management information received for Site E2 included pesticide and fertilizer application details but not tilling information. The management information for Site S4 was not received for the 2016 Field Year. A reminder and the 2016 cultural practices survey for Site S4 have been sent with the 2017 cultural practices survey. The management information that was not received is not expected to influence the conclusions made in the Biomonitoring Program.

Sites S7 and E6 were located on clay-capped waste cells and Site N5 was on a previously disturbed, but naturally re-vegetated area. All three sites were maintained with a grass cover within the perimeter of the Lambton Facility. The soil was not tilled at the sites within the facility boundary and was therefore considered undisturbed relative to typical agricultural tillage practices.

2.2 CHARACTERIZATION OF TEST SITES

Every year, the plants are characterized based on the type of agricultural crop, growth stage, plant stand and presence of pests and/or diseases. The field data is on file in the 2016 RDFN (Stantec, 2016b). On an annual basis, sediment sampling for fertility and characterization

[9] Cultural Practice Surveys are sent out to land managers of record for cropped test sites following the conclusion of the sampling program in order to gather information on field management practices. Completed Cultural Practice Surveys are on file in the RDFN.

(concentrations of nutrients, organic matter (OM), pH), cation exchange capacity (CEC) and texture) is completed due to the potential influence of water movement in each drainage ditch on the characteristics of the sediment.

Soil characterization and fertility sampling (concentrations of nutrients, OM, pH, CEC and texture) occurs on a six-year cycle and was most recently conducted in the 2011 Field Year. This will be completed next in the 2017 Field Year.

The characterization of sediment and soil is further discussed in **Appendix B**.

A diagram of the facility and the relative locations of the test sites is provided in **Figure 1** in **Appendix A**. All the test sites, except four (N5, S1, E2 and W2), were located in areas free of known anomalies that could influence the results (e.g., dusty, gravel roads or other potential emission sources). Site W2 and the drainage ditch for Site E2 were located relatively close to gravel roads. Upon review of the results from the drainage ditch at Site S1 next to a gravel road (2004-2008), it was decided that the results were likely impacted by the proximity to the road, thus in 2009 Site S1 was moved back near its original location (under tree cover) north of the crop. Site N5 was located at the northern boundary of the facility and adjacent to a paved road (Petrolia Line) with constant truck and local traffic. It should be noted that other potential sources of emissions (e.g., chemical plants, refineries) exist approximately nine kilometres west and southwest of the Lambton Facility. Emissions from these sources may have affected the results obtained from Sites S4 and W4 in the Biomonitoring Program due to their greater distance from the Lambton Facility.

Given the distance of Sites W4, S4 and E2 from the Lambton Facility, (W4 approximately 1.4 km from the facility, S4 approximately 2.4 km from the facility, E2 approximately 1.75 km from the facility), it is likely that data collected from these sites are influenced by activities other than those related to the Lambton Facility.

2.3 COLLECTION OF SAMPLES FOR CHEMICAL ANALYSES

Samples of environmental media were collected as per the methods outlined in the Revised Biomonitoring Sampling Program (Stantec, 2016a). Soil and natural grasses samples were collected from 13 sites in 2016[10]. Agricultural crops were sampled at 10 of the 13 sites. An agricultural crop (i.e., winter wheat at Site E2) was not sampled in the 2016 Field Year due to a confusion with a neighbouring crop. Soil, natural grasses and sediment at Site E2 were sampled in September, 2016, after the cultivation of winter wheat. Samples of drainage ditch sediment were collected from test sites where drainage ditches were present (i.e., N2, N5, S1, S4, S7 and E2).

Samples of soil, drainage ditch sediment, natural grasses and agricultural crop were collected following the methods outlined in detail in the Revised Biomonitoring Sampling Program

[10] Media were not sampled at Sites S3 and S7 in the 2016 Field Year.

(Stantec, 2016a). Since the samples were analyzed to determine the concentration of organic chemicals, all sampling equipment was cleaned according to a strict regimen designed to prevent sample contamination. Documentation of the chain of custody of the samples was maintained.

A photo log of select sites is provided in **Appendix D**.

2.4 ANALYTICAL PROCEDURES

The samples for chemical analysis from the 2016 Field Year were submitted to ALS Laboratories for the list of Group 1, 2 and 3 analytes identified in **Table 1-1**.

The metals analysis for soil, sediment and unwashed tissue were conducted by the ALS Edmonton laboratory. In order to meet the detection limits required for the biomonitoring program, the silicon analyses in vegetation and silicon and phosphorus in soil/sediment were conducted by the ALS Lulea, Sweden laboratory.

The organics analysis was conducted by ALS Burlington with the exception of PCB analysis which was conducted by ALS Vancouver.

All quantification used internal standardization. Appropriate quality assurance/quality control (QA/QC) measures were followed including the preparation and analysis of method blanks, analytical duplicates, matrix spikes and proper calibration of instruments according to protocols.

2.5 QUALITY ASSURANCE/QUALITY CONTROL

A QA/QC program, based on principles embodied in the United States Environmental Protection Agency (US EPA) Good Laboratory Practices (GLP) standards (US EPA, 1989) and the Organization for Economic Cooperation and Development (OECD) principles of good laboratory practice (OECD, 1981), was used during the field phase of the Biomonitoring Program.

The analytical phase of the program relied on verification by the laboratory that government and industry standards were being met at the time of sample analysis. ALS Laboratories in Edmonton, Alberta and Burlington, Ontario the analytical testing facilities that were responsible for the analytical phase of the Biomonitoring Program, are accredited by the Standards Council of Canada (SCC) in cooperation with the Canadian Association for Laboratory Accreditation Inc. (CALA). The ALS laboratory in Lulea, Sweden, which conducted the analysis of silicon in vegetation and soil and phosphorus in soil, is accredited by the Swedish Board for Accreditation and Conformity Assessment (SWEDAC), which is based on the same standards on which the Canadian ALS is accredited (ISO 17025). Accreditation by SWEDAC is accepted in Canada (ALS, 2009). An Analytical Data Summary Package is provided by ALS and provides detailed

documentation of the actual procedures used during laboratory phase of the 2016 Biomonitoring Program and is on file with Stantec (Guelph).

The RDFN and the Analytical Data Summary Package provide detailed documentation of the actual procedures used during the field and laboratory phases of the Biomonitoring Program.

The data quality objective established for this sampling program was to produce data that were representative, reproducible, complete and suitable for comparison with the results of previous analyses within the Biomonitoring Program and the applicable standards.

To assess whether quality standards associated with the field program were achieved, a QA/QC program was included as a component of the sampling program. Seven blind field duplicates were collected and submitted for laboratory analysis to evaluate both laboratory precision and field sampling and handling procedures.

The formula used to determine the relative percent difference (RPD) from the mean between two samples, the original and the duplicate, is the absolute value of the following:

$$RPD = 100\% \times \frac{C_{original} - C_{dup}}{\frac{1}{2}(C_{original} + C_{dup})}$$

Where:

RPD = relative percent difference

$C_{original}$ = concentration in the original sample

C_{dup} = concentration in the duplicate

Field duplicates were considered acceptable if the RPD met the applicable limit set by the laboratory (e.g., the RPD of lead in soil was within ± 40% of the RPD limit). The RPD could not be calculated if either of the concentrations were less than 5 times the method detection limit (MDL).

2.6 STATISTICAL ANALYSIS AND INTERPRETATION OF THE DATA

The following describes the methods and conventions that were used during the statistical analysis and interpretation of the data obtained during the 2016 Field Year of the Biomonitoring Program.

- The RPD was used to assess the accuracy of laboratory and field duplicates. The RPD results are presented in **Section 4.0**.

- The use of actual values of the RDLs (reported by the analytical laboratory) to represent the concentrations of analytes that were not detected (ND).
- Missing data were accounted for within the statistical analysis and were left blank within each data set.
- Testing for normality was done for inorganic analytes in the 2015 Annual Landfill Report to determine the pattern of distribution of reported data (Clean Harbors Canada, 2015). For data determined to be distributed normally, the actual reported concentrations were used during statistical analyses. For data determined to not be distributed normally, the natural logarithms of the reported concentrations were used during statistical analyses.
- In order to compare the toxicity of different samples with different congener profiles, toxic equivalency factors (TEFs) have been developed that standardize "dioxin-like" substances to a toxicologically equivalent (TEQ) amount of 2,3,7,8-tetrachlorodibenzo-p-dioxin, the most toxic congener. TEFs developed by the World Health Organization (WHO) (WHO, 2005) were applied to the reported concentrations of the 17 congeners to determine the TEQ.

2.6.1 Development and Interpretation of Control Charts

Industry has used control charts for many years as a useful tool that graphically monitors the performance of industrial processes. Control charts allow for identification of outlying values and temporal trends that may be developing in the data (King, 1982). Depending on the results, follow-up action may be justified. These concepts were initially applied to the first six years of data for each analyte/matrix/test site (1991-1996) collected during the Biomonitoring Program. The control charts are updated on a three year cycle.

The mean and standard deviation of the annual concentrations of the analytes per matrix per test site or on a site wide basis can be used to define the "normal" or "expected" variability of the annual mean concentrations of the analytes. Provided there are no outlying values or temporal trends, the annual mean concentrations of the analytes can be expected to fall within plus or minus three standard deviations of the mean, with an approximate probability of 0.997. The site specific calculations incorporate data from each site individually to determine the typical ranges expected at a specific site, while the site wide calculations pool data from every site together to calculate the typical range for all data. The change in number of sites per year was accounted for in the computation of the standard deviations of the yearly means. Data that have a high degree of variability will result in a large standard deviation and a considerable disparity between the upper and lower control limits

When evaluating the data collected in the 2016 Field Year, it was considered that concentrations of the analytes that were observed in the environmental media from 1991 to 2014 (represented by the UL15 and LL15 values) were indicative of the local environment and thus represented the 'typical range' of concentrations that may be expected over time and used in the comparison. Concentrations of an analyte collected during the 2016 Field Year that were significantly above its typical range (i.e., greater than the mean concentration of the analyte plus three standard deviations of the sample population (also called the +3 standard

deviation or upper control limit)) were treated as 'exceedances' that justified consideration. Where exceedances of the UL15 were identified, the parameters were compared with relevant guidelines when available. These guidelines include the rural parkland OTR_{98}, ULN, Table 1 SCS and the PSQG.

The upper and lower control limits (UL and LL values) for the Biomonitoring program are updated on a three-year cycle.

2.6.2 Development and Interpretation of Trend Lines

Change in the environment over time may be influenced by many local, regional and global factors. In order to understand how concentrations of inorganic analytes have changed in environmental media collected at the biomonitoring sites, concentration trend lines are developed based on linear regression statistics. Trend lines on a site-wide and site-specific basis are updated on a three year cycle for inorganics and a six year cycle for organics.

Site-wide inorganic trend lines have been updated and discussed in **Section 3.2.4** of this report. Site-specific trend lines for the inorganic analytes were last updated in the 2016 Annual Landfill Report (2015 Field Year) (Clean Harbors, 2014). Additional details of the established reporting cycles of the Biomonitoring Program are provided in **Table 2-1**.

3.0 RESULTS AND DISCUSSION

3.1 FACTORS AFFECTING THE RESULTS

Many environmental factors can affect the movement and fate of chemicals in the environment. Factors potentially affecting the results of the Biomonitoring program include:

- Soil and sediment characteristics (e.g., CEC, OM, clay content and pH):
  - These factors can impact the movement and fate of chemicals in the local environment. Further discussion of these characteristics is provided in **Appendix B**.
- Changes to the MDLs as a result of increased or decreased sensitivity of the analytical method:
  - Typically the affected MDLs have decreased; however, for a few ubiquitous analytes the MDLs have increased, generally as a trade-off for greater sensitivity with other analytes.
- Continued use of the Ontario ULN and OTR, which may not be specific or relevant to the Site:
  - The ULN represent findings from the 1980s, which may not adequately represent current environmental conditions.
  - The rural parkland OTR98 values represent samples collected across the province. However, the land use surrounding the Lambton Facility could be better characterized by "rural agricultural" land use, thus the rural parkland OTR98 values are not necessarily specific to the conditions of the Lambton Facility.

Another factor that can affect the results of the Biomonitoring Program is climate. Plant growth and environmental conditions are influenced significantly by precipitation, temperature and wind. Climate in the Sarnia-Lambton region is interpolated from data obtained at the Sarnia Climate weather station at the Sarnia Chris Hadfield Airport (Environment Canada, 2017a), which is approximately 15 km north of the Lambton Facility. The climate data is reported in **Table C-3a** of **Appendix C**.

The Sarnia Climate weather information may provide a general indication of weather conditions during the 2016 growing season relative to the Canadian Climate Normals and Averages (1981-2010) for the region (Environment Canada, 2017b).

The distribution of precipitation at the Sarnia Climate weather station varied from the 30-year normal growing season of May to September **(Table C-3a** of **Appendix C**). During the months of May, July and September Sarnia received approximately 33 mm, 11 mm and 41 mm less precipitation than the 30-year climate normals. In the month of August Sarnia received 26.4 mm more rain than usual when compared to the 30-year climate normal. The decreased precipitation measured during the 2016 growing season can potentially result in higher concentrations measured for the vegetation samples as there is a potential for analytes to accumulate via deposition on the outer tissue. The Sarnia Climate weather station reported

temperatures that were comparable to the 30-year mean within the growing season, confirming that temperatures did not fluctuate enough to influence the crops' health.

3.2 INORGANIC ANALYTES

The analytical results for the 2016 inorganic parameters have been summarized according to their respective environmental media and compared to applicable guidelines and are provided in **Tables C-1a, C-1b, C-1c** and **C-1d** of **Appendix C**.

3.2.1 Annual Findings

In 2016, the concentrations of 22 analytes (15 Group 1 analytes and seven Group 2 analytes) exceeded their respective site-specific UL15 within various environmental media (**Table C-3b** and **Table C-3c** of **Appendix C**).

Five site-wide exceedances (where a chemical exceeds its site-wide (analyte by media) UL15) occurred for five analytes (**Table C-3d** of **Appendix C**).

3.2.2 Group 1 Analytes

The Group 1 analytes exceeding the UL15 and silicon in soil and sediment which do not have a UL15, are summarized and discussed below:

3.2.2.1 Barium

Barium exceeded the site-specific UL15 in natural grasses at Site W2 and in soil at Sites E5, N2 and S4.

This is the first site-specific UL exceedance of barium in natural grasses at Site W2. A ULN value for natural grasses was not available for comparison.

Barium concentrations in soil were below the OTR_{98}, with the exception of Site S4 which marginally exceeded the OTR_{98} (less than 5%). There is no ULN for comparison.

On a site-wide basis barium concentrations did not exceed the UL15 in the media sampled.

Given the distance to Site S4 it is likely that data collected at this Site are influenced by activities other than those related to the Lambton Facility (refer to **Section 2.2** for more details). Monitoring should continue and if barium concentrations in soil at Site S4 are found to exceed the UL15 in the 2017 Field Year, subsequent additional investigation may be justified.

3.2.2.2 Beryllium

Beryllium exceeded the site-specific UL15 in soil at Sites E2, E5, E6, N2, N4, S1, S2, S4, S5, W2 and W4.

Beryllium concentrations in soil were less than OTR_{98} with the exception of Sites N2, S4 and W4 which exceeded the OTR_{98}. There is no ULN in soil for comparison. The concentration of beryllium in soil at S4 had also exceeded the OTR_{98} in the 2015 Field Year.

On a site-wide basis the mean concentration of beryllium in soil exceeded the UL15, but was less than the OTR_{98}.

Given the distance to Sites S4 it is likely that data collected at this Site are influenced by activities other than those related to the Lambton Facility (refer to **Section 2.2** for more details). Monitoring should continue and if beryllium concentrations in soil at Site S4 are found to exceed the UL15 in the 2017 Field Year, subsequent additional investigation may be justified.

3.2.2.3 Calcium

Calcium exceeded the site-specific UL15 in in soil at Sites E2, N4, N5, S2 and S4 and in sediment at Site S1.

Calcium concentrations in soil were below the OTR_{98}. There is no ULN in soil for comparison.

Calcium concentrations in sediment exceeded the UL15 at Site S1. MOECC O.Reg. 153/04 Table 1 SCS and PSQG values are not available for comparison of sediment concentrations.

On a site-wide basis, calcium exceeded the UL15 for soil, but was less than the OTR_{98}.

Monitoring should continue, but no additional investigation is proposed at this time.

3.2.2.4 Chloride

Chloride exceeded the site-specific UL15 in natural grasses at Site N2 and W4.

Chloride concentrations in natural grasses exceeded the UL15 and the ULN guideline at Site N2 and W4. This is the first exceedance of chloride in natural grasses at Site N2. The concentration of chloride in soil at W4 had also exceeded the ULN in the 2015 Field Year.

Chloride concentrations did not exceed the site-wide UL15 in the media sampled.

Monitoring should continue and if chloride concentrations in natural grasses at Site W4 are found to exceed the UL15 in the 2017 Field Year, subsequent additional investigation may be justified.

3.2.2.5 Chromium

Chromium exceeded the site-specific UL15 in soil at Sites E2 and S4.

Chromium concentrations in soil did not exceed the rural parkland OTR_{98} or the ULN.

Chromium concentrations did not exceed the site-wide UL15 for any of the media sampled.

Monitoring should continue, but no additional investigation is proposed at this time.

3.2.2.6 Iron

Iron exceeded the site-specific UL15 in natural grasses at Sites E5 and S5 and in soil at Site E2.

The iron concentration in natural grasses at Site E5 is above the UL15 and the ULN; however, it is below the concentration that would cause phytotoxic effects determined in the additional examination conducted in the 2012 Annual Landfill Report (i.e., below 1000 mg/kg) (Clean Harbors, 2012). Furthermore, the duplicate sample collected at Site E5 is below the ULN. The iron concentration in natural grasses at Site S5 is below the ULN.

Iron concentrations in soil did not exceed the rural parkland OTR_{98} or the ULN.

On a site-wide basis, iron concentrations did not exceed the site-wide UL15 in the media sampled.

Monitoring should continue, but no additional investigation is proposed at this time.

3.2.2.7 Magnesium

Magnesium exceeded the site-specific UL15 in natural grasses at Site S4, in soil at Sites E2, N4, S2 and S4 and in field corn at Site S2.

A ULN or OTR_{98} value for natural grasses and field corn were not available for comparison. Magnesium concentrations in soil at Sites S2 and S4 were less than the ULN. Magnesium concentrations in soil at Sites E2 and N4 exceeded the ULN, but were below the OTR_{98}.

Magnesium in natural grasses and soil was investigated in the 2011 Annual Landfill Report where it was concluded that its presence in plants and soil is not expected to result in detrimental effects on plant health (Clean Harbors, 2011).

On a site-wide basis, magnesium concentrations in soil exceeded the site-wide UL15, but were less than the ULN and OTR_{98} values.

Monitoring should continue but no additional investigation is proposed at this time.

3.2.2.8 Manganese

Manganese exceeded the site-specific UL15 in natural grasses at Sites E2, N2 and W4, in soil at Sites E5, E6, S1, W2 and W4 and in sediment at Site S4.

Manganese concentrations in natural grasses exceeded the UL15 and the ULN guideline at Sites E2, N2 and W4. An investigation into the manganese concentrations in natural grasses was conducted and presented in the 2010 Annual Landfill Report and it was concluded that the injury threshold level in plants reported in scientific literature was 500 mg/kg DW (Clean Harbors, 2010). The concentration measured at Site E2, N2 and W4 are below the injury threshold.

Concentrations in soil at Sites E5, E6, W2 and W4 did not exceed the ULN or the OTR_{98}. The manganese concentration at Site S1 exceeded the ULN, but was below the OTR_{98}.

Manganese concentrations in sediment at Site S4 exceeded the PSQG Lower Effect Level (LEL), but was below the PSQG Severe Effect Level (SEL[11]) (1100 mg/kg). MOECC O.Reg. 153/04 Table 1 SCS for sediment are not available for comparison.

On a site-wide basis, manganese concentrations did not exceed the UL15 in the media sampled.

Given the distance to Site S4 it is likely that data collected at this Site are influenced by activities other than those related to the Lambton Facility (refer to **Section 2.2** for more details). Monitoring should continue but no additional investigation is proposed at this time.

3.2.2.9 Molybdenum

Molybdenum exceeded the site-specific UL15 in natural grasses at Sites E6, S4 and S5, in soil at Sites E2 and N5 and in soybean at Site S4.

Concentrations of molybdenum in soil at Sites E2 and N5 exceeded the ULN and OTR_{98}. A literature search of the toxic effects of molybdenum in soil was presented in the 2015 Annual Landfill report. Results of the literature search indicated molybdenum will occur naturally in concentrations between 0.2 and 6 mg/kg while metal rich soils could contain concentrations between 10 to 100 mg/kg. The concentrations in soil at Sites E2 and N5 are within the natural occurring range. In addition, the literature study indicated phytotoxicity symptoms could occur at a plant tissue concentration of approximately 500 mg/kg to greater than 6,500 mg/kg depending on the plant species and soil conditions. While phytotoxic concentrations were reported as low as 10 mg/kg, for the purpose of the assessment, a level of 100 mg/kg as per Gupta *et al*., 2008 was used as it is more in line with the studies cited for effects on agricultural crops. Since the plant tissue concentrations from the 2016 Field Year were all <100 mg/kg and no

[11] Level of contamination expected to be detrimental to the majority of sediment dwelling organisms.

phytotoxicity symptoms were observed, the concentrations of molybdenum in soil are not considered sufficient to result in phytotoxic concentrations in plants.

Concentrations of molybdenum in natural grasses at Sites E6, S4 and S5 exceeded the ULN. The results of the literature search support that measured concentrations of molybdenum are not considered sufficient to result in phytotoxic symptoms. No evidence of phytotoxicity was observed at Sites E6, S4 or S5.

A ULN or OTR_{98} value for soybean was not available for comparison. However, as presented in the literature search in the 2015 Annual Landfill report, toxicity levels of molybdenum in crops or reduced crop yield occur from tissue concentrations of 100 to 1,000 mg/kg but are uncommon (Gupta *et al*. 2008). The soybean concentrations were below 100 mg/kg.

Molybdenum concentrations did not exceed the site-wide UL15 in the media sampled.

Monitoring should continue but no additional investigation is proposed at this time.

3.2.2.10 Nickel

Nickel exceeded the site-specific UL15 in soil at Sites E2, E5, E6, N2, N4, S1, S2, S4, S5, W2 and W4.

Nickel concentrations in soil were below the OTR_{98} and ULN, with the exception of Sites N2 and S4, which exceeded the OTR_{98} but were below the ULN. The nickel concentrations in soil at S4 also exceeded the OTR_{98} in the 2013, 2014 and 2015 Field Year but were below the ULN.

Nickel concentrations exceeded the site-wide UL15 for soil but were below the ULN and OTR_{98}.

Given the distance to Site S4 it is likely that data collected at this Site are influenced by activities other than those related to the Lambton Facility (refer to **Section 2.2** for more details). Monitoring should continue and if nickel concentrations in soil at Site S4 are found to exceed the UL15 in the 2017 Field Year, subsequent additional investigation may be justified.

3.2.2.11 Phosphorus

Phosphorus exceeded its site-specific UL15 in soil at Site S4.

The concentration in soil at Site S4 exceeded the OTR_{98}. A ULN value was not available for comparison. Phosphorous is commonly applied to agricultural fields as a fertilizer and a blended fertilizer was applied to the field at S4 prior to crop planting in the 2015 Field Year. Management information for the 2016 Field Year was not received for Site S4. It is likely that the identified exceedances of phosphorous are attributed to fertilizer application.

On a site-wide basis, phosphorus concentrations did not exceed the UL15 in the media sampled.

Monitoring should continue, but no additional investigation is proposed at this time.

3.2.2.12 Potassium

Potassium exceeded its site-specific UL15 in natural grasses at Site E2.

This is the first exceedance of the site-specific UL reported for potassium in natural grasses at Site E2. A ULN or OTR_{98} value for natural grasses was not available for comparison.

On a site-wide basis, potassium concentrations did not exceed the site-wide UL15 in the media sampled.

Monitoring should continue, but no additional investigation is proposed at this time.

3.2.2.13 Sodium

Sodium exceeded its site-specific UL15 in natural grasses at Site E6.

This is the first exceedance of the site-specific UL reported for sodium in natural grasses at Site E6 since 2012. A ULN or OTR_{98} value for natural grasses was not available for comparison.

On a site wide basis, sodium concentrations did not exceed the site wide UL15 in the media sampled.

Monitoring should continue, but no additional investigation is proposed at this time.

3.2.2.14 Strontium

Strontium exceeded the site-specific UL15 in soil at Sites E2, E6, N4 and S4 and in sediment at Site S1.

The concentrations of strontium in soil were below the OTR_{98} value.

Strontium in sediment marginally exceeded the UL15 at Site E6 by approximately two percent. MOECC O.Reg. 153/04 Table 1 SCS and PSQG values are not available for comparison of sediment concentrations.

On a site-wide basis, strontium concentrations did not exceed the site-wide UL15 in the media sampled.

Monitoring should continue, but no additional investigation is proposed at this time.

3.2.2.15 Sulfur

Sulfur exceeded the site-specific UL15 in natural grasses at Site E2 and in field corn at Site S5.

The concentration in natural grasses at Site E2 exceeded the ULN. This is the first exceedance of the site-specific UL reported for sulfur in natural grasses at Site E2. An OTR_{98} value for natural grasses was not available for comparison.

Sulfur in field corn marginally exceeded the UL15 at Site S5 (less than five percent). This is the first exceedance of the site-specific UL reported for sulfur in field corn at Site S5. A ULN or OTR_{98} value for natural grasses was not available for comparison.

Sulfur concentrations did not exceed the site-wide UL15 in the media sampled.

Monitoring should continue but no additional investigation is proposed at this time.

3.2.3 Group 2 Analytes

The Group 2 analytes exceeding the UL15, are summarized and discussed below:

3.2.3.1 Aluminum

Aluminum exceeded the site-specific UL15 values for natural grasses at Site E5 and in soil at Site S4.

There are no ULN values for comparison to natural grasses concentrations. Recurring findings of aluminum in natural grasses were discussed in the 2009 Annual Landfill Report where it was concluded that although aluminum concentrations measured in natural grasses were elevated, these levels were generally within the range expected to occur in grasses (60-3,410 mg/kg DW, Kabata-Pendias, 2001 and references within) (Clean Harbors, 2009). The concentrations were also below any injury threshold (no visible foliar injury could be induced below this level) and do not represent a threat to the local plant community. Similar findings have been reported by the MOE (Gizyn, 2005; Gizyn, 2008a and 2008b; and DeBrou 2010). In addition, the soil type characteristics of the area (see **Appendix B** for details of major soils characteristics) are represented by a clayey soil with a pH value above neutral which affect (decrease) the bioavailability of aluminum uptake in plants.

The concentration in soil at Site S4 exceeded the OTR_{98} at Site S4. The concentration in soil marginally exceeded the UL15 by less than one percent. A ULN value for soil was not available for comparison.

Aluminum concentrations did not exceed the site-wide UL15 in the media sampled.

Given the distance to Site S4 it is likely that data collected at this Site are influenced by activities other than those related to the Lambton Facility (refer to **Section 2.2** for more details). Monitoring should continue, but no additional investigation is proposed at this time.

3.2.3.2 Arsenic

Arsenic exceeded the site-specific UL15 in soil at Site E2, S1 and S5 and in sediment at Site S4.

The concentrations in soil exceeded the UL15 but were less than the rural parkland OTR_{98} and ULN values.

The sediment concentration at Site S4 marginally (<5%) exceeded the Table 1 SCS and PSQG LEL standards, but was below the SEL (33 mg/kg). The concentrations in sediment at S4 had exceeded the Table 1 SCS and PSQG LEL in the 2014 and 2015 Field Year, but were below the SEL.

Arsenic concentrations did not exceed the site-wide UL15 in the media sampled.

Given the distance to Site S4 it is likely that data collected at this Site are influenced by activities other than those related to the Lambton Facility (refer to **Section 2.2** for more details). Monitoring should continue and if arsenic concentrations in sediment at Site S4 are found to exceed the UL15 in the 2017 Field Year, subsequent additional investigation may be proposed.

3.2.3.3 Copper

Copper exceeded the site-specific UL15 in soil at Sites N4 and S4.

The concentrations in soil were below both rural parkland OTR_{98} and ULN guidelines.

Site-wide concentrations of copper did not exceed the site-wide UL15 in the media sampled.

Monitoring should continue, but no additional investigation is proposed at this time.

3.2.3.4 Lead

Lead exceeded the site-specific UL15 in soil at Site E2.

The lead concentration in soil at Site E2 exceeded the OTR_{98}, but remained below the ULN guideline. The concentration in soil at E2 had exceeded the OTR_{98} in the 2015 Field Year.

On a site-wide basis, concentrations of lead did not exceed the UL15 in the media sampled.

Monitoring should continue and if lead concentrations in soil at Site E2 are found to exceed the UL15 in the 2017 Field Year, subsequent additional investigation may be justified.

3.2.3.5 Mercury

Mercury exceeded the site-specific UL15 in soil at Sites E1, E2, E5, S2, S4, S5 and W2.

Mercury concentrations in soil did not exceed the OTR_{98} or ULN. Concentrations of mercury in soil at Sites E1, E5, S2, S5 and W2 are below the detection limit, but are considered exceedances because the RDL exceeds the UL. The RDL for mercury in soil has remained consistent at 0.05 mg/kg from 2003 to 2015; however prior to 2003, the RDL was slightly lower (typically 0.04 mg/kg). Over the history of the Biomonitoring Program, approximately 60% of mercury concentrations in soil were less than the RDL resulting in a calculated upper limit which can be lower than the current RDL of 0.05 mg/Kg.

On a site-wide basis, concentrations of mercury exceeded the UL15 in soil.

Monitoring should continue, but no additional investigation is proposed at this time.

3.2.3.6 Vanadium

Vanadium exceeded the site specific UL15 in soil at Sites S1 and S4.

Concentrations in soil at Sites S1 and S4 did not exceed the ULN or the OTR_{98}. Vanadium in sediment was investigated in the 2010 Annual Landfill Report and given that the sediment concentrations at all sites were less than the phytotoxic concentration for loamy soil (100 mg/kg), no further investigation was required (Clean Harbors, 2010).

Vanadium concentrations did not exceed the site wide UL12 for any media sampled.

Monitoring should continue, but no additional investigation is proposed at this time.

3.2.3.7 Zinc

Zinc exceeded the site-specific UL15 in natural grasses at Site E2.

An OTR_{98} value for natural grasses was not available for comparison. Zinc concentrations in natural grasses marginally exceeded the ULN by less than two percent. This is the first exceedance of the site-specific UL for natural grasses at Site E2.

Zinc concentrations did not exceed the site-wide UL15 in the media sampled.

Monitoring should continue, but no additional investigation is proposed at this time.

3.2.4 Site-Wide Inorganic Trend Lines

Linear regression analysis was performed on 157 analyte by matrix combinations with $n \geq 6$ and $x >$ RDL for at least one data point. In the majority of cases (95/157), it was appropriate to include all of the data available from 1991 to 2016 in the regressions. However, as discussed in previous Annual Landfill reports (Clean Harbors, 2014) there are several analyte by matrix combinations that have been influenced by non-environmental factors such as updates to the RDL or the

analytical method over the duration of the Biomonitoring Program. Many such updates occurred in 2002, when the analytical laboratory used by the project was changed. There have also been more recent updates to methods that have notably altered the RDL. In all cases, the data were screened to limit the time period used in the regression analysis to the most recent stable method and/or detection limit. This resulted in datasets that were limited to one of the following time periods: 2002 onwards (31 cases), 2003 onwards (11 cases), 2004 onwards (1 case), 2005 onwards (9 cases), 2007 onwards (1 case) and 2010 onwards (9 cases). The data used and the results of each regression analysis are provided in **Appendix E-1**.

Overall, the regression analyses produced 51 trend lines with $p < 0.003$. These 51 trend lines, representing 17 downward trends and 34 upward trends, are summarized in **Table 3-1** and figures of these significant regressions are presented in **Appendix E-2**. For the remaining 102 analyte by matrix combinations, the data do not support either a positive or negative trend and are therefore assumed to be stable.

The analytes that were shown to be decreasing over time in at least one matrix were arsenic, cadmium, chloride, chromium, lead, mercury, potassium, silicon, sodium, thallium, titanium and zirconium (**Table 3-1**). The analytes that were shown to be increasing over time in at least one matrix included aluminum, arsenic[12], barium, beryllium, calcium, chromium, iron, magnesium, manganese, molybdenum, nickel, phosphorus, potassium, sodium, strontium, sulfur, vanadium and zinc (**Table 3-1**).

Six of the analyte by matrix combinations that were observed to be decreasing in the present analysis (arsenic in natural grasses; cadmium in soybean; mercury in natural grasses; potassium in natural grasses; and thallium in sediment and surface soil) have consistently been shown to be decreasing in one or more previous annual reports (**Table 3-1**). However, two of the analyte by matrix combinations that were found to be decreasing in the present analysis had been reported to be increasing in one or more previous annual landfill reports (i.e., sodium in surface soil and zirconium in surface soil, **Table 3-1**). The analysis of both of these analyte x matrices was updated in the present data to exclude all data prior to 2003. The previous apparent increasing trends were artifacts of changes in RDL and/or analytical methods. Based on data from the last 13 years, these analyte by matrix combinations are shown to be decreasing. Similarly, there are an additional nine analyte by matrix combinations that were found to be decreasing in the present analysis for which no trend had been reported in previous reports (i.e., chloride in soybean; chromium in soybean; lead in natural grasses; silicon in field corn, natural grasses and soybean; thallium in natural grasses; titanium in sediment; and zirconium in sediment). With the exception of titanium in sediment, these analyte by matrix combinations were also updated in the present analysis to exclude data prior to either 2002 or 2003 and previous findings of 'no trend' were likely due to changes in the analytical method and/or RDL. Given that the data

[12] Arsenic concentrations were shown to be decreasing in natural grasses and increasing in soil.

support a negative trend over a period of at least 13 years, these analyte by matrix combinations should be considered to be decreasing over time.

Of the analyte by matrix combinations that were found to be increasing over time, the majority of them (27/ 34) have been identified as increasing in one or more previous annual reports (**Table 3-1**). However, there were seven that were found to have no trend in previous annual reports (i.e., calcium in soybean; magnesium in soybean; molybdenum in surface soil; nickel in natural grasses and surface soil; phosphorus in soybean; and sulfur in soybean, **Table 3-1**).

Table 3-1: Summary of Significant Concentration Trends (p<0.003) for Inorganic Analytes, 2017* Biomonitoring Program, Lambton Facility

Analyte	Matrix	Data Set used for Trend Analysis	Trend from 2017* Annual Landfill Report	Trend from 2014 Annual Landfill Report	Trend from 2011 Annual Landfill Report	Trend from 2008 Annual Landfill Report
Aluminum	NG	1991 onwards	Upward	Upward	Upward	No trend
	SD	1991 onwards	Upward	Upward	No trend	Upward
Arsenic	NG	1991 onwards	Downward	Downward	No trend	No trend
	SS	1991 onwards	Upward	Upward	No trend	No trend
Barium	SD	1991 onwards	Upward	Upward	No trend	No trend
	SS	1991 onwards	Upward	Upward	Upward	Upward
Beryllium	SD	1991 onwards	Upward	Upward	Upward	No trend
	SS	1991 onwards	Upward	Upward	Upward	Upward
Cadmium	SB	2002 onwards	Downward	Downward	Downward	No trend
Calcium	NG	1991 onwards	Upward	Upward	No trend	Upward
	SB	1991 onwards	Upward	No trend	Upward	Upward
	SS	1991 onwards	Upward	Upward	No trend	No trend
Chloride	SB	2002 onwards	Downward	No trend	No trend	Upward

Table 3-1: Summary of Significant Concentration Trends (p<0.003) for Inorganic Analytes, 2017* Biomonitoring Program, Lambton Facility

Analyte	Matrix	Data Set used for Trend Analysis	Trend from 2017* Annual Landfill Report	Trend from 2014 Annual Landfill Report	Trend from 2011 Annual Landfill Report	Trend from 2008 Annual Landfill Report
Chromium	SB	2002 onwards	Downward	No trend	No trend	No trend
	SS	1991 onwards	Upward	Upward	Upward	Upward
Iron	NG	1991 onwards	Upward	Upward	No trend	No trend
	SD	1991 onwards	Upward	Upward	Upward	No trend
	SS	1991 onwards	Upward	Upward	Upward	Upward
Lead	NG	2002 onwards	Downward	No trend	No trend	No trend
Magnesium	NG	1991 onwards	Upward	Upward	Upward	Upward
	SB	1991 onwards	Upward	No trend	No trend	No trend
	SS	1991 onwards	Upward	Upward	Upward	Upward
Manganese	SS	1991 onwards	Upward	Upward	Upward	Upward
Mercury	NG	1991 onwards	Downward	Downward	No trend	No trend
Molybdenum	NG	2002 onwards	Upward	Upward	Upward	Upward
	SS	2002 onwards	Upward	No trend	No trend	No trend
Nickel	NG	2002 onwards	Upward	No trend	Upward	No trend
	SS	1991 onwards	Upward	No trend	No trend	No trend
Phosphorus	SB	1991 onwards	Upward	No trend	No trend	No trend
	SD	1991 onwards	Upward	Upward	Upward	No trend

Table 3-1: Summary of Significant Concentration Trends (p<0.003) for Inorganic Analytes, 2017* Biomonitoring Program, Lambton Facility

Analyte	Matrix	Data Set used for Trend Analysis	Trend from 2017* Annual Landfill Report	Trend from 2014 Annual Landfill Report	Trend from 2011 Annual Landfill Report	Trend from 2008 Annual Landfill Report
	SS	1991 onwards	Upward	Upward	Upward	Upward
Potassium	NG	1991 onwards	Downward	Downward	Downward	Downward
	SD	1991 onwards	Upward	Upward	Upward	Upward
	SS	1991 onwards	Upward	Upward	Upward	Upward
Silicon	FC	2002 onwards	Downward	No trend	No trend	No trend
	NG	2002 onwards	Downward	No trend	No trend	Upward
	SB	2003 onwards	Downward	No trend	No trend	Upward
Sodium	SD	1991 onwards	Upward	Upward	Upward	Upward
	SS	2003 onwards	Downward	Upward	Upward	Upward
Strontium	SS	1991 onwards	Upward	Upward	Upward	Upward
Sulfur	SB	1991 onwards	Upward	No trend	No trend	No trend
Thallium	NG	2002 onwards	Downward	No trend	Downward	No trend
	SD	2002 onwards	Downward	Downward	Downward	No trend
	SS	2002 onwards	Downward	Downward	Downward	No trend
Titanium	SD	1991 onwards	Downward	No trend	No trend	No trend
Vanadium	SD	1991 onwards	Upward	Upward	Upward	Upward
	SS	1991 onwards	Upward	Upward	Upward	Upward

Table 3-1: Summary of Significant Concentration Trends (p<0.003) for Inorganic Analytes, 2017* Biomonitoring Program, Lambton Facility

Analyte	Matrix	Data Set used for Trend Analysis	Trend from 2017* Annual Landfill Report	Trend from 2014 Annual Landfill Report	Trend from 2011 Annual Landfill Report	Trend from 2008 Annual Landfill Report
Zinc	SD	1991 onwards	Upward	Upward	Upward	Upward
	SS	1991 onwards	Upward	Upward	Upward	Upward
Zirconium	SD	2003 onwards	Downward	No trend	Upward	Upward
	SS	2003 onwards	Downward	Upward	Upward	Upward

Notes:
* 2017 Annual Landfill Report 2016 Field Year.

3.2.5 Supplemental Investigations Based on Historical Report Findings

The inorganic findings from previous annual landfill reports which required additional investigation or discussion are provided below. Inorganic findings from this report are used to inform discussions in **Sections 3.2.5.1** and **3.2.5.2**. The purpose of this section is to present the results of additional investigations recommended in historical Biomonitoring Reports, or to continue the discussion of previous findings in light of current data.

3.2.5.1 Calcium in Soil

As reported in the 2015 Annual Landfill Report Biomonitoring Program 2014 Field Year further investigation on the phytotoxic effects of calcium in soil might be justified if the calcium concentration in soil exceeded the UL15 at Site N5 in the 2015 Field Year. The calcium concentration in soil at Site N5 exceeded both the UL15 and OTR_{98} in the 2015 Field Year. Therefore, additional investigation on the phytotoxic effects of calcium was recommended in the 2016 Annual Landfill Report and considered in the 2017 Annual Landfill Report Biomonitoring Program 2016 Field Year.

Site N5 has a history of higher concentrations of calcium in soil – this site accounted for eight of the top ten measured concentrations of calcium in soil in the Biomonitoring Program (measured, in order of increasing concentrations in the following Field Years: 2013, 2010, 2016, 2009, 2005, 2006, 2015 and 2014). However, in Section 3.2.5 of the 2016 Annual Landfill Report Biomonitoring Program 2015 Field Year there is no statistically significant upward trend for calcium in soil at Site N5 (Clean Harbors, 2016).

As discussed in **Section 3.2.2.3** of this report, calcium concentrations in soil at Site N5 exceed the UL15, but are below the OTR_{98}. The concentration of calcium measured in soil at Site N5 has decreased since 2014 Field Year.

Concentrations of calcium at Site N5 are not increasing based on site-specific trends calculated for the 2016 Annual Landfill Report. Concentrations of calcium in soil will continue to be monitored but no further action is planned at this time.

3.2.5.2 Benthic Invertebrate Study

Additional investigation into the health of the benthic communities was recommended at Sites N2 and E2 in the 2016 Annual Landfill Report Biomonitoring Program 2015 Field Year due to the number of inorganic parameters with repeating upward trends and with concentrations measured above guidelines at these sites.

Sediment at Site N5 was the subject of a benthic investigation in the 2014 Field Year to characterize the benthic community as part of an investigation into elevated zinc and iron concentrations above the PSQG LEL and SEL (respectively). At that time, Site N5 was found to support numerous benthic communities and was not indicative of toxic conditions (Clean

Harbors, 2015). It is suggested from the results of the previous benthic study that the applicable guidelines for the protection of aquatic life are conservative and that a measured exceedance does not necessarily indicate a negative effect on invertebrate populations. Furthermore, the drainage ditches at Sites E2 and N2 are not considered permanent aquatic habitat and are only expected to support aquatic life after an influx of water (e.g., long periods of rain). Therefore, concentrations of inorganics in sediment at Sites N2 and E2 will continue to be monitored but no further action is planned at this time.

3.3 ORGANIC ANALYTES

The analytical results for the 2016 organic parameters have been summarized based on environmental media and are found in **Tables C-2a, C-2b, C-2c** and **C-2d** of **Appendix C**.

3.3.1 Annual Findings

3.3.1.1 OCP

In 2016, 19 organochlorinated pesticide (OCP) analytes[13] were detected in environmental media at concentrations measured above their respective RDLs. These analytes were detected in natural grasses soil, sediment, field corn, soybeans and winter wheat. The high resolution mass spectrometry/gas chromatography (GC/HRMS) analytical method used in the 2016 Field Year resulted in sample specific RDLs which were typically lower than previous RDLs.

Of the analytes that were detected, none exceeded the applicable guidelines for soil (rural parkland OTR_{98} or Table 1 SCS) or sediment (PSQG or Table 1 SCS) (**Tables C-2a, C-2b, C-2c** and **C-2d** of **Appendix C**). There are no standards available for comparison of vegetation.

Monitoring should continue, but no additional examination is proposed at this time.

3.3.1.2 PCBs

None of the samples analyzed for PCBs had concentrations greater than the RDL in the 2016 Field Year. The RDL for PCB was <0.020 mg/kg for soil and sediment and <0.05 mg/kg in vegetation.

Monitoring should continue, but no additional examination is proposed at this time.

[13] aldrin, alpha-BHC, beta-BHC, alpha-chlordane, gamma-chlordane, DDD (p,p'-DDD), DDE (p,p'-DDE), DDT (p,p'-DDT), dieldrin, endosulfan I, endosulfan II, endosulfan sulfate, endrin, endrin Aldehyde, heptachlor, heptachlor epoxide, lindane (gamma-hexachlorocyclohexane), mirex and Parlar 26.

3.3.1.3 PCPs

The RDL for PCP varied from <0.00044 mg/kg to <0.0024 mg/kg in agricultural crops. None of the samples analyzed for PCPs had concentrations greater than the RDL in the 2016 Field Year.

Monitoring should continue, but no additional examination is proposed at this time.

3.3.1.4 PCDD/DF

Polychlorodibenzo-p-dioxin/ polychlorodibenzo-furan (PCDD/DF) parameters for soil samples collected in 2016 were compared to their respective rural parkland OTR_{98} for dioxins/furans, where available (**Table C-3e** of **Appendix C**). There were no exceedances of the rural parkland OTR_{98} in the 2016 Field Year.

Concentrations of PCCD/DF levels measured in soil were also below or within the range of levels in Canada reported in the scientific literature (1.0 - 330 picogram (pg) TEQ/g, from Birmingham *et al.*, 1989). The highest TEQ value (112 pg/g) was reported for octachlorodibenzo-p-dioxin at Site W4.

Criteria for comparison of levels in natural grasses were not identified.

The concentrations of octachlorodibenzodioxin (OCDD) measured in field corn and soybeans were within the range of the typical levels for vegetables (Ontario tomatoes, potatoes) reported in scientific literature (ND to 3 pg/g (fresh weight)) (Birmingham *et al.*, 1989). The levels of OCDD measured in winter wheat (fresh weight) were within the range of the typical levels for OCDD in Ontario wheat-based products (ND to 0.7 pg/g fresh weight, from Birmingham *et al.*, 1989).

Monitoring should continue, but no additional examination is proposed at this time.

4.0 QUALITY ASSURANCE/QUALITY CONTROL

Seven blind field duplicates were analyzed for inorganic and organic analytes. The natural grasses and winter wheat duplicate samples had RPDs exceeding the acceptable range for at least one inorganic analyte. The natural grasses, soil and sediment duplicate samples had RPDs exceeding the acceptable range for at least one organic analyte. Where the RPDs exceeded the acceptable range, the results should be viewed with discretion and considered estimates. Although these results represented decreased precision, the results did not affect the overall interpretation of sample quality. The RPDs for inorganic and organic data are provided in **Tables C-1a** through **C-1d** and **Table C-2a** through **C-2d**.

The percent recovery for the laboratory duplicates, laboratory control samples, laboratory control sample duplicates, matrix spikes, matrix spike duplicates, method blanks, certified reference material, internal reference material and standard reference material were within the recovery range acceptable to the analytical laboratory for internal quality control requirements or the overall quality control met acceptability criteria. Where applicable qualifiers were added to the data and are presented in the laboratory certificates provided in **Appendix F**.

Three field blanks were collected to evaluate if sample handling practices would result in an artificial increase of the analytical results. In addition, in the 2016 Field Year, a rinsate sample from every bottle of distilled water used for decontamination of field equipment was collected upon opening. The purpose of the rinsate sample is to verify that store bought distilled water used for decontaminating field equipment did not introduce detectable concentrations of confounding inorganics. Field blanks were collected at Sites E1, N2 and W2 while the rinsate blanks were collected from newly opened bottles at Sites S1, S4, S7 and W2. The data quality objective for field and rinsate blanks are concentrations which are below or near the RDL.

The field blank collected from Sites E1, N2 and W2 met the data quality objective. The three field blanks contained low concentrations of several analytes (e.g. barium, calcium, magnesium silicon, strontium, aluminum, cadmium and copper) near the RDL. Analytical data for the field blanks is summarized in **Table C-1e**. The rinsate samples also met the data quality objective. The same analytes measured in the field blanks (e.g. barium, calcium, magnesium, silicon, strontium, aluminum, cadmium and copper) were also measured in the rinsate blanks at similar concentrations.

5.0 FOLLOW-UP OF RECOMMENDATIONS FROM PREVIOUS BIOMONITORING REPORTS AND PROPOSED CHANGES

Table 5-1 presents the status of conclusions and recommendations presented previously in Biomonitoring Program reports.

Stantec is proposing a number of modifications to the Biomonitoring Program to streamline the program and accommodate the Landfill Expansion that has taken place in 2016. The proposed changes were presented in a letter prepared by Clean Harbors and Stantec (July 3, 2015). Since that time, conditions at the Lambton Facility have changed, leading to additional proposed revisions to the Biomonitoring Program. A summary of proposed changes to the biomonitoring program was prepared by Clean Harbors and Stantec (September 6, 2016). The summary of proposed changes was reviewed by the MOECC (March 29, 2017). A response was prepared by Clean Harbors and Stantec (April 20, 2017). The letter, review and response are provided in **Appendix G**. A summary of recommended revisions is provided in **Table 5-2**. Further details on the proposed changes, including a figure showing the proposed new sites, are provided in **Appendix G**. Upon approval by the MOECC, these changes could be implemented during the next cycle of the Biomonitoring Program.

Table 5-1: Status of Historical Conclusions and Recommendations

Item No.	Report	Conclusions and Recommendations Requiring Follow-up	Discussion	Status
1.	2016 Annual Landfill Report 2015 Field Year	Calcium in soil investigation	Additional investigation of calcium in soil was recommended at Site N5 in the 2016 Annual Landfill Report. As dicussed in **Section 3.2.5.1** concentrations of calcium at Site N5 are not increasing based on site-specific trends calculated for the 2016 Annual Landfill Report.	Concentrations of calcium in soil at Site N5 will continue to be monitored but no further action is planned at this time.
2.	2016 Annual Landfill Report 2015 Field Year	Assess benthic communities at Sites N2 and E2	Additional investigation into the health of the benthic communities at Sites N2 and E2 was recommended in the 2016 Annual Landfill Report. As discussed in **Section 3.2.5.2** it is suggested from the results of the previous benthic study that the applicable guidelines for the protection of aquatic life are conservative and that a measured exceedance does not necessarily indicate a negative effect on invertebrate populations.	Concentrations of inorganics in sediment at Sites N2 and E2 will continue to be monitored but no further action is planned at this time.
3.	2015 Annual Landfill Report 2014 Field Year	Barium in natural grasses investigation	In the 2015 Annual Landfill Report, a literature review of the phytotoxic effects of barium in natural grasses was recommended for a recurring exceedance of the site-specific UL at Site S5. Barium concentrations in natural grasses at Site S5 have not exceeded the site-specific UL since the 2014 Field Year.	Barium concentrations in natural grasses at Site S5 will continue to be monitored but no further action is planned at this time.

Table 5-2: Summary of Proposed Changes to the Biomonitoring Program

Type of Change	Proposed Changes
Test Sites	**Sites within Lambton Facility affected by Landfill Expansion:** • Site E6 – No change at this time. • Site S3 – Remove from Biomonitoring Program in 2016 Field Year. Site has been replaced by an access road. (completed). • New Site S7 – Proposed new site to replace Site S3 (refer to **Figure 1** in **Appendix G**). (Site S7 added to the Biomonitoring Program in the 2017 Field Year - completed). **Sites in Surrounding Area of Lambton Facility:** • New Site E7 – Proposed new site to increase coverage to northeast of Facility based on predominant wind direction (refer to **Figure 1** in **Appendix G**). • Site S5 – Remove from Biomonitoring Program. Sufficient coverage to the south of Facility is provided by remaining sites.
Environmental Media	Discontinue maple leaf sampling.
Chemical Analytes	Add fluoride as an analyte to all environmental media sampled in the Biomonitoring Program.
Sampling Frequency	Change sediment fertility and characterization sampling to every three years.
Analytical Frequency	PCB, PCP and OCP: Analysis will change to a three-year cycle. Year 1, all samples will be submitted for analysis. Years 2 and 3, two samples per environmental media will be submitted for analytical testing: the site with highest historical concentration and the control. Should concentrations of PCB, PCP or OCP be detected at concentrations greater than 50% of the applicable guidelines, the remaining samples will be submitted for analysis.

6.0 CONCLUSIONS

Overall, the majority of exceedances of the UL15 in the 2016 Field Year were identified for Group 1 inorganic analytes (barium, beryllium, calcium, chloride, chromium, iron, magnesium, manganese, molybdenum, nickel, phosphorus, potassium, sodium, strontium and sulfur). Many of these Group 1 analytes are ubiquitous or are required nutrients in the environment and are not expected to have deleterious effects on plant, human and animal health due to chemical toxicity. Although these analytes may be present in the material processed at the Facility, they are given a lower weighting in the Biomonitoring Report. Monitoring of these analytes in the Biomonitoring Program should continue to satisfy the requirements of ECA No. A031806 and do not warrant additional investigation at this time. In the 2016 Annual Landfill Report, additional investigation of calcium in soil was recommended at Site N5. Concentrations of calcium at Site N5 are not increasing based on site-specific trends calculated for the 2016 Annual Landfill Report. Concentrations of calcium in soil at Site N5 will continue to be monitored but no further action is planned at this time. Additional investigation into the health of the benthic communities at Sites N2 and E2 was recommended in the 2016 Annual Landfill Report. Concentrations of inorganics in sediment at Sites N2 and E2 will continue to be monitored but no further action is planned at this time.

The Group 2 analytes that exceeded site-specific UL15 values were aluminum, arsenic, copper, lead, mercury, vanadium and zinc. Mercury was the only Group 2 analyte identified to have exceeded site-wide values, based on concentrations reported in soil. While continued monitoring of these analytes is important, additional investigation is not proposed at this time.

Concentration trend lines using linear regression statistics were updated on a site-wide basis for inorganic analytes. Overall, the regression analyses produced 51 trend lines with $p < 0.003$. These 51 trend lines, representing 17 downward trends and 34 upward trends.

Group 3 organic analytes were not detected at concentrations representative of concern for ecological health.

Based on the findings of the report, there are a number of methods of data analysis and reporting that should continue or require change. These methods are outlined below:

- Monitoring of changes in the RDLs during the program should continue and impacts on the results should be reported where applicable.
- When assessing the results for the Biomonitoring Program the greatest weight should be given to comparisons within and between sites monitored in the program versus comparisons with the Ontario ULN and rural parkland OTR_{98} which are representative of aging databases.
- Discussion of recurring findings should continue annually so that previous discussions are compiled and either confirmed or revised based on new results.

- PCP and PCB should be entered into the EQuIS database to improve data management efficiency.

Stantec and Clean Harbors proposed a number of modifications to the Biomonitoring Program to streamline the program and accommodate the Landfill Expansion currently underway at the Lambton Facility. A summary of recommended changes to the Biomonitoring Program is provided in **Table 5-2**. Further details on the proposed changes are presented in **Appendix G**. Upon approval by the MOECC, these changes could be implemented during the next cycle of the Biomonitoring Program.

The concentrations of the identified chemicals were generally within the expected range in comparison with baseline levels, with exceptions/qualifications discussed here in. The range of results indicates that the Biomonitoring Program continues to effectively meet its specific objectives of monitoring environmental concentrations and identifying the trends in concentrations over time.

7.0 LIMITATIONS

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential liabilities associated with the identified property.

This report provides an evaluation of selected environmental conditions associated with the identified portion of the property that was assessed at the time the work was conducted and is based on information obtained by and/or provided to Stantec at that time. There are no assurances regarding the accuracy and completeness of this information. All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

The opinions in this report can only be relied upon as they relate to the condition of the portion of the identified property that was assessed at the time the work was conducted. Activities at the property subsequent to Stantec's assessment may have significantly altered the property's condition. Stantec cannot comment on other areas of the property that were not assessed.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report, and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition. This report should not be construed as legal advice.

This report has been prepared for the exclusive use of the client identified herein and any use by any third party is prohibited. Stantec assumes no responsibility for losses, damages, liabilities or claims, howsoever arising, from third party use of this report.

The locations of any utilities, buildings and structures, and property boundaries illustrated in or described within this report, if any, including pole lines, conduits, water mains, sewers and other surface or sub-surface utilities and structures are not guaranteed. Before starting work, the exact location of all such utilities and structures should be confirmed and Stantec assumes no liability for damage to them.

The conclusions are based on the site conditions encountered by Stantec at the time the work was performed at the specific testing and/or sampling locations, and conditions may vary among sampling locations. Factors such as areas of potential concern identified in previous studies, site conditions (e.g., utilities) and cost may have constrained the sampling locations used in this assessment. In addition, analysis has been carried out for only a limited number of chemical parameters, and it should not be inferred that other chemical species are not present.

Limitations
February 5, 2018

Due to the nature of the investigation and the limited data available, Stantec does not warrant against undiscovered environmental liabilities nor that the sampling results are indicative of the condition of the entire site. As the purpose of this report is to identify site conditions which may pose an environmental risk; the identification of non-environmental risks to structures or people on the site is beyond the scope of this assessment.

Should additional information become available which differs significantly from our understanding of conditions presented in this report, Stantec specifically disclaims any responsibility to update the conclusions in this report.

This report was prepared by Pascal Tuarze, M.Env.Sc. and reviewed by Tereza Dan, Ph.D.

All of which is respectfully submitted,

STANTEC CONSULTING LTD.

Digitally signed by Pascal Tuarze
DN: cn=Pascal Tuarze, o=Stantec Consulting Ltd., ou=Risk assessor, email=Pascal.Tuarze@stantec.com, c=CA
Date: 2018.02.05 13:05:02 -05'00'
Adobe Acrobat version: 11.0.21

Pascal Tuarze, M.Env.Sc.,
Risk Assessor, Author

Digitally signed by Tereza Dan
Date: 2018.02.06 13:46:36 -05'00'

Tereza Dan, Ph.D.,
Senior Principal

cc. Katherine Ketis, P.Eng.

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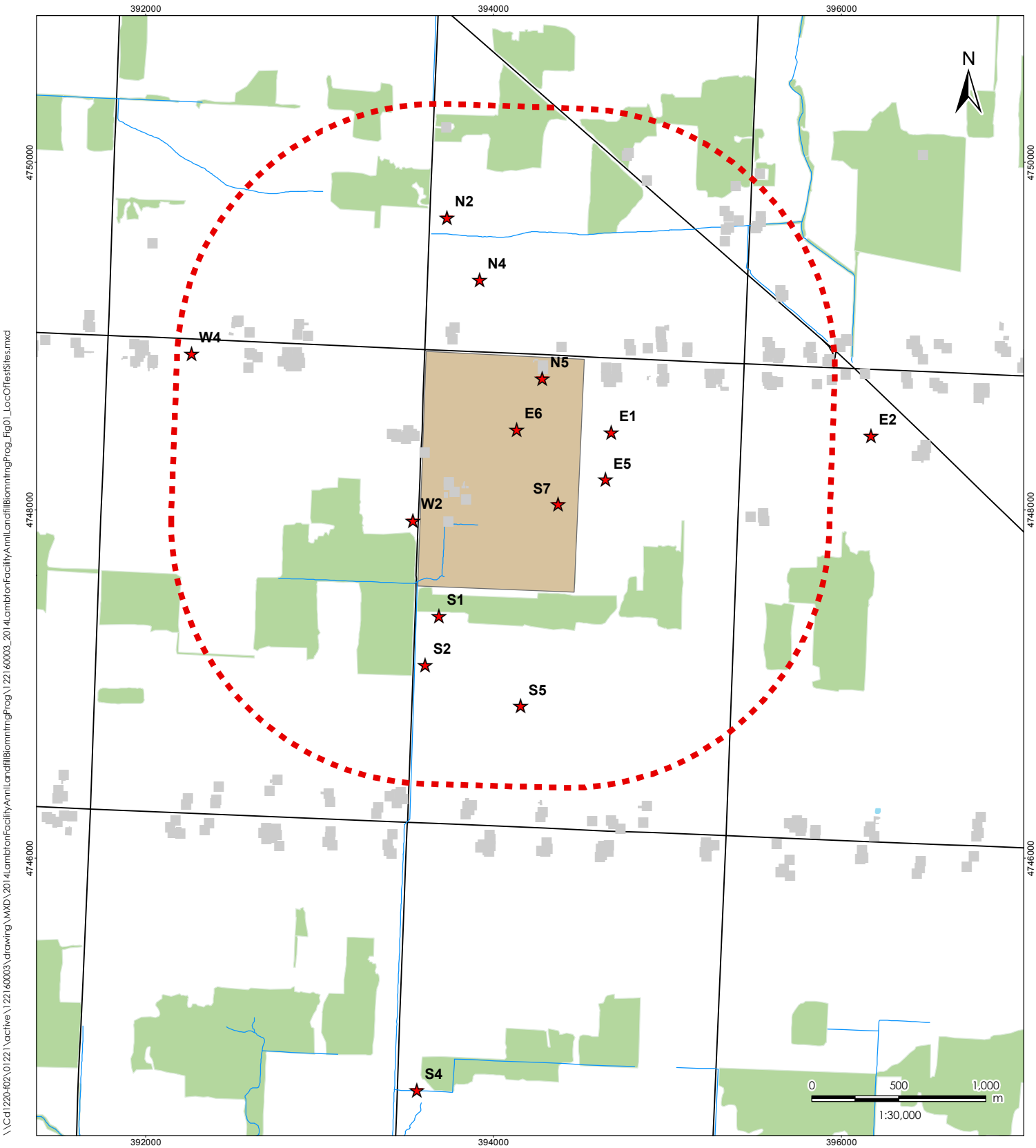
APPENDIX A: FIGURE



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September 2017
122160003

Stantec

Legend

- Sampling Location (Approximate)
- 1.5km from Lambton Facility
- Watercourse
- Road
- Building
- Lambton Facility
- Waterbody
- Wooded Area

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

Client/Project

Clean Harbours Environmental Services Inc.
Biomonitoring Program
Lambton Facility

Figure No.

1

Title

Location of Test Sites Biomonitoring Program Lambton Facility

APPENDIX B: CHARACTERIZATION OF SOILS AT TEST SITES

Appendix B CHARACTERIZATION OF SOILS AT TEST SITES

B.1 SOIL AND SEDIMENT CHARACTERISTICS

The media used to monitor the inorganic and organic chemicals in the Biomonitoring Program include agricultural soil, crops, natural grasses and sediment from nearby drainage ditches (many of which collect water and eroded soil from adjacent farm fields, woodlots and grassy areas). Since the inherent characteristics of two of these media, soil and sediment, have a very significant impact on the movement and fate of chemicals in the local environment, they also have a very significant impact on the results of the program. In soil, cation exchange capacity CEC, OM, clay content and pH are among the most important factors affecting the fate of inorganic and organic chemicals. In general, soil consists of 25% air, 25% water, 45% mineral matter and 5% OM (Brady & Weil, 2002). Clay in mineral matter and humus in OM possess an abundance of positive and negative molecular charges on their surfaces. Negatively charged sites, however, tend to predominate. This is particularly true for humus in neutral and alkaline (pH ≥ 7.0) soils. Thus, to varying degrees, chemicals in the soil solution, which are also positively and/or negatively charged, are attracted to and held by soil particles, or are repelled by soil particles and taken up by plants or leached into the groundwater.

CEC measures the ability of a soil to adsorb, or attract and hold, positively charged ions (e.g., Al3+, Ca2+, Mg2+, K+, NH4+, Na+) called cations (anions are negatively charged ions). Cations are attracted to the negatively charged surfaces of clay and humus particles in the soil. Hydrogen ions (H+), which are also positively charged, compete with other cations for negative charge sites on clay and humus particles. The pH of the soil, which indicates the concentration of H+ ions in the soil, has a significant impact on the CEC.

In soil, these processes drive the movement of inorganic chemicals. Although these processes also affect some organic chemicals, most organic chemicals, due to their hydrophobic characteristics, are generally sorbed within the organic fraction of soils (Brady & Weil, 2002). This sorption process leads to a partitioning of the organic chemical: a portion becomes associated with OM and a portion remains in the soil solution. The following general statements apply to discussions on the effect of soil CEC, OM, clay content and pH on the findings arising from the Biomonitoring Program:

- increase OM, increase CEC, may increase sorption
- increase clay, increase CEC, may increase sorption
- increase pH, increase CEC, may increase sorption

Therefore for inorganic chemicals:

- increase pH (less H+), increase CEC (more negative sites available)

- for cations increase soil adsorption, decrease plant and microbial uptake, decrease leaching

Therefore for organic chemicals:

- increase OM (more sorption sites)
- increase soil sorption, decrease plant and microbial uptake, decrease leaching

B.2 SOIL AND SEDIMENT CHARACTERIZATION

The soil at each test site was characterized in two ways. First, when the Site was initiated, the soil profile was examined to a depth of 100 cm. The site was classified and compared with the expected classification indicated in the Soil Survey of Lambton County Report No. 22 of the Ontario Soil Survey (Mathews et al., 1957). The soil and general conditions at each test site were assessed in the field and described in accordance with the information presented in the Field Manual for Describing Soils in Ontario (Ontario Centre for Soil Resource Evaluation, 1993). This provided a method for the description and classification of soil properties, soil profiles and landscape features consistent with the Canadian System of Soil Classification (Research Branch, 1987). Second, samples of the soil are analyzed on a six-year cycle to determine the concentrations of nutrients, OM, pH and CEC and particle size distribution (texture).

Due to the potential influence of water movement in each drainage ditch on the characteristics of the sediment in each drainage ditch, samples of the sediment are analyzed to determine the concentrations of nutrients, OM, pH, CEC and particle size distribution (texture). These analyses are conducted annually to ensure that the characterization of the drainage ditch sediment represents the conditions under which the analytical samples were obtained. The detailed methodology for sediment sampling is provided in the Revised Biomonitoring Sampling Program (Stantec, 2016a).

B.3 SOIL HORIZON LAYERS

The following information provides descriptions of the general soil horizons as identified on the biomonitoring sites, soil characterization field sheets. Each horizon description is identified with a combination of an upper case A, B or C letter code that describes the mineral layer or horizon and various lower case suffixes that describe the characteristics of the horizon. The combination of upper and lower case codes represents the soil horizon sequence and specific attributes of each horizon.

Mineral Layers or Horizons:

A Dark coloured, mineral, surface horizons, enriched with OM
B Brownish, subsurface horizons, often described as zones of accumulation
C Relatively non-weathered material from which the soil profile has developed

AB A transition horizon from A to B materials
g A horizon characterized by grey colours and/or prominent mottling, indicating periodic intense reduction
j A modifier of suffixes to denote an expression of, but failure to meet the requirements of the suffix it modifies. It must be placed to the right of and adjacent to the suffix it modifies
k A horizon containing calcium and/or magnesium carbonates that will effervesce with dilute hydrochloric acid (HCl)
m A horizon slightly altered by hydrolysis, oxidation, or solution, or all three to give a change in colour or structure or both
p A horizon disturbed by man's activities such as cultivation, logging and habitation
t A horizon enriched with silicate clay

Table B3-1 Explanation of nutrient levels:

Nutrient	Typical Range for Agricultural Soils in Ontario (mg/kg)	Analysis Methodology
Phosphorous (P)	0-30	Phosphorous analysis was calculated as sodium bicarbonate extractable phosphorous and was expressed in parts per million (mg/kg).
Potassium (K)	150 - 250	Potassium analysis was calculated as ammonium acetate extractable potassium and was expressed in parts per million (mg/kg).
Magnesium (Mg)	100 - 400	Magnesium analysis was calculated as ammonium acetate extractable magnesium and was expressed in parts per million (mg/kg).
Calcium (Ca)	1,000 – 5,000	Calcium analysis was calculated as ammonium acetate extractable calcium and was expressed in parts per million (mg/kg).

B.4 SOIL CLASS

When the individual biomonitoring sites were initiated, the soil profile was examined to a depth of 100 cm with the exception of Site S7. The soil profile at Site S7 is inferred to be comparable to Site S3 given their close proximity and was not characterized. The soil types reported for the individual biomonitoring sites were representative of the soils commonly found in the area surrounding the facility. The soil profile descriptions recorded for the 15 biomonitoring sites were used to verify the type of soils identified in the Soil Survey of Lambton County Report No. 22 of the Ontario Soil Survey (Mathews et al., 1957). **Table B4-1** provides details on the soil profile identified at each site.

The majority of the sites (9 of 15) were classified as a Caistor clay loam. These soils are composed of fine textured limestone till materials containing abundant Huron shale fragments in the clayey parent material. The B horizon is frequently a dense and compact layer and restrictive to root growth. The topography is level to slightly undulating and embodies numerous shallow depression areas. One site (W2) was classified as well to imperfectly drained Caistor-loamy phase soils. These soils are characterized as medium textured material over shallow clay till parent material that occurs within one metre of the surface. The entire profile contains numerous coarse fragments in the form of gravels and Huron shale particles. The three sites (N5, E6, S7) located at the Lambton Facility were composed of calcareous clay materials. All of these sites were consistent with the calcareous parent material associated with the Caistor clay soil series. However, the fact that they consisted of disturbed soil precluded actual naming of the soil series. One site (W4) was classified as a poorly drained Brookston clay soil. These soils developed on level to slightly sloping topography and have slow internal and external drainage.

Table B4-1: Soil Profile Descriptions for Each Site, Biomonitoring Program, Lambton Facility

Site	Horizon[1] [2]	Depth (cm)	Texture[3]	Drainage Class	Slope (%)	Soil Type
N2	Ap Bmgj Btgj Ckgj	0 - 20 20 - 34 34 - 63 63 - 100	C SiCL C C	Imperfect	0.5	Caistor Clay Loam
N4	P MgJ KgJ	0 - 25 25 - 46 46 - 100	L/CL Si/CL Si/CL	Imperfect	1-1.5	Caistor Clay Loam
N5	Abk Bmgjk Ckgj	0 – 30 30 – 55 55 – 70+	SiCl SiCl SiCl	Not Applicable	<1	Disturbed (Landscaped Perimeter)
E1	Ap Bmgj Btgj Ckgj	0 - 23 23 - 49 49 - 92 92 - 100	L SCL SiCL SiCL	Imperfect	1.0	Caistor Clay Loam
E2	Ap Bmgj Btgj Ckgj	0 - 20 20 - 31 31 - 46 46 - 100	SCL CL SiCL SiCL	Imperfect	0.5	Caistor Clay Loam
E5	Ap AB Bmgj Btgj	0 - 20 20 - 32 32 - 47 47 - 81	L CL CL SiC	Imperfect	1.0	Caistor Clay Loam

Table B4-1: Soil Profile Descriptions for Each Site, Biomonitoring Program, Lambton Facility

Site	Horizon[1] [2]	Depth (cm)	Texture[3]	Drainage Class	Slope (%)	Soil Type
	Ckgj	81 - 100	SiCL			
E6	Ahk Ckg	0 - 20 20 - 25 > 25	C C Dense clay & shale fragments	Not Applicable	<1	Disturbed Soil (Landfill Cap)
S1	Apk Bktgj Ckg	0 - 21 21 - 46 46 - 100	CL SiC C	Imperfect	0.5	Caistor Clay Loam
S2	Ap Bmgj Ckgj	0 - 22 22 - 35 35 - 100	CL SiC C	Imperfect	0.5	Caistor Clay Loam
S3	Ap Ckgj	Disturbed Site	L[4]	Not Applicable	2.0	Disturbed Soil (Landfill Cap)
S4	Ap Btgj Ckg	0 - 22 22 - 71 71 - 100	SiCL C C	Imperfect	1.0	Caistor Clay Loam
S5	Ap Btgj Ckgj	0 - 25 25 - 58 58 - 100	SCL C C	Imperfect	1.0	Caistor Clay Loam
S7*	Ap Ckgj	Disturbed Site	L[4]	Not Applicable	2.0	Disturbed Soil (Landfill Cap)
W2	Ap Bmgj Btgj Ckgj	0 - 23 23 - 45 45 - 61 61 - 100	L CL SiC SiC	Well	0.5	Caistor-Loamy Phase
W4	Ap Bmgj Ckgj	0 - 21 21 - 56 56 - 100	CL C C	Poor	<1.0	Brookston Clay

Table B4-1: Soil Profile Descriptions for Each Site, Biomonitoring Program, Lambton Facility

Site	Horizon[1] [2]	Depth (cm)	Texture[3]	Drainage Class	Slope (%)	Soil Type
Data collected July, 1993 for all sites except S5 (1995), W4 (1997), E6 (2000), N4 (2001) and N5 (2002) when these sites entered the program C = Clay, L = Loam, S = Sand, Si = Silt A Horizon Only * Soil profile at Site S7 adopted from Site S3 (Site S3 removed from biomonitoring program).						

B.5 SOIL AND SEDIMENT RESULTS

B.5.1 Soil Class

Soil characterization samples were collected during the 2011 Field Year with the exception of a sample from Site S7, which was introduced to the Biomonitoring Program in the 2016 Field Year (**Table B5-1**). This information is collected on a six year cycle. The soil types reported for the individual biomonitoring sites were representative of the soils commonly found in the area surrounding the facility. The soil profile descriptions recorded for the 15 biomonitoring sites were used to verify the type of soils identified in the Soil Survey of Lambton County Report No. 22 of the Ontario Soil Survey (Mathews *et al*., 1957).

Table B5-1: Particle Size Distribution and Textural Class of Soil, 2011* Biomonitoring Program, Lambton Facility

Site	Soil Texture	Sand (%)	Silt (%)	Clay (%)
N2	Silty Clay	18	41	41
N4	Clay Loam	25	42	33
N5	Clay	26	31	43
E1	Loam	47	29	24
E2	Loam	41	38	21
E5	Loam	39	35	26
E6	Loam	39	37	24
S1	Loam	32	42	26
S2	Clay Loam	20	46	34
S3	Clay Loam	36	37	27
S4	Silty Clay	6	47	47

Table B5-1: Particle Size Distribution and Textural Class of Soil, 2011* Biomonitoring Program, Lambton Facility

Site	Soil Texture	Sand (%)	Silt (%)	Clay (%)
S5	Clay	20	30	50
S7*	Silt Loam	36	58	6
W2	Loam	38	38	24
W4	Silty Clay	14	43	43

*Data collected during the 2011 Biomonitoring Program for all sites except S7 (2016) when this site entered the program.

B.5.2 Soil Nutrients, OM, CEC, pH, Clay Content and Surface Texture, 2011 Field Year

Soil fertility samples were collected during the 2011 Field Year with the exception of a sample from Site S7, which was introduced to the Biomonitoring Program in the 2016 Field Year (**Table B5-2**). This information is collected on a three year cycle, but will be changed to a six-year cycle starting in 2013 as described in the Revised Biomonitoring Sampling Program (Stantec, 2016). The 2011 soil fertility results indicated that the nutrients, OM, CEC, pH and surface texture of the near surface soil varied from site to site. The soil fertility results were comparable to those last reported in 2009, taking into consideration natural variation.

Table B5-2: Nutrients (P, K, Mg, Ca), Organic Matter (OM), pH, Cation Exchange Capacity (CEC) of Soil, 2011* Biomonitoring Program, Lambton Facility

Site	P (ppm)	K (ppm)	Mg (ppm)	Ca (ppm)	OM (%)	pH	CEC (MEQ/100g)
N2	25	216	679	4153	3.8	7.2	28.2
N4	32	156	305	5268	3.2	7.7	30.5
N5	6	123	426	4906	4.8	7.6	29.6
E1	61	267	560	5554	6.9	7.5	34.3
E2	26	128	334	2743	4.2	7.3	18
E5	14	123	460	2766	3.2	7.3	19.2
E6	5	164	369	4207	4.8	7.5	25.7
S1	16	141	492	3538	3.6	7.6	23.4
S2	10	324	362	3095	3.8	7.5	20.5
S3	21	157	575	2988	3.4	7.2	21.3

Table B5-2: Nutrients (P, K, Mg, Ca), Organic Matter (OM), pH, Cation Exchange Capacity (CEC) of Soil, 2011* Biomonitoring Program, Lambton Facility

Site	P	K	Mg	Ca	OM	pH	CEC
	(ppm)	(ppm)	(ppm)	(ppm)	(%)		(MEQ/100g)
S4	18	194	910	4549	2.8	7.5	32
S5	16	158	574	3596	2.6	7.7	24.4
S7*	10	241	333	5069	5.4	7.5	29.9
W2	24	112	431	2948	3.3	7.4	19.8
W4	73	218	553	3344	4	6.5	23.1

* Data collected during the 2011 Biomonitoring Program for all sites except S7 (2016) when this site entered the program.

B.5.3 Sediment Depth

The depth of the sediment in each drainage ditch varies from year to year and site to site depending on soil erosion processes. Precipitation, cropping practices and the stability of the drainage ditch banks are a few of the factors affecting how much sediment may be present in a drainage ditch at a given time.

B.5.4 Sediment Nutrients, OM, CEC, pH, Clay Content and Surface Texture, 2016 Field Year

The sediment nutrients, OM, CEC, pH, clay content and surface texture are analyzed annually as described in the Biomonitoring Program: Materials and Methods (**Appendix A**). Sediment was sampled under dry conditions for all Sites where drainage ditch sediment was sampled (Sites N2, N5, S1, S4, E2 and S7).

As expected, in 2016 the sand, silt and clay content (**Table B5-3**) and the nutrients, OM, CEC and pH (**Table B5-4**) of the sediment varied from site to site, similar to last year. These sediment characteristics can be affected by the annual and historical management practices used at each field or location in which each test site is located. The data fell within the expected range for southern Ontario and there were no observable spatial trends among the sites.

Table B5-3: Particle Size Distribution and Textural Class of Sediment, 2016 Biomonitoring Program, Lambton Facility

Site	Sediment	Sand	Silt	Clay
	Texture	(%)	(%)	(%)
N2	Silt Loam	29	66	5

N5	Silt Loam	24	66	10
E2	Silt	17	82	1
S1	Silt	6	87	7
S3	Clay Loam	34	39	27
S4	Silt Loam	27	69	4
S7	Silt	17	82	1

Table B5-4: Nutrients (P, K, Mg, Ca), Organic Matter (OM), pH, Cation Exchange Capacity (CEC) of Sediment, 2016 Biomonitoring Program, Lambton Facility

Site	P	K	Mg	Ca	OM	pH	CEC
	(ppm)	(ppm)	(ppm)	(ppm)	(%)		(MEQ/100g)
N2	29	174	585	6550	6.7	7.6	39.3
N5	30	177	558	6656	7.6	7.7	39.6
E2	5	110	362	5343	1.9	7.9	31.2
S1	12	153	438	6323	4.8	7.6	36.9
S3	9	111	261	4241	3.7	7.7	24.9
S4	11	143	472	5609	2.6	7.9	33.5
S7	5	137	507	5757	3.4	7.6	34.6

B.6 REFERENCES

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APPENDIX C:
TABLES

Table C-1a
Summary of Natural Grass 2016 Analytical Results
Lambton Facility 2017 Annual Landfill Report Biomonitoring Program
2016 Field Year

Sample Location			E1	E2	E5				E6	N2	N4	N5			S1	S2	S4	S5	S7	W2	W4
Sample Date			12-Oct-16	29-Sep-16	12-Oct-16	12-Oct-16		12-Oct-16	29-Sep-16	28-Sep-16	28-Sep-16	29-Sep-16	29-Sep-16		11-Oct-16	11-Oct-16	28-Sep-16	12-Oct-16	14-Sep-16	29-Sep-16	12-Oct-16
Sample ID			16-E1-NG-CH-039	16-E2-NG-CH-049	16-E5-NG-CH-055	16-D15-NG-CH-200		16-D15-NG-CH-200	16-E6-NG-CH-061	16-N2-NG-CH-019	16-N4-NG-CH-025	16-N5-NG-CH-035	16-D3-NG-CH-105		16-S1-NG-CH-069	16-S2-NG-CH-075	16-S4-NG-CH-093	16-S5-NG-CH-099	16-S7-NG-CH-085	16-W2-NG-CH-003	16-W4-NG-CH-009
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-SWE	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM
Laboratory Work Order			L1861968	L1861968	L1861968	L1861968		L1861968	L1861968	L1861968	L1861968	L1861968	L1861968		L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968
Laboratory Sample ID			L1861968-18	L1861968-22	L1861968-24	L1861968-51		L1861968-51	L1861968-27	L1861968-9	L1861968-12	L1861968-16	L1861968-46		L1861968-30	L1861968-33	L1861968-37	L1861968-40	L1861968-44	L1861968-2	L1861968-5
Sample Type	Units	Rural ULN				Field Duplicate	RPD (%)	Lab Replicate					Field Duplicate	RPD (%)							
General Chemistry																					
Chloride	mg/kg	10000	6410	8760	7650	6960	9%	-	**13100[A]**	**14900[A]**	**10700[A]**	6340	8480	29%	6040	3110	7860	6330	8240	5370	**20200[A]**
Metals, Group 1																					
Barium	mg/kg	n/v	27.2	6.85	18.0	15.2	17%	-	10.8	6.52	7.95	15.0	10.9	32%	11.1	23.0	14.8	17.3	16.3	17.5	17.6
Beryllium	mg/kg	n/v	<0.20	<0.20	<0.20	<0.20	nc	-	<0.20	<0.20	<0.20	<0.20	<0.20	nc	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	20	5.8	3.2	7.7	6.4	nc	-	7.9	4.6	5.8	7.6	6.4	nc	5.7	4.9	4.1	8.8	17.0	3.9	4.2
Calcium	mg/kg	n/v	5660	3100	7420	5940	22%	-	5530	5410	5200	5470	4340	23%	5050	3850	11600	7830	8660	5990	4470
Chromium	mg/kg	5	2.48	4.71	**9.08[A]**	**6.43[A]**	34%	-	3.58	**6.46[A]**	**6.67[A]**	**5.85[A]**	**5.06[A]**	14%	3.55	3.80	**5.07[A]**	3.38	**5.30[A]**	4.13	**5.12[A]**
Cobalt	mg/kg	2	<0.10	<0.10	0.29	0.22	nc	-	0.32	0.13	<0.10	0.15	<0.10	nc	0.12	<0.10	<0.10	0.14	<0.10	<0.10	0.13
Iron	mg/kg	500	108	112	**538[A]**	414	26%	-	117	128	94.9	201	125	**47%**	194	149	97.7	341	96.1	119	252
Magnesium	mg/kg	n/v	2080	2290	4400	3960	11%	-	2120	2320	2040	2050	1880	9%	2440	1400	5420	2420	1610	2130	2390
Manganese	mg/kg	50	17.6	**53.9[A]**	31.7	27.9	13%	-	38.0	**73.3[A]**	44.2	24.5	27.4	11%	17.2	15.3	23.1	28.7	41.3	36.2	**84.4[A]**
Molybdenum	mg/kg	6	3.96	2.56	3.26	3.03	7%	-	**24.3[A]**	0.84	4.72	3.28	2.49	27%	5.11	3.08	**6.16[A]**	**9.50[A]**	**12.1[A]**	4.48	5.43
Nickel	mg/kg	5	1.26	3.01	3.74	3.32	12%	-	2.47	2.83	3.66	3.92	2.37	**49%**	1.86	1.68	2.02	1.56	2.89	1.78	3.81
Phosphorus, Total	mg/kg	n/v	4020	6170	2790	2960	6%	-	1230	3600	3210	3070	3360	9%	2120	1690	3720	3400	2410	4690	4780
Potassium	mg/kg	n/v	26600	36400	28500	25900	10%	-	21500	22200	23500	19500	22500	14%	18200	9140	14400	23800	17000	32700	37400
Silicon	mg/kg	n/v	7350	5290	386	14200	**189%**	14300	402	10800	6650	5270	11200	**72%**	484	445	6260	11000	7490	15700	6730
Silver	mg/kg	n/v	<0.10	<0.10	<0.10	<0.10	nc	-	<0.10	<0.10	<0.10	<0.10	<0.10	nc	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	n/v	<20	31	88	79	nc	-	207	34	<20	22	22	nc	<20	<20	26	26	<20	23	22
Strontium	mg/kg	n/v	15.7	6.07	11.8	10.2	15%	-	30.5	12.6	9.29	53.1	46.0	14%	9.49	12.6	22.1	16.0	26.5	10.6	7.42
Sulfur	mg/kg	5000	3990	**6690[A]**	2810	2720	3%	-	3150	4050	4680	4300	4990	15%	2720	1720	4550	2490	3390	3030	2780
Titanium	mg/kg	n/v	1.29	0.77	8.37	11.3	30%	-	1.67	0.78	<0.50	5.21	1.06	nc	3.91	3.31	0.55	7.39	0.95	1.50	5.96
Zirconium	mg/kg	n/v	<5.0	<5.0	<5.0	<5.0	nc	-	<5.0	<5.0	<5.0	<5.0	<5.0	nc	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Metals, Group 2																					
Aluminum	mg/kg	n/v	40	26	393	365	7%	-	44	28	<10	152	37	nc	118	100	18	252	23	38	187
Arsenic	mg/kg	n/v	<0.20	<0.20	<0.20	<0.20	nc	-	<0.20	<0.20	<0.20	<0.20	<0.20	nc	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	0.5	<0.050	<0.050	0.165	0.131	nc	-	0.309	<0.050	<0.050	0.083	0.058	nc	0.069	<0.050	0.079	<0.050	<0.050	0.059	0.201
Copper	mg/kg	7	6.78	**10.0[A]**	**8.23[A]**	**7.81[A]**	5%	-	5.58	5.24	5.73	5.45	5.72	5%	4.43	3.80	6.34	6.78	4.98	**7.25[A]**	**7.28[A]**
Lead	mg/kg	20	0.45	<0.10	0.50	0.42	nc	-	2.82	<0.10	<0.10	0.60	0.38	nc	0.72	0.26	0.15	0.32	0.35	0.33	0.29
Mercury	mg/kg	n/v	0.021	<0.020	<0.020	<0.020	nc	-	0.069	<0.020	<0.020	0.022	<0.020	nc	0.029	<0.020	<0.020	0.024	<0.020	<0.020	0.020
Thallium	mg/kg	n/v	<0.050	<0.050	<0.050	<0.050	nc	-	<0.050	<0.050	<0.050	<0.050	<0.050	nc	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Vanadium	mg/kg	6	<0.50	<0.50	0.97	0.88	nc	-	<0.50	<0.50	<0.50	<0.50	<0.50	nc	<0.50	<0.50	<0.50	0.59	<0.50	<0.50	0.53
Zinc	mg/kg	40	27.9	**41.0[A]**	24.8	24.5	1%	-	27.5	26.6	29.1	24.2	29.1	18%	16.4	17.2	26.0	19.7	26.8	18.7	22.6

Notes:

MOE — Ontario Ministry of the Environment

[A] — Ontario Ministry of the Environment Rural "upper limit of normal" contaminant guidelines for phytotoxicology samples (1989)

6.5[A] — Concentration exceeds the indicated standard.

15.2 — Measured concentration did not exceed the indicated standard.

<0.50 — Laboratory reporting limit was greater than the applicable standard.

<0.03 — Analyte was not detected at a concentration greater than the laboratory reporting limit.

n/v — No standard/guideline value.

\- — Parameter not analyzed / not available.

RPD — Relative Percent Difference

nc — RPD is not calculable if either of the concentrations were less than 5 times the MDL.

42% — RPD exceeds cut-off criteria of 40%

The formula used to determine the RPD from the mean between two samples, the original and the duplicate, is the absolute value of the following:

$$RPD = 100\% \times \frac{C_{original} - C_{dup}}{\frac{1}{2}(C_{original} + C_{dup})}$$

Table C-1b
Summary of Soil 2016 Analytical Results
Lambton Facility 2017 Annual Landfill Report Biomonitoring Program
2016 Field Year

Sample Location					E1	E2	E5	E6	N2	N4	N5	S1	S2	S4	S5		S7	W2			W4
Sample Date					12-Oct-16	29-Sep-16	12-Oct-16	29-Sep-16	28-Sep-16	11-Oct-16	29-Sep-16	11-Oct-16	11-Oct-16	28-Sep-16	12-Oct-16	18-Jan-17	14-Sep-16	18-Jul-16	18-Jul-16		12-Oct-16
Sample ID					16-E1-SS-CH-037	16-E2-SS-CH-043	16-E5-SS-CH-053	16-E6-SS-CH-059	16-N2-SS-CH-013	16-N4-SS-CH-023	16-N5-SS-CH-029	16-S1-SS-CH-063	16-S2-SS-CH-073	16-S4-SS-CH-087	16-S5-SS-CH-097	16-S5-SS-CH-097 (LR)	16-S7-SS-CH-079	16-W2-SS-CH-001	16-D1-SS-CH-103		16-W4-SS-CH-007
Sample Depth					15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm		15 cm	15 cm	15 cm		15 cm
Sampling Company					STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC		STANTEC
Laboratory					ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM
Laboratory Work Order		Ontario SCS			L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968		L1861968
Laboratory Sample ID		Table 1Agr	Rural OTR	Rural ULN	L1861968-17	L1861968-20	L1861968-23	L1861968-26	L1861968-7	L1861968-11	L1861968-14	L1861968-28	L1861968-32	L1861968-35	L1861968-39	WG2465165-3	L1861968-42	L1861968-1	L1861968-45	RPD	L1861968-4
Sample Type	Units	A	B	C												Lab Replicate			Field Duplicate	(%)	
General Chemistry																					
Chloride	mg/kg	n/a	35	n/v	1.25	8.04	2.27	10.3	1.14	4.03	5.72	7.29	7.70	7.06	3.57	3.66	5.07	2.38	2.91	nc	1.37
Metals, Group 1																					
Barium	mg/kg	210	170	n/v	40.4	79.5	110	72.8	138	77.4	62.3	115	106	**174^{B}**	110	-	91.7	63.9	63.2	1%	112
Beryllium	mg/kg	2.5	1.1	n/v	0.42	0.68	0.88	0.69	**1.25^{B}**	0.87	0.64	0.98	0.99	**1.38^{B}**	0.97	-	0.83	0.65	0.64	nc	**1.13^{B}**
Boron	mg/kg	36	30	10$_{p}$	8.2	**15.7^{C}**	**15.6^{C}**	**16.1^{C}**	**18.4^{C}**	**19.4^{C}**	**14.4^{C}**	**18.3^{C}**	**17.3^{C}**	**22.9^{C}**	**16.7^{C}**	-	**18.1^{C}**	8.9	8.4	nc	**19.9^{C}**
Calcium	mg/kg	n/v	54000	n/v	4290	27600	5000	21200	6540	31800	44600	12400	10700	7550	9490	-	18400	3840	4520	16%	5810
Chromium	mg/kg	67	58	50	14.0	24.5	27.5	23.5	40.4	28.8	22.9	34.3	31.6	45.7	31.0	-	28.0	20.6	19.7	4%	35.9
Cobalt	mg/kg	19	16	25	4.22	8.20	10.1	8.84	11.9	8.89	8.27	13.2	13.4	11.1	11.7	-	9.16	7.61	6.75	12%	10.2
Iron	mg/kg	n/v	36000	35000	13000	25900	21900	19200	27300	21000	17600	26100	25000	28000	24700	-	21300	17900	16900	6%	25400
Magnesium	mg/kg	n/v	19000	10000	2840	**13000^{C}**	5510	9270	7720	**15600^{C}**	**17900^{C}**	9480	8620	9070	8710	-	9930	3640	3590	1%	6800
Manganese	mg/kg	n/v	1900	700	205	379	607	558	438	287	354	**738^{C}**	560	234	427	-	474	523	438	18%	441
Molybdenum	mg/kg	2	0.984	2$_{p}$	**1.71^{B}**	**5.85^{ABC}**	**2.09^{ABC}**	**2.52^{ABC}**	**1.64^{B}**	**1.88^{B}**	**2.34^{ABC}**	**1.41^{B}**	**1.66^{B}**	0.75	**1.46^{B}**	-	**2.03^{ABC}**	**2.16^{ABC}**	**2.00^{B}**	8%	**1.66^{B}**
Nickel	mg/kg	37	34	60	10.9	22.9	24.6	22.2	**34.3^{B}**	28.1	21.8	31.9	29.3	**37.2^{AB}**	28.5	-	26.6	18.2	16.7	9%	32.3
Phosphorus	mg/kg	n/v	830	n/v	693	583	483	523	801	612	530	681	533	**1060^{B}**	568	-	632	504	533	6%	**1110^{B}**
Potassium	mg/kg	n/v	6500	n/v	978	2660	2800	2160	4000	3450	2200	3310	3150	4990	3200	-	3380	1540	1430	7%	4490
Silicon	mg/kg	n/v	n/v	n/v	347000	254000	288000	293000	291000	255000	261000	302000	311000	274000	330000	-	267000	321000	326000	2%	309000
Silver	mg/kg	0.5	0.27	n/v	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	nc	<0.20
Sodium	mg/kg	n/a	690	n/v	<100	100	<100	<100	<100	<100	110	<100	<100	120	<100	-	<100	<100	<100	nc	<100
Strontium	mg/kg	n/v	63	n/v	10.2	31.9	18.6	53.7	25.2	31.9	**75.9^{B}**	23.5	24.3	32.5	22.6	-	27.3	12.4	13.2	6%	21.6
Sulfur	mg/kg	n/v	790	1000	<100	230	140	270	<100	210	620	<100	<100	<100	<100	-	330	100	<100	nc	150
Titanium	mg/kg	n/v	5500	n/v	117	185	156	157	131	158	122	220	211	179	182	-	157	97.7	100	2%	133
Zirconium	mg/kg	n/v	n/v	n/v	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	nc	<5.0
Metals, Group 2																					
Aluminum	mg/kg	n/v	30000	n/v	9000	16300	19300	14800	28700	19000	14700	22600	22100	**33500^{B}**	22300	-	19200	14000	13900	1%	23400
Arsenic	mg/kg	11	11	10	5.35	8.31	5.41	6.06	5.51	5.66	5.70	8.28	6.81	4.91	6.99	-	6.02	6.55	5.76	13%	5.65
Cadmium	mg/kg	1	0.7	3	0.28	0.34	0.44	0.48	0.40	0.35	0.61	0.59	0.40	0.43	0.33	-	0.49	0.47	0.43	nc	0.58
Copper	mg/kg	62	46	60	7.55	17.0	15.7	15.3	21.8	22.3	15.8	16.1	15.5	29.6	14.2	-	20.1	12.3	11.6	6%	26.1
Lead	mg/kg	45	34	150	10.8	**50.7^{AB}**	13.4	14.5	15.1	12.1	15.9	15.5	14.7	17.1	14.3	-	14.8	14.3	13.6	5%	16.4
Mercury	mg/kg	0.16	0.13	0.15	<0.050	0.082	<0.050	0.054	<0.050	<0.050	0.068	<0.050	<0.050	0.058	<0.050	-	0.054	<0.050	<0.050	nc	<0.050
Thallium	mg/kg	1	n/v	n/v	0.133	0.222	0.244	0.224	0.220	0.247	0.266	0.266	0.257	0.278	0.247	-	0.255	0.209	0.191	nc	0.314
Vanadium	mg/kg	86	86	70	28.9	39.5	42.2	35.3	49.5	38.7	29.4	51.2	45.9	55.3	45.9	-	39.9	34.6	32.2	7%	46.8
Zinc	mg/kg	290	160	500	35.8	67.4	61.7	59.7	71.6	63.1	72.4	68.0	63.1	86.1	58.2	-	71.0	47.8	49.0	2%	102

Notes:

Ontario SCS	Soil, Ground Water and Sediment Standards for Use under Part XV.I of the Environmental Protection Act (MOE, 2011)
A	Table 1 - Agricultural or Other Property Use
MOE	Ontario Ministry of the Environment
B	Ontario Typical Range (OTR) values for Rural Parks, Ontario Ministry of Environment and Energy (OMEE, 1993)
C	Ontario Ministry of the Environment Rural "upper limit of normal" contaminant guidelines for phytotoxicology samples (1989)
6.5^{A}	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
<0.50	Laboratory reporting limit was greater than the applicable standard.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
n/a	Not applicable.
p	Provisional
RPD	Relative Percent Difference
nc	RPD is not calculable if either of the concentrations were less than 5 times the MDL.
42%	RPD exceeds cut-off criteria of 40%

The formula used to determine the RPD from the mean between two samples, the original and the duplicate, is the absolute value of the following:

$$RPD = 100\% \times \frac{C_{original} - C_{dup}}{\frac{1}{2}(C_{original} + C_{dup})}$$

Table C-1c
Summary of Sediment 2016 Analytical Results
Lambton Facility 2017 Annual Landfill Report Biomonitoring Program
2016 Field Year

Sample Location				E2	N2		N5			S1	S4		S7	
Sample Date				29-Sep-16	28-Sep-16	29-Sep-16	29-Sep-16		29-Sep-16	11-Oct-16	28-Sep-16	14-Sep-16	17-Jan-17	
Sample ID				16-E2-SD-CH-045	16-N2-SD-CH-015	16-N5-SD-CH-031	16-D4-SD-CH-106		16-D4-SD-CH-106	16-S1-SD-CH-065	16-S4-SD-CH-089	16-S7-SD-CH-081	16-S7-SD-CH-081 (LR)	
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	
Laboratory				ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-SWE	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	
Laboratory Work Order				L1861968	L1861968	L1861968	L1861968		L1861968	L1861968	L1861968	L1861968	L1861968	
Laboratory Sample ID				L1861968-21	L1861968-8	L1861968-15	L1861968-47		L1861968-47	L1861968-29	L1861968-36	L1861968-43	WG2464670-4	
Sample Type	Units	Ontario SCS Table 1 A	PSQG Table 1 - LEL B				Field Duplicate	RPD (%)	Lab Replicate				Lab Replicate	
General Chemistry														
Chloride	mg/kg	n/v	n/v	69.5	39.9	123	112	9%	-	13.6	7.56	29.9	-	
Metals, Group 1														
Barium	mg/kg	n/v	n/v	74.0	94.8	104	114	9%	-	68.4	113	107	109	
Beryllium	mg/kg	n/v	n/v	0.73	1.01	0.94	0.98	nc	-	0.71	0.91	0.99	1.00	
Boron	mg/kg	n/v	n/v	21.7	21.2	25.5	21.1	19%	-	20.6	25.6	21.7	20.1	
Calcium	mg/kg	n/v	n/v	83500	58400	70300	65300	7%	-	84400	80900	30200	27200	
Chromium	mg/kg	26	26	**26.9[AB]**	**32.9[AB]**	**32.7[AB]**	**35.1[AB]**	7%	-	25.9	**34.0[AB]**	**32.6[AB]**	**32.6[AB]**	
Cobalt	mg/kg	50	n/v	8.67	8.95	9.84	10.6	7%	-	8.39	13.8	13.9	11.8	
Iron	mg/kg	n/v	20000	**20600[B]**	**22900[B]**	**23900[B]**	**23900[B]**	0%	-	18300	**26700[B]**	**25600[B]**	**25300[B]**	
Magnesium	mg/kg	n/v	n/v	29400	22500	24400	23100	5%	-	25000	27600	12500	11700	
Manganese	mg/kg	n/v	460	315	267	326	329	1%	-	255	**585[B]**	**583[B]**	**461[B]**	
Molybdenum	mg/kg	n/v	n/v	2.34	1.91	3.16	2.75	14%	-	2.36	1.72	3.49	3.57	
Nickel	mg/kg	16	16	**26.8[AB]**	**30.4[AB]**	**31.8[AB]**	**34.5[AB]**	8%	-	**25.0[AB]**	**33.8[AB]**	**33.0[AB]**	**32.4[AB]**	
Phosphorus	mg/kg	n/v	600	**721[B]**	**887[B]**	**802[B]**	**626[B]**	25%	**637[B]**	499	**612[B]**	**815[B]**	-	
Potassium	mg/kg	n/v	n/v	3310	3720	3930	3750	5%	-	2740	4280	3510	3470	
Silicon	mg/kg	n/v	n/v	174000	204000	193000	198000	3%	213000	207000	208000	266000	-	
Silver	mg/kg	0.5	n/v	<0.20	<0.20	<0.20	<0.20	nc	-	<0.20	<0.20	<0.20	<0.2	
Sodium	mg/kg	n/v	n/v	200	160	330	330	nc	-	160	190	190	190	
Strontium	mg/kg	n/v	n/v	82.4	55.4	79.5	79.6	0%	-	65.8	90.9	52.1	51.2	
Sulfur	mg/kg	n/v	n/v	400	670	680	750	10%	-	550	150	280	370	
Titanium	mg/kg	n/v	n/v	201	128	170	151	12%	-	204	239	203	175	
Zirconium	mg/kg	n/v	n/v	<5.0	<5.0	<5.0	<5.0	nc	-	<5.0	5.3	<5.0	5.2	
Metals, Group 2														
Aluminum	mg/kg	n/v	n/v	17400	22400	19500	23100	17%	-	13500	21700	22000	22500	
Arsenic	mg/kg	6	6	5.55	4.99	**6.32[AB]**	5.89	7%	-	4.44	**6.20[AB]**	**7.21[AB]**	**7.18[AB]**	
Cadmium	mg/kg	0.6	0.6	0.26	0.45	**0.66[AB]**	**0.77[AB]**	15%	-	0.30	0.19	0.33	0.33	
Copper	mg/kg	16	16	**18.2[AB]**	**25.3[AB]**	**23.6[AB]**	**26.6[AB]**	12%	-	**16.4[AB]**	**21.4[AB]**	**17.4[AB]**	**17.9[AB]**	
Lead	mg/kg	31	31	9.24	14.7	16.2	20.8	25%	-	11.8	11.1	12.6	12.9	
Mercury	mg/kg	0.2	0.2	<0.050	<0.050	0.071	0.089	nc	-	<0.050	<0.050	<0.050	<0.05	
Thallium	mg/kg	n/v	n/v	0.251	0.293	0.354	0.370	4%	-	0.235	0.240	0.331	0.333	
Vanadium	mg/kg	n/v	n/v	35.3	43.9	42.9	45.2	5%	-	32.0	42.9	46.1	44.3	
Zinc	mg/kg	120	120	55.4	97.6	108	**133[AB]**	21%	-	51.1	58.1	61.4	60.9	

Notes:

Ontario SCS [A]	Soil, Ground Water and Sediment Standards for Use under Part XV.I of the Environmental Protection Act (MOE, 2011) Table 1 - All Types of Property Uses
PSQG [B]	Ontario Provincial Sediment Quality Guidelines Table 1: PSQG for Metals and Nutrients - Lowest Effect Level
6.5[A]	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
<0.50	Laboratory reporting limit was greater than the applicable standard.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
RPD	Relative Percent Difference
nc	RPD is not calculable if either of the concentrations were less than 5 times the MDL.
42%	RPD exceeds cut-off criteria of 40%

The formula used to determine the RPD from the mean between two samples, the original and the duplicate, is the absolute value of the following:

$$RPD = 100\% \times \frac{C_{original} - C_{dup}}{\frac{1}{2}(C_{original} + C_{dup})}$$

Table C-1d
Summary of Agricultural Crops 2016 Analytical Results
Lambton Facility 2017 Annual Landfill Report Biomonitoring Program
2016 Field Year

Sample Location		E1	E5	N2			N4				S1	S2		S4	S5	W2			W4
Sample Date		12-Oct-16	12-Oct-16	28-Sep-16	28-Sep-16		11-Oct-16	11-Oct-16		19-Jan-17	11-Oct-16	11-Oct-16	21-Jan-17	28-Sep-16	12-Oct-16	18-Jul-16	18-Jul-16		12-Oct-16
Sample ID		16-E1-FC-CH-041	16-E5-FC-CH-057	16-N2-SB-CH-021	16-D5-SB-CH-107		16-N4-FC-CH-027	16-D6-FC-CH-108		16-D6-FC-CH-108 (LR)	16-S1-FC-CH-071	16-S2-FC-CH-077	16-S2-FC-CH-077 (LR)	16-S4-SB-CH-095	16-S5-FC-CH-101	16-W2-WW-CH-005	16-D7-WW-CH-109		16-W4-FC-CH-011
Sampling Company		STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC			STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC		STANTEC
Laboratory		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM	ALS-EDM		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM
Laboratory Work Order		L1861968	L1861968	L1861968	L1861968		L1861968	L1861968		L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968		L1861968
Laboratory Sample ID		L1861968-19	L1861968-25	L1861968-10	L1861968-48	RPD	L1861968-13	L1861968-49	RPD	WG2465189-4/WG2466469-8	L1861968-31	L1861968-34	WG2465189-2/WG2466469-4	L1861968-38	L1861968-41	L1861968-3	L1861968-50	RPD	L1861968-6
Sample Type	Units				Field Duplicate	(%)		Field Duplicate	(%)	Lab Replicate			Lab Replicate				Field Duplicate	(%)	
General Chemistry																			
Chloride	mg/kg	511	441	48	62	nc	380	384	1%	385	392	325	324	74	359	476	426	11%	362
Metals, Group 1																			
Barium	mg/kg	<0.10	<0.10	0.80	0.79	1%	<0.10	<0.10	nc	<0.1	<0.10	<0.10	<0.1	1.48	<0.10	4.40	5.32	19%	<0.10
Beryllium	mg/kg	<0.20	<0.20	<0.20	<0.20	nc	<0.20	<0.20	nc	<0.2	<0.20	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	nc	<0.20
Boron	mg/kg	2.1	2.3	27.3	26.6	3%	2.0	2.4	nc	2.8	<2.0	<2.0	<2	32.3	<2.0	<2.0	<2.0	nc	<2.0
Calcium	mg/kg	59	48	2330	2110	10%	32	27	nc	28	39	45	45	3050	42	672	627	7%	56
Chromium	mg/kg	<0.20	<0.20	<0.20	0.29	nc	<0.20	<0.20	nc	<0.2	<0.20	<0.20	<0.2	<0.20	<0.20	1.29	0.99	nc	<0.20
Cobalt	mg/kg	<0.10	<0.10	<0.10	<0.10	nc	<0.10	<0.10	nc	<0.1	<0.10	<0.10	<0.1	<0.10	<0.10	<0.10	<0.10	nc	<0.10
Iron	mg/kg	18.2	19.7	71.8	72.8	1%	17.3	16.0	nc	16.4	17.1	19.2	19.3	54.3	19.6	40.8	44.4	8%	21.8
Magnesium	mg/kg	1130	1280	2400	2240	7%	1260	1060	17%	1070	1170	1430	1420	2210	1330	1170	1100	6%	1190
Manganese	mg/kg	3.14	4.74	21.8	22.2	2%	4.35	3.42	24%	3.41	4.75	6.55	6.54	14.8	5.96	22.7	24.6	8%	5.78
Molybdenum	mg/kg	0.85	0.70	11.6	12.3	6%	0.49	0.53	nc	0.51	0.34	0.44	0.43	12.2	0.49	1.14	1.00	13%	0.27
Nickel	mg/kg	<0.20	<0.20	2.30	2.37	3%	0.25	0.28	nc	0.27	<0.20	<0.20	<0.2	4.63	<0.20	0.66	0.61	nc	0.20
Phosphorus, Total	mg/kg	2730	3250	5610	5580	1%	3280	2970	10%	3000	3170	3630	3560	6170	3580	3180	2890	10%	3190
Potassium	mg/kg	3620	3790	17200	17300	1%	3810	3390	12%	3470	3690	4230	4010	20300	4050	4760	4440	7%	3650
Silicon	mg/kg	24.7	48.9	18.9	15.5	20%	14.5	20.9	36%	-	27.6	18.2	-	17.6	19.2	10200	2120	**131%**	24.0
Silver	mg/kg	<0.10	<0.10	<0.10	<0.10	nc	<0.10	<0.10	nc	<0.1	<0.10	<0.10	<0.1	<0.10	<0.10	<0.10	<0.10	nc	<0.10
Sodium	mg/kg	<20	<20	<20	<20	nc	<20	<20	nc	<20	<20	<20	<20	<20	<20	<20	<20	nc	<20
Strontium	mg/kg	0.13	<0.10	1.91	1.82	5%	<0.10	<0.10	nc	<0.1	<0.10	<0.10	<0.1	3.42	<0.10	2.26	2.03	11%	<0.10
Sulfur	mg/kg	1150	1090	3270	3310	1%	1080	980	10%	960	1160	1230	1250	3450	1270	1070	1050	2%	1120
Titanium	mg/kg	<0.50	<0.50	<0.50	<0.50	nc	<0.50	<0.50	nc	<0.5	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	<0.50	nc	<0.50
Zirconium	mg/kg	<5.0	<5.0	<5.0	<5.0	nc	<5.0	<5.0	nc	<5	<5.0	<5.0	<5	<5.0	<5.0	<5.0	<5.0	nc	<5.0
Metals, Group 2																			
Aluminum	mg/kg	<10	<10	<10	<10	nc	<10	<10	nc	<10	<10	<10	<10	<10	<10	<10	<10	nc	<10
Arsenic	mg/kg	<0.20	<0.20	<0.20	<0.20	nc	<0.20	<0.20	nc	<0.2	<0.20	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	nc	<0.20
Cadmium	mg/kg	<0.050	<0.050	<0.050	<0.050	nc	<0.050	<0.050	nc	<0.05	<0.050	<0.050	<0.05	0.092	<0.050	0.084	0.076	nc	<0.050
Copper	mg/kg	1.59	1.25	11.4	10.8	5%	1.05	1.22	15%	1.31	1.29	1.32	1.33	8.79	1.59	3.68	3.44	7%	1.40
Lead	mg/kg	<0.10	<0.10	<0.10	<0.10	nc	<0.10	<0.10	nc	<0.1	<0.10	<0.10	<0.1	<0.10	<0.10	0.13	0.15	nc	<0.10
Mercury	mg/kg	<0.020	<0.020	<0.020	<0.020	nc	<0.020	<0.020	nc	<0.02	<0.020	<0.020	<0.02	<0.020	<0.020	<0.020	<0.020	nc	<0.020
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	nc	<0.050	<0.050	nc	<0.05	<0.050	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	nc	<0.050
Vanadium	mg/kg	<0.50	<0.50	<0.50	<0.50	nc	<0.50	<0.50	nc	<0.5	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	<0.50	nc	<0.50
Zinc	mg/kg	16.4	17.1	28.0	29.0	4%	15.7	14.6	7%	14.2	15.3	16.7	16.8	38.4	18.2	17.1	15.5	10%	19.3

Notes:

15.2	Concentration was detected.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
-	Parameter not analyzed / not available.
RPD	Relative Percent Difference
nc	RPD is not calculable if either of the concentrations were less than 5 times the MDL.
42%	RPD exceeds cut-off criteria of 40%

The formula used to determine the RPD from the mean between two samples, the original and the duplicate, is the absolute value of the following:

$$RPD = 100\% \times \frac{C_{original} - C_{dup}}{\frac{1}{2}(C_{original} + C_{dup})}$$

Table C-1e
Summary of Quality Control 2016 Analytical Results
Lambton Facility 2017 Annual Landfill Report Biomonitoring Program
2016 Field Year

Sample Location		Field Blank (E1)	Field Blank (N2)	Field Blank (W2)		Rinsate Blank (S1)		Rinsate Blank (S4)		Rinsate Blank (S7)	Rinsate Blank (W2)
Sample Date		12-Oct-16	28-Sep-16	18-Jul-16	14-Jan-17	11-Oct-16	11-Oct-16	28-Sep-16	11-Oct-16	14-Sep-16	18-Jul-16
Sample ID		16-E1-FB-CH-113	16-N2-FB-CH-112	16-W2-FB-CH-111	16-W2-FB-CH-111 (LR)	16-S1-RB-CH-119	16-S1-RB-CH-120	16-S4-RB-CH-117	16-S4-RB-CH-118	16-S7-RB-CH-116	16-W2-RB-CH-115
Sampling Company		STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM
Laboratory Work Order		L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968	L1861968
Laboratory Sample ID		L1861968-54	L1861968-53	L1861968-52	WG2464003-2	L1861968-59	L1861968-60	L1861968-57	L1861968-58	L1861968-56	L1861968-55
Sample Type	Units	Field Blank	Field Blank	Field Blank	Lab Replicate	Material Rinse Blank	Material Rinse Blank	Material Rinse Blank	Material Rinse Blank	Material Rinse Blank	Material Rinse Blank
Metals, Group 1											
Barium	mg/L	0.000278 RV	0.000367 RV	0.000232 RV	0.000222	0.000822 RV	0.000497 RV	0.000499 RV	0.000280 RV	0.000242 RV	0.000211 RV
Beryllium	mg/L	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Boron	mg/L	<0.010	<0.010	<0.010	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Calcium	mg/L	0.084 RV	0.114 RV	0.102 RV	0.099	0.055 RV	0.068 RV	0.069 RV	0.065 RV	0.074 RV	0.061 RV
Chromium	mg/L	0.00013 RV	0.00012 RV	<0.00010	<0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Cobalt	mg/L	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Iron	mg/L	<0.010	<0.010	<0.010	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Magnesium	mg/L	0.0187 RV	0.0232 RV	0.0201 RV	0.0192	0.0124 RV	0.0177 RV	0.0149 RV	0.0140 RV	0.0142 RV	0.0088 RV
Manganese	mg/L	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Molybdenum	mg/L	<0.000050	<0.000050	<0.000050	<0.00005	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Nickel	mg/L	<0.00050	<0.00050	<0.00050	<0.0005	<0.00050	0.00077 RV	<0.00050	<0.00050	0.00340 RV	<0.00050
Phosphorus, Total	mg/L	<0.050	<0.050	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium	mg/L	<0.050	<0.050	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Silicon	mg/L	0.166 RV	0.198 RV	0.163 RV	0.160	<0.050	0.073 RV	0.108 RV	0.115 RV	0.057 RV	<0.050
Silver	mg/L	<0.000010	<0.000010	<0.000010	<0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium	mg/L	0.625 RV	0.987 RV	0.799 RV	0.799	0.466 RV	0.597 RV	0.567 RV	0.631 RV	0.950 RV	0.378 RV
Strontium	mg/L	0.00022 RV	0.00050 RV	0.00046 RV	0.00046	<0.00020	<0.00020	<0.00020	<0.00020	0.00031 RV	0.00029 RV
Sulfur	mg/L	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Titanium	mg/L	<0.00030	<0.00030	<0.00030	<0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Zirconium	mg/L	0.00080 RV	<0.00030	<0.00030	<0.0003	<0.00030	0.00043 RV	0.00041 RV	0.00047 RV	<0.00030	<0.00030
Metals, Group 2											
Aluminum	mg/L	0.0159 RV	0.0223 RV	0.0171 RV	0.0161	0.0089 RV	0.0112 RV	0.0117 RV	0.0122 RV	0.0121 RV	0.0075 RV
Arsenic	mg/L	<0.00010	<0.00010	<0.00010	<0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Cadmium	mg/L	0.0000053 RV	0.0000104 RV	<0.0000050	<0.000005	<0.0000050	0.0000060 RV	<0.0000050	<0.0000050	0.0000055 RV	<0.0000050
Copper	mg/L	0.00075 RV	0.00198 RV	0.00122 RV	0.00119	<0.00050	0.00060 RV	0.00072 RV	0.00067 RV	0.00176 RV	0.00100 RV
Lead	mg/L	0.000143 RV	<0.000050	<0.000050	<0.00005	0.000066 RV	0.000090 RV	0.000139 RV	0.000108 RV	<0.000050	<0.000050
Mercury	mg/L	<0.0000050	<0.0000050	<0.0000050	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Thallium	mg/L	<0.000010	<0.000010	<0.000010	<0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Vanadium	mg/L	<0.00050	<0.00050	<0.00050	<0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc	mg/L	<0.0030	<0.0030	<0.0030	<0.003	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030

Notes:

15.2	Concentration was detected.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
-	Parameter not analyzed / not available.
RV	Reported result verified by repeat analysis.

Table C-2a
Summary of Natural Grass 2016 Organic Analytical Results
Lambton Facility 2017 Annual Landfill Report Biomonitoring Program
2016 Field Year

Sample Location		E1	E2	E5			E6	N2	N4	N5			S1	S2	S4	S5	S7	W2	W4
Sample Date		12-Oct-16	29-Sep-16	12-Oct-16	12-Oct-16		29-Sep-16	28-Sep-16	28-Sep-16	29-Sep-16	29-Sep-16		11-Oct-16	11-Oct-16	28-Sep-16	12-Oct-16	14-Sep-16	29-Sep-16	12-Oct-16
Sample ID		16-E1-NG-CH-039	16-E2-NG-CH-049	16-E5-NG-CH-055	16-D15-NG-CH-200		16-E6-NG-CH-061	16-N2-NG-CH-019	16-N4-NG-CH-025	16-N5-NG-CH-035	16-D3-NG-CH-105		16-S1-NG-CH-069	16-S2-NG-CH-075	16-S4-NG-CH-093	16-S5-NG-CH-099	16-S7-NG-CH-085	16-W2-NG-CH-003	16-W4-NG-CH-009
Sampling Company		STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM
Laboratory Work Order		L1862212	L1862212	L1862212	L1862212		L1862212	L1862212	L1862212	L1862212	L1862212		L1862212	L1862212	L1862212	L1862212	L1862212	L1862212	L1862212
Laboratory Sample ID		L1862212-18	L1862212-22	L1862212-24	L1862212-51		L1862212-27	L1862212-9	L1862212-12	L1862212-16	L1862212-46		L1862212-30	L1862212-33	L1862212-37	L1862212-40	L1862212-44	L1862212-2	L1862212-5
Sample Type	Units				Field Duplicate	RPD (%)					Field Duplicate	RPD (%)							
General Chemistry																			
Moisture Content	%	65.6	79.7	77.4	75.9	2%	75.0	75.1	71.0	68.5	73.1	6%	57.5	47.6	67.9	74.9	67.2	85.8	64.8
Dioxins/Furans (PCDD/DF)																			
Tetrachlorodibenzofuran, 2,3,7,8-	pg/g wwt	1.46 XM JA	1.50 XM JA EN	0.70 XM JA	<0.45	nc	0.71 JA EN	<0.18 XM	3.03 XM	0.62 XM JA EN	<0.12	nc	0.51 XM JA EN	<0.49	<0.21	<4.2	<0.18	0.48 XM JA EN	<0.24
Tetrachlorodibenzo-p-Dioxin, 2,3,7,8-	pg/g wwt	<0.35	<0.26	<0.19	<0.48	nc	<0.33	<0.17	<0.28	<0.22	<0.12	nc	<0.25	<0.43	<0.16	<2.2	<0.17	<0.26	<0.14
Pentachlorodibenzofuran, 1,2,3,7,8-	pg/g wwt	<0.24	<0.18	<0.13	<0.39	nc	<0.15	<0.093	<0.095	<0.12	<0.090	nc	<0.15	<0.31	<0.12	<1.3	<0.16	<0.19	<0.20
Pentachlorodibenzofuran, 2,3,4,7,8-	pg/g wwt	<0.20	<0.15	<0.091	<0.33	nc	<0.12	<0.077	<0.078	<0.093	<0.074	nc	<0.12	<0.23	<0.085	<1.1	<0.13	<0.16	<0.17
Pentachlorodibenzo-p-Dioxin, 1,2,3,7,8-	pg/g wwt	<0.25	<0.11	<0.19	<0.21	nc	<0.37	<0.13	<0.24	<0.13	<0.11	nc	<0.18	<0.19	<0.14	<1.4	<0.14	<0.16	<0.14
Octachlorodibenzofuran	pg/g wwt	0.49 XM JA	<0.22	<0.079	<0.62	nc	1.29 XM JA	<0.14	<0.22	1.03 JA	0.63 JA	nc	0.210 XM JA EN	1.32 XM JA	0.41 XM JA	1.7 XM JA EN	<0.33	<0.25	0.50 XM JA EN
Octachlorodibenzo-p-dioxin	pg/g wwt	3.40 XM JA EN	1.33 XM JA	3.10 XM JA EN	5.34 XM JA	**53%**	10.8 XM JA	1.96 XM JA	1.60 XM JA EN	8.61 JA	5.11 JA	**51%**	3.85 JA	3.19 XM JA	1.50 XM JA EN	6.0 XM JA	1.80 XM JA EN	4.15 XM JA	5.84 JA
Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	pg/g wwt	0.33 XM JA EN	0.25 XM JA	<0.15	<0.50	nc	0.87 XM JA EN	<0.15 XM	<0.22 XM	0.41 XM JA EN	0.38 XM JA EN	nc	0.28 XM JA EN	0.44 XM JA EN	<0.12	<1.2	<0.21	<0.23	0.44 JA EN
Heptachlorodibenzofuran, 1,2,3,4,7,8,9-	pg/g wwt	<0.32	<0.18	<0.21	<0.68	nc	<0.39	<0.22	<0.34	<0.15	<0.26	nc	<0.25	<0.37	<0.17	<1.8	<0.32	<0.32	<0.22
Heptachlorodibenzo-p-Dioxin, 1,2,3,4,6,7,8-	pg/g wwt	0.58 XM JA EN	0.56 XM JA	0.80 XM JA EN	<0.85	nc	1.43 XM JA	0.49 JA	<0.25	1.35 XM JA	1.02 JA	nc	0.82 XM JA EN	1.11 XM JA	<0.40 XM	<1.7 XM	0.56 XM JA B	0.88 XM JA EN	1.75 JA
Hexachlorodibenzofuran, 1,2,3,4,7,8-	pg/g wwt	<0.27	<0.22	<0.20	<0.38	nc	<0.33	<0.14	<0.19	<0.16	<0.11	nc	<0.22	<0.47	<0.15	<1.6	<0.21	<0.27 XM	<0.21
Hexachlorodibenzofuran, 1,2,3,6,7,8-	pg/g wwt	<0.29	<0.23	<0.20	<0.34	nc	<0.33	<0.14	<0.20	<0.16	<0.11	nc	<0.23	<0.45	<0.15	<1.4	<0.21	<0.28	<0.22
Hexachlorodibenzofuran, 1,2,3,7,8,9-	pg/g wwt	<0.37	<0.25	<0.26	<0.51	nc	<0.43	<0.18	<0.25 XM	<0.19	<0.15	nc	<0.27	<0.57 XM	<0.19	<2.2	<0.29	<0.34 XM	<0.28
Hexachlorodibenzofuran, 2,3,4,6,7,8-	pg/g wwt	<0.27	<0.19	<0.16	<0.34	nc	<0.26	<0.14	<0.19	<0.14 XM	<0.11 XM	nc	<0.17	<0.41	<0.14	<1.4	<0.21	<0.25 XM	<0.20
Hexachlorodibenzo-p-Dioxin, 1,2,3,4,7,8-	pg/g wwt	<0.33	<0.15	<0.19	<0.45	nc	<0.46	<0.18	<0.15	<0.11	<0.16	nc	<0.19	<0.43	<0.19 XM	<1.2	<0.29	<0.23	<0.20
Hexachlorodibenzo-p-Dioxin, 1,2,3,6,7,8-	pg/g wwt	<0.35	<0.15	<0.19 XM	<0.44	nc	<0.49	<0.19 XM	<0.15	0.17 XM JA EN	<0.16	nc	<0.21	<0.41	<0.18	<1.1	<0.29	<0.23	<0.21
Hexachlorodibenzo-p-Dioxin, 1,2,3,7,8,9-	pg/g wwt	<0.35	<0.16	<0.20	<0.46	nc	<0.50	<0.19 XM	<0.16	<0.11 XM	<0.17	nc	<0.21	<0.43 XM	<0.19	<1.2	<0.30	<0.24	<0.22
Total Tetrachlorodibenzofuran	pg/g wwt	1.46	<0.37	0.70	<0.45	nc	<0.60	0.31	3.03	<0.17	<0.12	nc	<0.41	<0.49	<0.21	<4.2	<0.18	<0.28	<0.24
Total Tetrachlorodibenzo-p-dioxin	pg/g wwt	<0.35	<0.26	<0.19	<0.48	nc	<0.33	<0.17	<0.28	<0.22	<0.12	nc	<0.25	<0.43	0.18	<2.2	<0.17	<0.26	<0.14
Total Pentachlorodibenzofuran	pg/g wwt	<0.24	<0.18	<0.13	<0.39	nc	<0.15	<0.093	<0.095	<0.12	0.093	nc	0.18	<0.31	<0.12	<1.3	<0.16	<0.19	<0.20
Total Pentachlorodibenzo-p-dioxin	pg/g wwt	<0.25	<0.11	0.40	<0.21	nc	<0.37	<0.13	<0.24	<0.13	<0.11	nc	<0.18	<0.19	<0.14	<1.4	0.24	<0.16	0.59
Total Hexachlorodibenzofuran	pg/g wwt	<0.37	<0.25	<0.26	<0.51	nc	<0.43	<0.18	<0.25	<0.19	0.25	nc	<0.27	<0.57	<0.19	<2.2	<0.29	<0.34	<0.28
Total Hexachlorodibenzo-p-dioxin	pg/g wwt	<0.35	<0.16	1.18	1.00	nc	1.48	<0.19	<0.16	1.17	<0.17	nc	<0.21	<0.43	1.33	<1.2	0.49	0.56	<0.22
Total Heptachlorodibenzofuran	pg/g wwt	<0.32	0.25	<0.21	<0.68	nc	<0.39	<0.22	<0.34	<0.15	<0.26	nc	<0.25	<0.37	<0.17	<1.8	<0.32	<0.32	<0.22
Total Heptachlorodibenzo-p-dioxin	pg/g wwt	1.53	0.56	1.22	<0.85	nc	1.43	0.49	<0.25	2.77	1.02	nc	1.56	1.11	1.15	<1.7	0.56	1.68	1.75
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g wwt	0.146	0.00847	0.0704	0.00160	**191%**	0.0179	0.00545	0.303	0.0164	0.0119	32%	0.00116	0.0125	0.000123	0.00179	0.00559	0.00125	0.0193
Mid Point PCDD/F TEQ (WHO 2005)	pg/g wwt	0.603	0.437	0.357	0.581	**48%**	0.610	0.237	0.645	0.334	0.199	**51%**	0.375	0.551	0.239	2.73	0.285	0.390	0.282
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g wwt	1.05	0.716	0.634	1.16	**59%**	1.12	0.469	0.987	0.569	0.382	39%	0.686	1.08	0.477	5.45	0.563	0.721	0.541

See notes on last page

Table C-2a
Summary of Natural Grass 2016 Organic Analytical Results
Lambton Facility 2017 Annual Landfill Report Biomonitoring Program
2016 Field Year

Sample Location		E1	E2	E5			E6	N2	N4	N5			S1	S2	S4	S5	S7	W2	W4
Sample Date		12-Oct-16	29-Sep-16	12-Oct-16	12-Oct-16		29-Sep-16	28-Sep-16	28-Sep-16	29-Sep-16	29-Sep-16		11-Oct-16	11-Oct-16	28-Sep-16	12-Oct-16	14-Sep-16	29-Sep-16	12-Oct-16
Sample ID		16-E1-NG-CH-039	16-E2-NG-CH-049	16-E5-NG-CH-055	16-D15-NG-CH-200		16-E6-NG-CH-061	16-N2-NG-CH-019	16-N4-NG-CH-025	16-N5-NG-CH-035	16-D3-NG-CH-105		16-S1-NG-CH-069	16-S2-NG-CH-075	16-S4-NG-CH-093	16-S5-NG-CH-099	16-S7-NG-CH-085	16-W2-NG-CH-003	16-W4-NG-CH-009
Sampling Company		STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM
Laboratory Work Order		L1862212	L1862212	L1862212	L1862212		L1862212	L1862212	L1862212	L1862212	L1862212		L1862212	L1862212	L1862212	L1862212	L1862212	L1862212	L1862212
Laboratory Sample ID		L1862212-18	L1862212-22	L1862212-24	L1862212-51		L1862212-27	L1862212-9	L1862212-12	L1862212-16	L1862212-46		L1862212-30	L1862212-33	L1862212-37	L1862212-40	L1862212-44	L1862212-2	L1862212-5
Sample Type	Units				Field Duplicate	RPD (%)					Field Duplicate	RPD (%)							
Organochlorinated pesticides (OCP)																			
Aldrin	ng/g	<0.0051	<0.0073	<0.0044	0.036 XM JA	nc	0.0166 JA	<0.0072	<0.00078	<0.0025	<0.0050	nc	<0.0062	0.028 XM JA EN	<0.0078	<0.060	<0.0095	<0.019	<0.0045
BHC, alpha-	ng/g	0.028 JA EN	<0.028	<0.018	<0.069	nc	0.038 JA EN	<0.020	<0.0031	0.0220 XM JA EN	<0.047	nc	<0.024	<0.14	<0.043	<0.33	<0.066	<0.12	<0.019
BHC, beta-	ng/g	<0.040	<0.047	<0.028	<0.12	nc	0.026 XM JA EN	<0.032	<0.0050	<0.016	<0.081	nc	<0.038	<0.24	<0.074	<0.56	<0.11	<0.18	<0.031
BHC, delta-	ng/g	<0.034	<0.041	<0.024	<0.11	nc	<0.019	<0.028	<0.0044	<0.014	<0.063	nc	<0.034	<0.21	<0.060	<0.46	<0.091	<0.16	<0.027
Chlordane, alpha-	ng/g	0.139 XM JA	<0.081	<0.044	<0.081 XM	nc	0.084 XM JA EN	0.056 XM JA EN	0.0073 XM JA	0.032 XM JA EN	0.081 XM JA	nc	0.096 XM JA EN	<0.14	0.127 XM JA	0.37 XM JA EN	0.128 XM JA	<0.11	0.098 XM JA EN
Chlordane, trans- (gamma-Chlordane)	ng/g	0.093 XM JA	<0.083	<0.047	<0.087	nc	0.110 XM JA EN	<0.037 XM	<0.0045	<0.026	<0.038	nc	0.083 XM JA	0.18 XM JA	<0.046	<0.36	<0.091	<0.12	0.068 XM JA
DDD (p,p'-DDD)	ng/g	<0.21	<0.34	<0.29	<0.33	nc	<0.16	<0.23	<0.026	<0.027	<0.20	nc	<0.29	<0.32	<0.37	<0.81	<0.19	<0.56	<0.14
DDE (p,p'-DDE)	ng/g	0.335 XM JA	<0.086	0.180 JA	0.22 JA	nc	0.262 JA	0.153 XM JA	0.0152 JA	0.167 XM JA	0.155 JA	nc	0.304 XM JA	<0.19	0.243 XM JA	0.81 XM JA	0.200 XM JA EN	<0.27	0.345 XM JA
DDT (p,p'-DDT)	ng/g	<0.53	<0.76	<0.40	<0.50	nc	<0.60	<0.29	<0.079	<0.091	<0.27	nc	<0.80	<0.54	<0.53	<1.8	<0.61	<1.4	<0.27
Dieldrin	ng/g	0.277 JA	<0.072	0.133 JA	0.150 XM JA EN	nc	0.269 JA	0.133 JA	0.0129 XM JA	0.095 JA	0.110 JA EN	nc	0.295 JA	0.230 XM JA EN	0.281 JA	0.53 XM JA EN	0.236 JA	0.266 XM JA	0.260 XM JA EN
Endosulfan I	ng/g	<0.064	<0.24	<0.11	<0.14	nc	<0.11	<0.054	<0.011	<0.023	<0.17	nc	<0.12	<0.22	<0.093	<0.43	<0.14	<0.24	<0.11
Endosulfan II	ng/g	<0.12	<0.63	<0.22	<0.21	nc	<0.10	<0.12	<0.013	0.055 XM JA EN	<0.14	nc	<0.18	<0.30	<0.14	<0.93	<0.16	<0.26	<0.12
Endosulfan Sulfate	ng/g	0.110 XM JA	<0.072	<0.040 XM	<0.066	nc	0.100 XM JA EN	0.038 XM JA EN	<0.0048	0.0403 XM JA	0.215 XM JA	nc	<0.078	0.341 XM JA	<0.085	0.87 XM JA	0.130 XM JA EN	<0.037	0.100 XM JA
Endrin	ng/g	<0.10 XM	<0.15	0.063 XM JA EN	0.13 XM JA EN	nc	0.085 XM JA EN	<0.028	<0.0050 XM	<0.027 XM	<0.047 XM	nc	0.075 XM JA EN	0.17 XM JA EN	<0.049	0.33 XM JA EN	<0.051 XM	<0.14	0.065 XM JA EN
Endrin Aldehyde	ng/g	<0.033	0.37 XM JA	<0.037 XM	<0.039	nc	0.023 XM JA EN	<0.020	0.0046 XM JA EN	<0.011	<0.027	nc	<0.028	0.341 XM JA	<0.027	<0.13	<0.025	<0.071	0.036 XM JA EN
Heptachlor	ng/g	0.0059 XM JA EN	<0.0068 XM	0.0061 XM JA EN	0.0260 XM JA EN	nc	0.0130 XM JA EN	0.0110 XM JA EN	0.00110 XM JA EN	0.0069 XM JA EN	0.0069 XM JA EN	nc	0.0150 XM JA EN	0.027 XM JA EN	0.0120 XM JA EN	0.065 XM JA EN	0.0150 XM JA EN	<0.018	0.0060 XM JA EN
Heptachlor Epoxide	ng/g	0.0636 JA	<0.015	0.0374 XM JA	0.069 XM JA	nc	0.0664 JA	0.0482 JA	0.0045 XM JA	0.0259 XM JA	0.0402 XM JA	**43%**	0.0737 JA	<0.033	0.042 JA EN	0.216 XM JA	0.057 JA	0.059 XM JA EN	0.0545 JA
Lindane (Hexachlorocyclohexane, gamma)	ng/g	<0.032 XM	<0.039	<0.022	<0.094	nc	0.019 XM JA EN	<0.026	<0.0041	0.020 XM JA	<0.056	nc	0.032 XM JA	<0.18	<0.053	<0.40	<0.080	<0.15	<0.025
Methoxychlor (4,4'-Methoxychlor)	ng/g	<0.10	<0.13	<0.14	<0.073	nc	<0.11	<0.086	<0.011	<0.014	<0.028	nc	<0.17	<0.043	<0.031	<0.052	<0.040	<0.31	<0.068
Mirex	ng/g	0.032 XM JA EN	<0.024 XM	0.028 XM JA EN	0.045 XM JA EN	nc	0.0200 XM JA EN	0.0200 XM JA EN	0.0038 XM JA EN	0.0064 XM JA EN	0.0270 XM JA EN	nc	0.019 XM JA EN	0.210 JA EN	0.093 JA EN	0.230 JA EN	0.0520 XM JA EN	0.028 XM JA EN	0.0230 XM JA EN
PARLAR 26	ng/g	<0.25	<1.4	<0.31	<0.59	nc	<0.33	<0.21	<0.039	<0.053	<0.33	nc	<0.37	<0.49	<0.61	<1.3	<0.55	<1.4	<0.24
PARLAR 50	ng/g	<0.20	<1.1	<0.33	<0.51	nc	<0.42	<0.22	<0.026	<0.052	<0.24	nc	<0.39	<0.45	<0.33	<0.82	<0.39	<0.68	<0.19
PARLAR 62	ng/g	<0.29	<1.5	<0.47	<1.1	nc	<0.61	<0.32	<0.037	<0.076	<0.51	nc	<0.56	<0.94	<0.69	<1.7	<0.80	<0.86	<0.28
Polychlorinated biphenyls (PCB)																			
Polychlorinated Biphenyls (PCBs)	mg/kg	<0.050	<0.050	<0.050	<0.050	nc	<0.050	<0.050	<0.050	<0.050	<0.050	nc	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Notes:

15.2	Concentration was detected.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
-	Parameter not analyzed / not available.
B	Indicates analyte was found in associated blank, as well as in the sample.
EN	The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum
JA	Analyte was detected below the calibrated range but above the detection limit.
XM	A peak has been manually integrated.
RPD	Relative Percent Difference
nc	RPD is not calculable if either of the concentrations were less than 5 times the MDL.
42.00%	RPD exceeds cut-off criteria of 40%

The formula used to determine the RPD from the mean between two samples, the original and the duplicate, is the absolute value of the following:

$$RPD = 100\% \times \frac{C_{original} - C_{dup}}{\frac{1}{2}(C_{original} + C_{dup})}$$

Table C-2b
Summary of Soil 2016 Organic Analytical Results
Lambton Facility 2017 Annual Landfill Report Biomonitoring Program
2016 Field Year

Sample Location					E1	E2	E5	E6		N2	N4	N5	S1	S2	S4	S5	S7	W2				W4	
Sample Date					12-Oct-16	29-Sep-16	12-Oct-16	29-Sep-16	8-Mar-17	28-Sep-16	11-Oct-16	29-Sep-16	11-Oct-16	11-Oct-16	28-Sep-16	12-Oct-16	14-Sep-16	18-Jul-16	18-Jul-16		28-Jan-17	12-Oct-16	9-Feb-17
Sample ID					16-E1-SS-CH-037	16-E2-SS-CH-043	16-E5-SS-CH-053	16-E6-SS-CH-059	16-E6-SS-CH-059 (LR)	16-N2-SS-CH-013	16-N4-SS-CH-023	16-N5-SS-CH-029	16-S1-SS-CH-063	16-S2-SS-CH-073	16-S4-SS-CH-087	16-S5-SS-CH-097	16-S7-SS-CH-079	16-W2-SS-CH-001	16-D1-SS-CH-103		16-W2-SS-CH-001 (LR)	16-W4-SS-CH-007	16-W4-SS-CH-007 (LR)
Sample Depth					15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm	15 cm		15 cm	15 cm	15 cm
Sampling Company					STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC			STANTEC	
Laboratory					ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM	ALS-EDM	ALS-EDM
Laboratory Work Order					L1862212	L1862212	L1862212	L1862212	WG2462492-4	L1862212	L1862212	L1862212	L1862212	L1862212	L1862212	L1862212	L1862212	L1862212	L1862212		WG2462490-4	L1862212	WG2462491-4
Laboratory Sample ID		Ontario SCS Table 1Agr	Rural OTR	Rural ULN	L1862212-17	L1862212-20	L1862212-23	L1862212-26	Lab Replicate	L1862212-7	L1862212-11	L1862212-14	L1862212-28	L1862212-32	L1862212-35	L1862212-39	L1862212-42	L1862212-1	L1862212-45	RPD	Lab Replicate	L1862212-4	Lab Replicate
Sample Type	Units	A	B	C															Field Duplicate	(%)			
General Chemistry																							
Moisture Content	%	n/v	n/v	n/v	12.6	19.8	17.5	17.4	-	20.3	16.2	19.9	16.5	14.6	23.4	15.7	23.4	15.6	16.2	4%	-	21.1	-
Dioxins/Furans (PCDD/DF)																							
Tetrachlorodibenzofuran, 2,3,7,8-	pg/g	n/v	n/v	n/v	0.39 XM JA	0.408 XM JA	0.284 JA	0.228 XM JA	-	0.356 JA	0.329 XM JA	0.269 XM JA	0.347 XM JA	0.40 XM JA	0.340 XM JA EN	0.335 XM JA	0.250 XM JA EN	0.38 XM JA	0.365 XM JA	nc	0.408 XM JA	0.670 XM	-
Tetrachlorodibenzo-p-Dioxin, 2,3,7,8-	pg/g	n/v	0.9	n/v	0.151 XM JA	0.389 XM JA	0.194 XM JA	0.169 XM JA	-	0.202 XM JA	0.680	0.229 JA	0.401 XM JA	0.39 XM JA	0.141 XM JA	0.289 XM JA	0.227 XM JA	0.190 XM JA EN	0.248 JA	nc	0.257 XM JA	0.536 XM JA	-
Pentachlorodibenzofuran, 1,2,3,7,8-	pg/g	n/v	n/v	n/v	0.19 JA B	0.182 JA B	0.162 JA B	0.120 JA B	-	0.127 XM JA B	0.130 XM JA B	0.206 JA B	0.155 XM JA B	0.24 JA B	0.183 XM JA B	0.170 XM JA EN	0.140 JA EN	0.217 XM JA B	0.178 XM JA B	nc	0.191 JA B	0.234 JA B	-
Pentachlorodibenzofuran, 2,3,4,7,8-	pg/g	n/v	n/v	n/v	0.32 JA B	0.325 JA B	0.301 JA B	0.258 JA B	-	0.325 JA B	0.327 XM JA B	0.354 JA B	0.383 JA B	0.46 JA B	0.410 XM JA B	0.385 XM JA B	0.270 XM JA EN	0.575 JA B	0.569 JA B	1%	0.569 JA B	0.599 JA B	-
Pentachlorodibenzo-p-Dioxin, 1,2,3,7,8-	pg/g	n/v	n/v	n/v	0.068 XM JA EN	0.190 XM JA EN	0.220 JA EN	0.140 JA EN	-	0.165 XM JA B	0.160 XM JA EN	0.188 XM JA B	0.250 XM JA B	0.160 XM JA EN	0.216 JA B	0.190 XM JA EN	0.16 XM JA B	0.210 JA EN	0.192 JA B	nc	0.190 JA EN	0.293 XM JA B	-
Octachlorodibenzofuran	pg/g	n/v	n/v	n/v	3.22 JA	1.41 JA B	1.49 JA B	3.24 JA	-	1.48 JA B	1.42 XM JA B	17.4	1.97 JA B	1.35 XM JA B	2.02 XM JA B	1.79 JA B	1.99 JA B	2.17 JA B	2.27 JA B	5%	2.14 JA B	12.7	-
Octachlorodibenzo-p-dioxin	pg/g	n/v	n/v	n/v	35.0	29.1	26.1	41.5	-	21.6	18.7	98.2	34.9	20.4	31.1	21.4	31.2	32.9	36.3	10%	32.1	112	-
Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	pg/g	n/v	n/v	n/v	2.89	1.35 JA	1.41 JA	2.18 JA	-	1.30 JA	1.20 JA	8.98	1.73 JA	1.50 JA	1.59 JA	1.77 JA	1.78 JA	2.07 JA	2.09 JA	1%	1.95 JA	7.53	-
Heptachlorodibenzofuran, 1,2,3,4,7,8,9-	pg/g	n/v	n/v	n/v	0.120 JA EN	0.130 JA EN	0.107 XM JA	0.180 XM JA EN	-	0.151 JA	0.063 XM JA EN	0.368 JA	0.164 JA	0.101 XM JA	0.099 JA EN	0.173 XM JA	0.142 XM JA	0.183 JA	0.152 XM JA	nc	0.170 JA	0.474 JA	-
Heptachlorodibenzo-p-Dioxin, 1,2,3,4,6,7,8-	pg/g	n/v	n/v	n/v	4.85	5.50	4.08	5.93	-	4.04	3.56	11.0	6.23	4.33	5.60	4.08	5.14	5.68	6.73	17%	6.00	26.0	-
Hexachlorodibenzofuran, 1,2,3,4,7,8-	pg/g	n/v	n/v	n/v	0.484 XM JA B	0.282 JA B	0.230 JA B	0.446 JA B	-	0.291 XM JA B	0.274 XM JA B	0.959 JA B	0.346 JA B	0.300 XM JA EN	0.314 JA B	0.419 XM JA B	0.330 JA EN	0.371 XM JA B	0.391 JA B	5%	0.376 XM JA B	0.479 XM JA B	-
Hexachlorodibenzofuran, 1,2,3,6,7,8-	pg/g	n/v	n/v	n/v	<0.086 XM	0.120 JA EN	0.195 JA	0.319 JA	-	0.130 XM JA EN	0.140 JA EN	0.445 JA	0.256 XM JA	0.367 XM JA	0.200 XM JA EN	0.292 XM JA	0.360 XM JA EN	0.407 XM JA	0.252 JA	**47%**	0.446 XM JA	0.500 XM JA	-
Hexachlorodibenzofuran, 1,2,3,7,8,9-	pg/g	n/v	n/v	n/v	<0.13	<0.082	0.077 XM JA	<0.079 XM	-	0.090 XM JA	0.060 XM JA	0.110 XM JA EN	<0.071	<0.13 XM	<0.12	<0.12 XM	<0.084 XM	0.110 XM JA EN	0.111 XM JA	nc	0.110 XM JA EN	0.149 XM JA	-
Hexachlorodibenzofuran, 2,3,4,6,7,8-	pg/g	n/v	n/v	n/v	0.310 XM JA EN	0.289 JA B	0.246 JA B	0.231 JA B	-	0.270 XM JA EN	0.222 JA B	0.545 JA B	0.260 XM JA EN	0.270 JA B	0.359 JA B	0.272 XM JA B	0.298 JA B	0.437 XM JA B	0.398 JA B	9%	0.426 JA B	0.660 JA B	-
Hexachlorodibenzo-p-Dioxin, 1,2,3,4,7,8-	pg/g	n/v	n/v	n/v	0.145 XM JA B	0.160 XM JA EN	0.110 XM JA EN	0.120 JA EN	-	0.140 XM JA EN	0.120 JA EN	0.110 JA EN	0.160 XM JA EN	<0.11 XM	0.120 XM JA EN	0.120 XM JA EN	0.17 XM JA B	0.170 XM JA EN	0.17 JA B	nc	0.190 XM JA EN	0.323 XM JA B	-
Hexachlorodibenzo-p-Dioxin, 1,2,3,6,7,8-	pg/g	n/v	n/v	n/v	0.250 XM JA EN	0.343 XM JA	0.267 JA	0.366 XM JA	-	0.303 JA	0.250 JA EN	0.508 JA	0.342 XM JA	0.38 XM JA	0.336 XM JA	0.250 XM JA EN	0.31 XM JA	0.330 XM JA EN	0.38 JA	nc	0.376 JA	1.27 XM JA	-
Hexachlorodibenzo-p-Dioxin, 1,2,3,7,8,9-	pg/g	n/v	n/v	n/v	0.328 XM JA	0.417 XM JA	0.325 JA	0.370 JA EN	-	0.336 XM JA	0.316 JA	0.426 XM JA	0.380 XM JA	0.35 XM JA EN	0.300 XM JA EN	0.237 XM JA	0.28 XM JA EN	0.432 XM JA	0.38 XM JA EN	nc	0.423 XM JA	0.987 XM JA	-
Total Tetrachlorodibenzofuran	pg/g	n/v	12	n/v	3.59	4.21	3.82	3.89	-	6.13	6.08	4.61	5.40	5.73	4.59	4.59	2.07	4.80	7.11	39%	5.88	9.92	-
Total Tetrachlorodibenzo-p-dioxin	pg/g	n/v	6.6	n/v	0.816	3.19	1.15	1.12	-	1.00	4.17	2.78	1.42	2.21	1.43	1.64	1.85	1.07	1.54	36%	1.43	2.46	-
Total Pentachlorodibenzofuran	pg/g	n/v	19	n/v	2.70	4.20	4.02	3.09	-	3.42	3.17	4.19	4.57	6.05	5.08	4.97	2.22	7.18	9.03	23%	8.32	6.94	-
Total Pentachlorodibenzo-p-dioxin	pg/g	n/v	16	n/v	1.48	3.39	2.03	1.93	-	2.08	4.67	3.39	2.87	2.78	1.51	3.05	1.30	1.62	2.22	31%	2.58	2.63	-
Total Hexachlorodibenzofuran	pg/g	n/v	28	n/v	2.32	2.16	2.46	2.56	-	2.30	2.25	5.83	2.83	2.89	2.92	3.34	1.74	4.69	4.62	2%	4.38	9.01	-
Total Hexachlorodibenzo-p-dioxin	pg/g	n/v	13	n/v	3.04	4.58	4.42	4.10	-	4.38	4.11	3.03	4.57	1.97	3.52	4.10	4.44	5.06	5.46	8%	5.67	10.3	-
Total Heptachlorodibenzofuran	pg/g	n/v	32	n/v	3.98	1.94	2.16	3.27	-	2.32	1.31	14.2	3.08	1.60	2.71	2.08	2.93	3.38	3.29	3%	3.16	16.9	-
Total Heptachlorodibenzo-p-dioxin	pg/g	n/v	55	n/v	10.2	10.6	8.47	11.7	-	8.09	7.33	23.6	11.8	8.57	10.6	8.36	10.3	11.1	12.7	13%	11.6	41.2	-
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	7	4.8	n/v	0.474	0.744	0.516	0.504	-	0.668	0.956	1.08	1.03	0.737	0.668	0.627	0.544	0.472	0.923	**65%**	-	1.90	-
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	7	4.8	n/v	0.610	0.967	0.747	0.698	-	0.722	1.17	1.10	1.08	0.974	0.771	0.865	0.755	0.933	0.961	3%	-	1.90	-
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	7	4.8	n/v	0.621	0.971	0.747	0.702	-	0.722	1.17	1.10	1.08	0.986	0.777	0.871	0.759	0.933	0.961	3%	-	1.90	-
Organochlorinated pesticides (OCP)																							
Aldrin	ng/g	50	1_p	n/v	<0.0032	<0.0019	<0.0024	0.00100 JA EN	0.00181 JA	<0.0023	<0.0018	0.0100 JA EN	<0.00023	0.00115 JA	<0.00028	<0.00024	0.00128 XM JA	<0.0035	<0.00037	nc	-	<0.0025	<0.003
BHC, alpha-	ng/g	n/v	n/v	n/v	<0.011	<0.011	<0.011	0.0099 JA EN	0.0079 XM JA EN	<0.017	<0.011	0.040 JA	<0.0019 XM	0.0040 JA EN	<0.0023	0.0029 JA EN	0.0086 JA EN	<0.021	<0.0019	nc	-	<0.018	<0.016
BHC, beta-	ng/g	n/v	n/v	n/v	<0.018	<0.019	<0.019	<0.0041	<0.004	<0.029	<0.019	<0.017	<0.0034	<0.0031	<0.0042	<0.0033	0.0051 XM JA	<0.035	<0.0034	nc	-	<0.031	<0.026
BHC, delta-	ng/g	n/v	n/v	n/v	<0.016	<0.014	<0.016	<0.0031	<0.003	<0.023	<0.015	<0.014	<0.0024	<0.0022	<0.0028	<0.0024	<0.0032	<0.026	<0.0026	nc	-	<0.026	<0.021
Chlordane, alpha-	ng/g	n/v	2_p	n/v	<0.0095 XM	0.0100 XM JA EN	<0.012	0.0130 XM JA EN	0.0163 JA	<0.018	0.024 XM JA EN	0.051 XM JA	0.0147 JA	0.0144 XM JA	0.0231 JA	0.0181 XM JA	0.0179 XM JA	<0.012	0.0130 XM JA	nc	-	0.028 XM JA EN	0.034 XM JA EN
Chlordane, trans- (gamma-Chlordane)	ng/g	n/v	n/v	n/v	<0.010	0.017 XM JA	<0.013	0.0174 XM JA	0.0362 XM JA	<0.019	0.026 XM JA	0.051 JA	0.0147 JA	0.0092 XM JA	0.0096 XM JA	0.0158 JA	0.0263 JA	<0.012	0.0088 XM JA EN	nc	-	<0.017	<0.013
DDD (p,p'-DDD)	ng/g	50	n/v	n/v	<0.015	0.0098 XM JA	<0.013	0.0414 XM JA	0.0380 JA	<0.010	0.038 JA	0.122 JA	0.0150 JA EN	0.0149 JA	0.0263 JA	0.0150 JA EN	0.0200 JA EN	<0.0050	0.0079 JA EN	nc	-	0.0190 JA EN	0.0200 JA EN
DDE (p,p'-DDE)	ng/g	50	n/v	n/v	0.215	0.221	0.106 JA	0.265	0.262	0.188	0.353	0.555	0.387	0.507	0.419	0.373	0.332	0.145	0.234	**47%**	-	0.262	0.240
DDT (p,p'-DDT)	ng/g	78	75	n/v	0.256 XM JA	0.150 XM JA EN	0.121 XM JA	0.310	0.301 XM	0.210 JA EN	0.353 XM JA	1.07	0.269	0.577	0.354	0.379	0.387	0.163 XM JA	0.286 XM	**55%**	-	0.472 JA	0.445 JA
Dieldrin	ng/g	50	4_p	n/v	0.0190 XM JA	0.0294 XM JA	0.0228 XM JA	0.0246 JA	0.0265 JA	0.0355 XM JA	0.0655 JA	0.0549 XM JA	0.0388 JA	0.0362 JA	0.0366 JA	0.0357 JA	0.0359 JA	0.0196 XM JA	0.0265 JA	nc	-	0.121 JA	0.122 JA
Endosulfan I	ng/g	n/v	n/v	n/v	<0.014	<0.022	<0.017	<0.0039	<0.0053	<0.015	<0.014	<0.016	<0.0039	<0.0029 XM	<0.0026	<0.0029	0.0141 XM JA	<0.015	<0.0051	nc	-	<0.017	<0.017
Endosulfan II	ng/g	n/v	n/v	n/v	<0.031	<0.039	<0.025	0.0138 XM JA	<0.0091	<0.027	<0.030	<0.037	0.0050 XM JA EN	0.0086 XM JA	<0.010 XM	0.0134 XM JA	0.0150 XM JA EN	<0.035	0.021 XM JA	nc	-	<0.025	<0.035
Endosulfan Sulfate	ng/g	n/v	n/v	n/v	<0.0082	<0.0035	<0.0061	<0.0015	<0.0024	<0.0035	<0.0073	<0.0099	<0.0013	0.0040 XM JA	0.00270 XM JA EN	<0.0016	<0.0014	<0.0065	<0.0030	nc	-	<0.010	<0.0062
Endrin	ng/g	40	4_p	n/v	<0.0090	<0.013	<0.014	0.0095 XM JA EN	0.0099 JA EN	<0.010 XM	<0.0081 XM	<0.013 XM	0.0095 XM JA EN	0.0086 XM JA EN	0.0082 XM JA EN	0.0068 XM JA EN	0.0074 XM JA EN	<0.011	0.0077 XM JA EN	nc	-	<0.011 XM	<0.012 XM
Endrin Aldehyde	ng/g	n/v	n/v	n/v	<0.0050	<0.0093	<0.0077	<0.0013	<0.0018	<0.0067	<0.0077	<0.0072	<0.0020	<0.0014	<0.0019	<0.0025	<0.0024	<0.0048	<0.0018	nc	-	<0.0094	<0.0068
Heptachlor	ng/g	50	1_p	n/v	<0.0022	<0.0020	<0.0023	0.00260 XM JA EN	0.00280 XM JA EN	<0.0037	<0.0022	0.0042 XM JA EN	0.00190 XM JA EN	0.00150 XM JA EN	0.00140 XM JA EN	0.00130 XM JA EN	0.00280 XM JA EN	<0.0018	0.00130 XM JA EN	nc	-	<0.0019	<0.0024
Heptachlor Epoxide	ng/g	50	1_p	n/v	0.0123 XM JA	0.0140 JA EN	0.0114 XM JA	0.0192 JA	0.0211 JA	0.0147 JA	0.0321 JA	0.0179 JA	0.0176 JA	0.0253 JA	0.0205 JA	0.0187 JA	0.00962 XM JA	0.0109 XM JA	0.0165 JA	nc	-	0.0376 JA	0.0379 JA
Lindane (Hexachlorocyclohexane, gamma)	ng/g	10	1_p	n/v	<0.015	<0.013	<0.015	0.0732 JA	0.0814 JA	<0.022	<0.014	0.109 JA	0.0106 JA	0.0161 JA	<0.0027	0.0083 XM JA EN	0.0942 JA	<0.025	0.0112 XM JA	nc	-	<0.024	<0.02
Methoxychlor (4,4'-Methoxychlor)	ng/g	50	5_p	n/v	<0.011	<0.015	<0.018	<0.0037	<0.0064	<0.0041	<0.012	<0.016	<0.0026	<0.0037	<0.0032	<0.0037	<0.0089	<0.0023	<0.0058	nc	-	<0.0028	<0.0036
Mirex	ng/g	n/v	n/v	n/v	0.0032 XM JA EN	0.0042 XM JA EN	0.0057 XM JA EN	0.0130 JA EN	0.0150 JA EN	0.0042 XM JA EN	<0.0059 XM	0.0087 XM JA EN	0.00550 JA EN	0.00560 JA EN	0.00390 JA EN	0.00390 JA EN	0.00810 JA EN	0.0063 JA EN	0.0087 JA EN	32%	-	0.0052 JA EN	0.0056 XM JA EN
PARLAR 26	ng/g	n/v	n/v	n/v	<0.14	<0.087	<0.11	0.102 XM JA	0.100 JA	<0.15	<0.16	<0.13	0.054 XM JA	0.022 XM JA EN	0.035 JA	0.053 XM JA EN	0.086 XM JA EN	<0.037	0.078 XM JA	nc	-	<0.057	<0.15
PARLAR 50	ng/g	n/v	n/v	n/v	<0.10	<0.070	<0.079	<0.041	<0.061	<0.065	<0.095	<0.066	<0.026	<0.016	<0.017	<0.039 XM	<0.051	<0.028	<0.072	nc	-	<0.039	<0.086
PARLAR 62	ng/g	n/v	n/v	n/v	<0.13	<0.087	<0.099	<0.066	<0.098	<0.081	<0.12	<0.083	<0.042	<0.026	<0.028	<0.062	<0.082	<0.034	<0.12	nc	-	<0.048	<0.11
Polychlorinated biphenyls (PCB)																							
Polychlorinated Biphenyls (PCBs)	mg/kg	0.3_{14}	0.015_p	n/v	***<0.020***	***<0.020***	***<0.020***	***<0.020***	-	***<0.020***	***<0.020***	***<0.020***	***<0.020***	***<0.020***	***<0.020***	***<0.020***	***<0.020***	***<0.020***	***<0.020***	nc	-	***<0.020***	-

See notes on last page

Table C-2b
Summary of Soil 2016 Organic Analytical Results
Lambton Facility 2017 Annual Landfill Report Biomonitoring Program
2016 Field Year

Notes:

Ontario SCS	Soil, Ground Water and Sediment Standards for Use under Part XV.I of the Environmental Protection Act (MOE, 2011)
A	Table 1 - Agricultural or Other Property Use
MOE	Ontario Ministry of the Environment
B	Ontario Typical Range (OTR) values for Rural Parks, Ontario Ministry of Environment and Energy (OMEE, 1993)
C	Ontario Ministry of the Environment Rural "upper limit of normal" contaminant guidelines for phytotoxicology samples (1989)
6.5[A]	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
<0.50	Laboratory reporting limit was greater than the applicable standard.
<0.03	Analyte was not detected at a ‹ Units
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
p	Provisional
s14	Standard is applicable to total PCBs, and the individual Aroclors should be added for comparison.
B	Indicates analyte was found in associated blank, as well as in the sample.
EN	The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum
JA	Analyte was detected below the calibrated range but above the detection limit.
XM	A peak has been manually integrated.
RPD	Relative Percent Difference
nc	RPD is not calculable if either of the concentrations were less than 5 times the MDL.
42.00%	RPD exceeds cut-off criteria of 40% The formula used to determine the RPD from the mean between two samples, the original and the duplicate, is the absolute value of the following:

$$RPD = 100\% \times \frac{C_{original} - C_{dup}}{\frac{1}{2}(C_{original} + C_{dup})}$$

Table C-2c
Summary of Sediment 2016 Analytical Results
Lambton Facility 2017 Annual Landfill Report Biomonitoring Program
2016 Field Year

Sample Location					E2	N2	N5			S1	S4	S7
Sample Date					29-Sep-16	28-Sep-16	29-Sep-16	29-Sep-16		11-Oct-16	28-Sep-16	14-Sep-16
Sample ID					16-E2-SD-CH-045	16-N2-SD-CH-015	16-N5-SD-CH-031	16-D4-SD-CH-106		16-S1-SD-CH-065	16-S4-SD-CH-089	16-S7-SD-CH-081
Sampling Company					STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC
Laboratory					ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM	ALS-EDM	ALS-EDM
Laboratory Work Order					L1862212	L1862212	L1862212	L1862212		L1862212	L1862212	L1862212
Laboratory Sample ID		Ontario SCS	PSQG		L1862212-21	L1862212-8	L1862212-15	L1862212-47	RPD	L1862212-29	L1862212-36	L1862212-43
Sample Type	Units	Table 1 A	Table 1 - LEL B	Table 2 - LEL C				Field Duplicate	(%)			
General Chemistry												
Moisture Content	%	n/v	n/v	n/v	32.1	57.1	58.2	46.8	22%	27.4	31.5	30.2
Organochlorinated pesticides (OCP)												
Aldrin	ng/g	2	n/v	2	<0.0037	<0.0044	<0.0048	0.00651 JA	nc	0.00052 XM JA EN	<0.00028	0.00072 JA
BHC, alpha-	ng/g	n/v	n/v	6	<0.014	<0.024	<0.027	0.0450 JA EN	nc	0.0028 JA EN	<0.0025	0.0065 JA EN
BHC, beta-	ng/g	n/v	n/v	5	<0.024	<0.040	<0.045	0.0511 JA	nc	<0.0037	<0.0045	0.0157 JA
BHC, delta-	ng/g	n/v	n/v	n/v	<0.019	<0.033	<0.035	<0.0045	nc	<0.0029	<0.0032	<0.0024
Chlordane, alpha-	ng/g	n/v	n/v	n/v	<0.023	<0.020	0.082 XM JA EN	0.166 JA	nc	0.0076 XM JA EN	0.0095 XM JA EN	0.0157 JA
Chlordane, trans- (gamma-Chlordane)	ng/g	n/v	n/v	n/v	<0.024	<0.021	0.076 XM JA EN	0.187 JA	nc	0.0109 XM JA	0.0051 XM JA EN	0.0160 JA EN
DDD (p,p'-DDD)	ng/g	8	n/v	8	0.020 JA EN	0.069 JA EN	0.591	1.51	**87%**	0.0732 JA	0.0380 JA EN	0.0815 JA
DDE (p,p'-DDE)	ng/g	5	n/v	5	0.0575 JA	0.246	0.493	1.34	**92%**	0.189	0.158	0.257
DDT (p,p'-DDT)	ng/g	7	n/v	7	<0.089	<0.081	<0.11	0.390 XM	nc	0.077 XM JA EN	0.080 XM JA	0.200 EN
Dieldrin	ng/g	2	n/v	2	<0.0099 XM	0.047 JA EN	0.025 XM JA EN	0.0892 JA	nc	0.0260 JA	0.0212 JA	0.0801 JA
Endosulfan I	ng/g	n/v	n/v	n/v	<0.026	<0.033	<0.034	0.031 XM JA	nc	<0.0036	<0.0050	<0.0030
Endosulfan II	ng/g	n/v	n/v	n/v	<0.050	<0.061	<0.087	<0.022	nc	<0.0067	0.0168 XM JA	0.020 XM JA
Endosulfan Sulfate	ng/g	n/v	n/v	n/v	<0.011	<0.0078	<0.0097	0.0074 XM JA	nc	0.0041 XM JA	<0.0021	<0.0017
Endrin	ng/g	3	n/v	3	<0.022 XM	<0.016	0.033 XM JA EN	0.0180 XM JA EN	nc	0.0077 XM JA EN	0.0085 XM JA EN	0.0091 XM JA EN
Endrin Aldehyde	ng/g	n/v	n/v	n/v	<0.014	<0.012	<0.020	<0.0038	nc	<0.0026	<0.0026	<0.0021
Heptachlor	ng/g	n/v	n/v	n/v	<0.0027	<0.0038	<0.0060	0.00920 JA EN	nc	0.00140 XM JA EN	0.00110 XM JA EN	0.00160 XM JA EN
Heptachlor Epoxide	ng/g	5	n/v	5_b	<0.0046	<0.0071	<0.0093	0.00510 XM JA EN	nc	0.00958 XM JA	0.00438 JA	0.0136 JA
Lindane (Hexachlorocyclohexane, gamma)	ng/g	n/v	n/v	3_{ab}	<0.018	<0.031	0.063 XM JA	0.294	nc	0.0109 JA	0.0047 XM JA EN	0.117 JA
Methoxychlor (4,4'-Methoxychlor)	ng/g	n/v	n/v	n/v	<0.051	<0.017	<0.035	<0.032	nc	<0.0073	<0.012	<0.012
Mirex	ng/g	n/v	n/v	7	0.0040 XM JA EN	0.0077 XM JA EN	0.029 XM JA EN	0.0210 JA EN	nc	0.00600 JA EN	0.0051 JA EN	0.0030 XM JA EN
PARLAR 26	ng/g	n/v	n/v	n/v	<0.25	<0.25	<0.58	<0.11	nc	<0.033 XM	<0.062	<0.14
PARLAR 50	ng/g	n/v	n/v	n/v	<0.12	<0.14	<0.48	<0.14	nc	<0.033	<0.053	<0.099
PARLAR 62	ng/g	n/v	n/v	n/v	<0.15	<0.17	<0.60	<0.22	nc	<0.052	<0.084	<0.16
Polychlorinated biphenyls (PCB)												
Polychlorinated Biphenyls (PCBs)	mg/kg	0.07_{s14}	n/v	0.07	<0.020	<0.020	<0.020	<0.020	nc	<0.020	<0.020	<0.020

Notes:

Ontario SCS	Soil, Ground Water and Sediment Standards for Use under Part XV.I of the Environmental Protection Act (MOE, 2011)
A	Table 1 - All Types of Property Uses
PSQG	Ontario Provincial Sediment Quality Guidelines
B	Table 1: PSQG for Metals and Nutrients - Lowest Effect Level
C	Table 2: PSQG for PCBs and Organochlorine Pesticides - Lowest Effect Level
6.5[A]	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
<0.50	Laboratory reporting limit was greater than the applicable standard.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
ab	10% SLC (Screening Level Concentration) (see Section 4.2.4). Denotes tentative guideline.
b	10% SLC (Screening Level Concentration) (see Section 4.2.4).
s14	Standard is applicable to total PCBs, and the individual Aroclors should be added for comparison.
EN	The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum
JA	Analyte was detected below the calibrated range but above the detection limit.
XM	A peak has been manually integrated.
RPD	Relative Percent Difference
nc	RPD is not calculable if either of the concentrations were less than 5 times the MDL.
42.00%	RPD exceeds cut-off criteria of 40%

The formula used to determine the RPD from the mean between two samples, the original and the duplicate, is the absolute value of the following:

$$RPD = 100\% \times \frac{C_{original} - C_{dup}}{\frac{1}{2}(C_{original} + C_{dup})}$$

Table C-2d
Summary of Agricultural Crop 2016 Organic Analytical Results
Lambton Facility 2017 Annual Landfill Report Biomonitoring Program
2016 Field Year

Sample Location		E1	E5	N2			N4			S1	S2	S4	S5	W2			W4
Sample Date		12-Oct-16	12-Oct-16	28-Sep-16	28-Sep-16		11-Oct-16	11-Oct-16		11-Oct-16	11-Oct-16	28-Sep-16	12-Oct-16	18-Jul-16	18-Jul-16		12-Oct-16
Sample ID		16-E1-FC-CH-041	16-E5-FC-CH-057	16-N2-SB-CH-021	16-D5-SB-CH-107		16-N4-FC-CH-027	16-D6-FC-CH-108		16-S1-FC-CH-071	16-S2-FC-CH-077	16-S4-SB-CH-095	16-S5-FC-CH-101	16-W2-WW-CH-005	16-D7-WW-CH-109		16-W4-FC-CH-011
Sampling Company		STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC		STANTEC
Laboratory		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM	ALS-EDM		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM
Laboratory Work Order		L1862212	L1862212	L1862212	L1862212		L1862212	L1862212		L1862212	L1862212	L1862212	L1862212	L1862212	L1862212		L1862212
Laboratory Sample ID		L1862212-19	L1862212-25	L1862212-10	L1862212-48		L1862212-13	L1862212-49		L1862212-31	L1862212-34	L1862212-38	L1862212-41	L1862212-3	L1862212-50		L1862212-6
Sample Type	Units				Field Duplicate	RPD (%)		Field Duplicate	RPD (%)						Field Duplicate	RPD (%)	
General Chemistry																	
Moisture Content	%	22.2	28.6	48.3	41.0	16%	33.6	33.2	1%	26.8	31.8	18.9	31.5	12.2	12.6	3%	25.9
Dioxins/Furans (PCDD/DF)																	
Tetrachlorodibenzofuran, 2,3,7,8-	pg/g wwt	0.124 XM JA	0.058 XM JA EN	0.082 XM JA EN	<0.022	nc	<0.048	<0.020	nc	<0.039	<0.019	<0.057	<0.017	<0.023	<0.036	nc	<0.017
Tetrachlorodibenzo-p-Dioxin, 2,3,7,8-	pg/g wwt	<0.030	<0.023	<0.041	<0.022	nc	<0.024	<0.018	nc	<0.054	<0.015	<0.058	<0.017	<0.024	<0.035	nc	<0.017
Pentachlorodibenzofuran, 1,2,3,7,8-	pg/g wwt	<0.014	<0.015	<0.0091	<0.017	nc	<0.0088	<0.014	nc	<0.042	<0.013	<0.042	<0.011	<0.012	<0.023	nc	<0.0081
Pentachlorodibenzofuran, 2,3,4,7,8-	pg/g wwt	<0.012	<0.012	<0.0084	<0.016	nc	<0.0075	0.018 XM JA EN	nc	<0.038	<0.011	<0.036	<0.0091	<0.012	<0.018	nc	<0.0073
Pentachlorodibenzo-p-Dioxin, 1,2,3,7,8-	pg/g wwt	<0.018	<0.0093	<0.012	<0.013	nc	<0.012	<0.011	nc	<0.027	<0.0086	<0.039	<0.014	<0.017	<0.018	nc	<0.0079
Octachlorodibenzofuran	pg/g wwt	<0.017	<0.013	<0.020	0.108 JA	nc	0.028 XM JA	0.103 JA	nc	0.194 XM JA	0.049 XM JA	0.19 XM JA	0.098 XM JA EN	0.085 JA	0.037 XM JA EN	nc	<0.020
Octachlorodibenzo-p-dioxin	pg/g wwt	0.038 XM JA	0.039 XM JA EN	0.045 XM JA EN	0.220 XM JA EN	nc	0.111 XM JA	0.140 XM JA EN	23%	0.200 XM JA EN	0.029 XM JA EN	0.26 XM JA EN	<0.040 XM	0.303 XM JA	0.268 JA	12%	0.043 XM JA
Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	pg/g wwt	<0.020	<0.018	<0.019	<0.038	nc	<0.016	<0.029	nc	<0.059	<0.024	<0.089	<0.039	0.020 XM JA EN	0.037 XM JA EN	nc	<0.023
Heptachlorodibenzofuran, 1,2,3,4,7,8,9-	pg/g wwt	<0.030	<0.024	<0.029	<0.051	nc	<0.022	<0.036	nc	<0.080	<0.028	<0.13	<0.059	<0.026	<0.035	nc	<0.034
Heptachlorodibenzo-p-Dioxin, 1,2,3,4,6,7,8-	pg/g wwt	<0.024 XM	<0.0094	<0.017	<0.042	nc	0.018 XM JA EN	0.052 XM JA EN	nc	0.069 XM JA EN	<0.033	<0.12	<0.044	0.063 XM JA	0.046 XM JA EN	nc	<0.015
Hexachlorodibenzofuran, 1,2,3,4,7,8-	pg/g wwt	<0.028	<0.025	<0.025	<0.034	nc	<0.022	<0.025 XM	nc	0.046 XM JA EN	<0.023	<0.078	<0.025	<0.020	<0.033	nc	<0.020
Hexachlorodibenzofuran, 1,2,3,6,7,8-	pg/g wwt	<0.028	<0.024	<0.028	<0.034	nc	<0.021	<0.025	nc	<0.036 XM	<0.021	<0.078	<0.026	<0.020	<0.029	nc	<0.020
Hexachlorodibenzofuran, 1,2,3,7,8,9-	pg/g wwt	<0.034	<0.032 XM	<0.036 XM	<0.058	nc	<0.027 XM	<0.037	nc	<0.048	<0.044	<0.13	<0.044	<0.029	<0.044	nc	<0.026 XM
Hexachlorodibenzofuran, 2,3,4,6,7,8-	pg/g wwt	<0.026	<0.023	<0.027	<0.037	nc	<0.021	<0.026	nc	<0.031 XM	<0.024	<0.090	<0.027	<0.017	<0.030	nc	<0.020
Hexachlorodibenzo-p-Dioxin, 1,2,3,4,7,8-	pg/g wwt	<0.011	<0.024	<0.019	<0.043	nc	<0.023 XM	<0.025	nc	<0.048	<0.029	<0.090	<0.036	<0.021	<0.033	nc	<0.020
Hexachlorodibenzo-p-Dioxin, 1,2,3,6,7,8-	pg/g wwt	<0.012	<0.024	<0.018	<0.040	nc	<0.023 XM	<0.023	nc	<0.049	<0.028	<0.083 XM	<0.033	<0.021	<0.032	nc	<0.020
Hexachlorodibenzo-p-Dioxin, 1,2,3,7,8,9-	pg/g wwt	<0.012	<0.025	<0.019	<0.042	nc	<0.024 XM	<0.025 XM	nc	<0.051	<0.029	<0.089	<0.036	<0.022	<0.033	nc	<0.021
Total Tetrachlorodibenzofuran	pg/g wwt	0.124	<0.023	<0.033	<0.022	nc	<0.048	<0.020	nc	<0.039	<0.019	<0.057	<0.017	<0.023	<0.036	nc	<0.017
Total Tetrachlorodibenzo-p-dioxin	pg/g wwt	<0.030	0.068	<0.041	<0.022	nc	<0.024	<0.018	nc	<0.054	<0.015	<0.058	<0.017	<0.024	<0.035	nc	<0.017
Total Pentachlorodibenzofuran	pg/g wwt	<0.014	<0.015	<0.0091	<0.017	nc	<0.0088	<0.014	nc	<0.042	<0.013	<0.042	<0.011	<0.012	<0.023	nc	<0.0081
Total Pentachlorodibenzo-p-dioxin	pg/g wwt	<0.018	<0.0093	<0.012	<0.013	nc	<0.012	<0.011	nc	<0.027	<0.0086	<0.039	<0.014	<0.017	<0.018	nc	<0.0079
Total Hexachlorodibenzofuran	pg/g wwt	<0.034	<0.032	<0.036	<0.058	nc	<0.027	<0.037	nc	<0.048	<0.044	<0.13	<0.044	<0.029	<0.044	nc	<0.026
Total Hexachlorodibenzo-p-dioxin	pg/g wwt	<0.012	<0.025	<0.019	<0.043	nc	<0.024	<0.025	nc	<0.051	<0.029	<0.090	<0.036	<0.022	<0.033	nc	<0.021
Total Heptachlorodibenzofuran	pg/g wwt	<0.030	<0.024	<0.029	<0.051	nc	<0.022	<0.036	nc	<0.080	<0.028	<0.13	<0.059	<0.026	<0.035	nc	<0.034
Total Heptachlorodibenzo-p-dioxin	pg/g wwt	<0.024	<0.0094	<0.017	<0.042	nc	<0.014	<0.026	nc	<0.050	<0.033	<0.12	<0.044	0.132	<0.029	nc	<0.015
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g wwt	0.0124	0.00	0.00	0.0000324	**200%**	0.0000418	0.0000309	30%	0.0000582	0.0000147	0.0000582	0.00	0.000745	0.0000804	**161%**	0.0000130
Mid Point PCDD/F TEQ (WHO 2005)	pg/g wwt	0.0463	0.0331	0.0450	0.0364	21%	0.0301	0.0313	4%	0.0680	0.0249	0.0911	0.0300	0.0322	0.0441	31%	0.0222
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g wwt	0.0803	0.0604	0.0819	0.0727	12%	0.0600	0.0567	6%	0.131	0.0499	0.182	0.0599	0.0635	0.0874	32%	0.0445

See notes on last page

Table C-2d
Summary of Agricultural Crop 2016 Organic Analytical Results
Lambton Facility 2017 Annual Landfill Report Biomonitoring Program
2016 Field Year

Sample Location		E1	E5	N2			N4			S1	S2	S4	S5	W2			W4
Sample Date		12-Oct-16	12-Oct-16	28-Sep-16	28-Sep-16		11-Oct-16	11-Oct-16		11-Oct-16	11-Oct-16	28-Sep-16	12-Oct-16	18-Jul-16	18-Jul-16		12-Oct-16
Sample ID		16-E1-FC-CH-041	16-E5-FC-CH-057	16-N2-SB-CH-021	16-D5-SB-CH-107		16-N4-FC-CH-027	16-D6-FC-CH-108		16-S1-FC-CH-071	16-S2-FC-CH-077	16-S4-SB-CH-095	16-S5-FC-CH-101	16-W2-WW-CH-005	16-D7-WW-CH-109		16-W4-FC-CH-011
Sampling Company		STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC		STANTEC
Laboratory		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM	ALS-EDM		ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM	ALS-EDM		ALS-EDM
Laboratory Work Order		L1862212	L1862212	L1862212	L1862212		L1862212	L1862212		L1862212	L1862212	L1862212	L1862212	L1862212	L1862212		L1862212
Laboratory Sample ID		L1862212-19	L1862212-25	L1862212-10	L1862212-48		L1862212-13	L1862212-49		L1862212-31	L1862212-34	L1862212-38	L1862212-41	L1862212-3	L1862212-50		L1862212-6
Sample Type	Units				Field Duplicate	RPD (%)		Field Duplicate	RPD (%)						Field Duplicate	RPD (%)	
Organochlorinated pesticides (OCP)																	
Aldrin	ng/g	<0.0026	<0.013	<0.0030	<0.0022	nc	<0.0076	<0.0014	nc	<0.0020	<0.0023	<0.0018	<0.00043	<0.00089	<0.00083	nc	0.0210 JA EN
BHC, alpha-	ng/g	<0.0058	<0.025	<0.015	<0.014	nc	<0.017	<0.0067	nc	<0.0059	<0.0055	<0.0095	<0.0024	<0.0060	<0.0045	nc	<0.014
BHC, beta-	ng/g	<0.0091	<0.039	<0.023	<0.022	nc	<0.026	<0.011	nc	<0.010	<0.0095	<0.015	<0.0038	<0.0094	<0.0077	nc	<0.023
BHC, delta-	ng/g	<0.011	<0.049	<0.020	<0.019	nc	<0.029	<0.010	nc	<0.0095	<0.0093	<0.014	<0.0032	<0.0083	<0.0066	nc	<0.027
Chlordane, alpha-	ng/g	<0.030	<0.45	<0.030	<0.018	nc	<0.26	<0.018	nc	<0.022	<0.043	0.047 XM JA	<0.0040	<0.0060	0.0059 XM JA EN	nc	<0.090
Chlordane, trans- (gamma-Chlordane)	ng/g	<0.031	<0.46	<0.030	<0.019 XM	nc	<0.27	<0.020	nc	<0.024	<0.046	<0.023 XM	<0.0041	<0.0064	<0.0055	nc	<0.093
DDD (p,p'-DDD)	ng/g	<0.083	<0.089	<0.054	<0.029	nc	<0.11	<0.064	nc	<0.065	<0.11	<0.024	<0.0061	<0.018	<0.020	nc	<0.12
DDE (p,p'-DDE)	ng/g	<0.028	<0.072	<0.025	<0.018	nc	<0.073	<0.024	nc	<0.024	<0.039	<0.016	<0.0031	<0.0085	<0.0067 XM	nc	<0.064
DDT (p,p'-DDT)	ng/g	<0.28	<0.24	<0.22	<0.14	nc	<0.41	<0.17	nc	<0.24	<0.33	<0.089	<0.048	<0.044	<0.014	nc	<0.25
Dieldrin	ng/g	<0.021	<0.11	0.080 JA	0.070 JA	13%	<0.072	<0.015	nc	<0.012	<0.024	0.129	<0.0030	0.0175 JA	0.0225 JA	25%	<0.056
Endosulfan I	ng/g	<0.051	<0.20	<0.044	<0.024	nc	<0.12	<0.035	nc	<0.042	<0.065	<0.021	<0.0048	<0.0048	<0.0054	nc	<0.16
Endosulfan II	ng/g	<0.10	<0.32	<0.057	<0.065	nc	<0.30	<0.098	nc	<0.067	<0.098	<0.049	<0.013	<0.0091	<0.0092	nc	<0.26
Endosulfan Sulfate	ng/g	<0.022	<0.089	<0.018	<0.024	nc	<0.043	<0.021	nc	<0.019	<0.028	<0.010	<0.0030	<0.0023	<0.0030	nc	<0.041
Endrin	ng/g	<0.033	<0.11	<0.026	<0.026	nc	<0.094	<0.024	nc	<0.018	<0.033	<0.014 XM JA EN	<0.0050	0.0059 XM JA EN	0.0053 XM JA EN	nc	<0.069
Endrin Aldehyde	ng/g	<0.016	<0.038	<0.0094	<0.011	nc	<0.054	<0.016	nc	<0.0074	<0.0084	<0.0058	0.00349 XM JA	<0.0021	<0.0020	nc	<0.038
Heptachlor	ng/g	<0.0016	<0.0074	<0.0031	<0.0033 XM	nc	<0.0054	0.00110 XM JA EN	nc	0.00130 XM JA EN	0.00150 XM JA EN	<0.0025 XM	0.00068 XM JA EN	<0.00070	0.00083 XM JA EN	nc	<0.0044
Heptachlor Epoxide	ng/g	<0.0039	<0.017	0.0333 JA	0.0265 XM JA	23%	<0.012	<0.0017 XM	nc	<0.0030	<0.0027	0.0559 JA	<0.00067	0.0035 XM JA	0.0040 XM JA	nc	<0.011
Lindane (Hexachlorocyclohexane, gamma)	ng/g	<0.011	<0.049	<0.020	<0.019	nc	<0.029	<0.0091	nc	<0.0084	<0.0082	<0.014	<0.0032	<0.0078	<0.0058	nc	<0.027
Methoxychlor (4,4'-Methoxychlor)	ng/g	<0.024	<0.066	<0.031	<0.033	nc	<0.085	<0.049	nc	<0.019	<0.027	<0.026	<0.014	<0.0056	<0.0023	nc	<0.075
Mirex	ng/g	<0.0061	<0.011	0.0046 XM JA EN	0.0057 XM JA EN	nc	<0.010	0.0088 XM JA EN	nc	0.0160 XM JA EN	0.0097 XM JA EN	0.0025 XM JA EN	0.00069 XM JA EN	0.00058 XM JA EN	0.00380 JA EN	**147%**	<0.0089
PARLAR 26	ng/g	<0.30	<0.49	<0.18	<0.16	nc	<0.69	<0.18	nc	<0.22	<0.23	<0.14	<0.046	<0.018	<0.038	nc	<0.48
PARLAR 50	ng/g	<0.27	<0.57	<0.15	<0.15	nc	<0.82	<0.12	nc	<0.19	<0.23	<0.13	<0.042	<0.0096	<0.041	nc	<0.63
PARLAR 62	ng/g	<0.38	<0.80	<0.21	<0.21	nc	<1.1	<0.25	nc	<0.39	<0.48	<0.18	<0.059	<0.012	<0.086	nc	<0.88
Pentachlorophenol (PCP)																	
Pentachlorophenol	ng/g	<0.87	<0.44	<2.4	<1.2	nc	<1.2	<0.99	nc	<0.91	<1.4	<0.80	<1.2	<0.57	<0.77	nc	<0.97
Polychlorinated biphenyls (PCB)																	
Polychlorinated Biphenyls (PCBs)	mg/kg	<0.050	<0.050	<0.050	<0.050	nc	<0.050	<0.050	nc	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	nc	<0.050

Notes:

15.2	Concentration was detected.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
-	Parameter not analyzed / not available.
B	Indicates analyte was found in associated blank, as well as in the sample.
EN	The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum
JA	Analyte was detected below the calibrated range but above the detection limit.
XM	A peak has been manually integrated.
RPD	Relative Percent Difference
nc	RPD is not calculable if either of the concentrations were less than 5 times the MDL.
42.00%	RPD exceeds cut-off criteria of 40%

The formula used to determine the RPD from the mean between two samples, the original and the duplicate, is the absolute value of the following:

$$RPD = 100\% \times \frac{C_{original} - C_{dup}}{\frac{1}{2}(C_{original} + C_{dup})}$$

Table C-3a: Total Precipitation and Mean Temperatures per Month at the Sarnia Airport and the Sarnia Climate Record, Sarnia, ON

Month	Temperature (°C)		Precipitation (mm)	
	2016 Mean (Sarnia Climate)[b]	30-year Normal[c]	2016 Total (Sarnia Climate)[b]	30-year Normal[c]
Jan	-3	-4.8	35.2	51.5
Feb	-1.7[a]	-3.7	55.0[a]	50.9
Mar	3.8	0.6	137.9	57.5
Apr	5.4[a]	6.9	53.6[a]	71.5
May	13.7[a]	12.7	46.4[a]	79.7
Jun	18.4[a]	18.2	87.5[a]	83.1
Jul	22.4[a]	21.1	67.8[a]	78.5
Aug	22.9[a]	20	104.9[a]	78.5
Sept	18.6[a]	16.4	63.7[a]	104.7
Oct	12.5[a]	10.1	43.8[a]	76.1
Nov	7.1[a]	4.3	29.3[a]	82.4
Dec	-1.8[a]	-1.8	14.5[a]	63.9
Mean / Total	9.9	12.3	61.6	878.2

Notes:

a. Number based on incomplete data

b. Sarnia Climate, Daily Data Report for January-December 2016, Environment Canada, 2017a

c. Sarnia Airport, Canadian Climate Normals 1981-2010 Station Data, Environment Canada, 2017b

Table C-3b: Concentrations of Analytes in Environmental Media That Exceeded Upper Control Limits on a Site-Specific Basis, 2016 Biomonitoring Program, Lambton Facility

Analyte	Matrix	Site	Conc. (mg/kg)	UL15 (mg/kg)	Conc. As % of UL15	LL15 (mg/kg)	Rural OTR_{98} MOECC 2011 (mg/kg)	Rural ULN (mg/kg)	MOECC O.Reg.153/04 Table 1 Sediment (1) (mg/kg)	PSQG - Table 1 – LEL (2) (mg/kg)	Exceedances
Aluminum	NG	E5	393	338	116	15.1	-	N/A	-	-	>UL15
			365	338	108	15.1	-	N/A	-	-	>UL15
	SS	S4	33500	33400	100	13100	30,000	N/A	-	-	>UL15, >OTR
Arsenic	SD	S4	6.2	6.17	101	3.39	-	-	6	6	>UL15, >O.Reg.153/04, >PSQG
	SS	E2	8.31	5.59	149	2.67	11	10	-	-	>UL15
		S1	8.28	7.53	110	4.6	11	10	-	-	>UL15
		S5	6.99	6.94	101	4.01	11	10	-	-	>UL15
Barium	NG	W2	17.5	16.5	106	2.32	-	N/A	-	-	>UL15
	SS	E5	110	89.2	123	53.7	170	N/A	-	-	>UL15
		N2	138	136	101	81.9	170	N/A	-	-	>UL15
		S4	174	129	135	77.7	170	N/A	-	-	>UL15, >OTR
Beryllium	SS	E2	0.68	0.513	133	0.513	1.1	N/A	-	-	>UL15
		E5	0.88	0.643	137	0.643	1.1	N/A	-	-	>UL15
		E6	0.69	0.616	112	0.616	1.1	N/A	-	-	>UL15
		N2	1.25	1.05	119	1.05	1.1	N/A	-	-	>UL15, >OTR
		N4	0.87	0.77	113	0.77	1.1	N/A	-	-	>UL15
		S1	0.98	0.862	114	0.862	1.1	N/A	-	-	>UL15
		S2	0.99	0.838	118	0.838	1.1	N/A	-	-	>UL15
		S4	1.38	0.925	149	0.925	1.1	N/A	-	-	>UL15, >OTR
		S5	0.97	0.827	117	0.827	1.1	N/A	-	-	>UL15
		W2	0.65	0.605	107	0.605	1.1	N/A	-	-	>UL15
			0.64	0.605	106	0.605	1.1	N/A	-	-	>UL15
		W4	1.13	0.981	115	0.981	1.1	N/A	-	-	>UL15, >OTR
Calcium	SD	S1	84400	71400	118	14200	-	-	N/A	N/A	>UL15
	SS	E2	27600	8820	313	4800	54000	N/A	-	-	>UL15
		N4	31800	12000	265	6550	54000	N/A	-	-	>UL15
		N5	44600	43500	102	23700	54000	N/A	-	-	>UL15
		S2	10700	7970	134	4340	54000	N/A	-	-	>UL15
		S4	7550	4960	152	2700	54000	N/A	-	-	>UL15
Chloride	NG	N2	14900	13600	110	298	-	10000	-	-	>UL15, >ULN
		W4	20200	17000	119	366	-	10000	-	-	>UL15, >ULN
Chromium	SS	E2	24.5	23.5	104	12.9	58	50	-	-	>UL15
		S4	45.7	43.9	104	24	58	50	-	-	>UL15
Copper	SS	N4	22.3	21.6	103	12.3	46	60	-	-	>UL15
		S4	29.6	21.3	139	12.1	46	60	-	-	>UL15
Iron	NG	E5	538	408	132	64.6	N/A	500	-	-	>UL15, >ULN
			414	408	101	64.6	N/A	500	-	-	>UL15
		S5	341	316	108	50	N/A	500	-	-	>UL15
	SS	E2	25900	20900	124	9650	36000	35000	-	-	>UL15
Lead	SS	E2	50.7	36.6	138	14	34	150	-	-	>UL15, >OTR
Magnesium	FC	S2	1430	1340	107	315	-	-	-	-	>UL15
	NG	S4	5420	3400	159	1110	-	N/A	-	-	>UL15
	SS	E2	13000	5380	241	3020	19000	10000	-	-	>UL15, >ULN
		N4	15600	9210	169	5170	19000	10000	-	-	>UL15, >ULN
		S2	8620	8570	101	4810	19000	10000	-	-	>UL15
		S4	9070	8650	105	4850	19000	10000	-	-	>UL15

Analyte	Matrix	Site	Conc. (mg/kg)	UL15 (mg/kg)	Conc. As % of UL15	LL15 (mg/kg)	Rural OTR_{98} MOECC 2011 (mg/kg)	Rural ULN (mg/kg)	MOECC O.Reg.153/04 Table 1 Sediment (1) (mg/kg)	PSQG - Table 1 – LEL (2) (mg/kg)	Exceedances
Manganese	NG	E2	53.9	33.8	160	12	-	50	-	-	>UL15, >ULN
		N2	73.3	63.6	115	22.6	-	50	-	-	>UL15, >ULN
		W4	84.4	62.6	135	22.3	-	50	-	-	>UL15, >ULN
	SD	S4	585	507	115	293	-	-	N/A	460	>UL15, >PSQG
	SS	E5	607	454	134	211	1900	700	-	-	>UL15
		E6	558	535	104	249	1900	700	-	-	>UL15
		S1	738	712	104	331	1900	700	-	-	>UL15, >ULN
		W2*	523	492	106	229	1900	700	-	-	>UL15
		W4	441	411	107	191	1900	700	-	-	>UL15
Mercury	SS	E1	<0.05	0.0483	104	0.0483	0.13	0.15	-	-	>UL15
		E2	0.082	0.0577	142	0.0577	0.13	0.15	-	-	>UL15
		E5	<0.05	0.0491	102	0.0491	0.13	0.15	-	-	>UL15
		S2	<0.05	0.0459	109	0.0459	0.13	0.15	-	-	>UL15
		S4	0.058	0.0528	110	0.0528	0.13	0.15	-	-	>UL15
		S5	<0.05	0.046	109	0.046	0.13	0.15	-	-	>UL15
		W2	<0.05	0.049	102	0.049	0.13	0.15	-	-	>UL15
			<0.05	0.049	102	0.049	0.13	0.15	-	-	>UL15
Molybdenum	NG	E6	24.3	11.7	207	1.46	-	6	-	-	>UL15, >ULN
		S4	6.16	5.3	116	0.66	-	6	-	-	>UL15, >ULN
		S5	9.5	7.88	121	0.98	-	6	-	-	>UL15, >ULN
	SB	S4	12.2	9.05	135	1.62	-	-	-	-	>UL15
	SS	E2	5.85	3.74	156	1.02	0.984	2	-	-	>UL15, >OTR, >ULN
		N5	2.34	2.29	102	0.628	0.984	2	-	-	>UL15, >OTR, >ULN
Nickel	SS	E2	22.9	15.5	148	15.3	34	60	-	-	>UL15
		E5	24.6	19.8	124	19.6	34	60	-	-	>UL15
		E6	22.2	21.3	104	21.1	34	60	-	-	>UL15
		N2	34.3	33.1	104	32.9	34	60	-	-	>UL15, >OTR
		N4	28.1	23.5	120	23.3	34	60	-	-	>UL15
		S1	31.9	27.5	116	27.4	34	60	-	-	>UL15
		S2	29.3	26.1	112	25.9	34	60	-	-	>UL15
		S4	37.2	28.9	129	28.7	34	60	-	-	>UL15, >OTR
		S5	28.5	25.6	112	25.4	34	60	-	-	>UL15
		W2*	18.2	17.2	106	17	34	60	-	-	>UL15
		W4	32.3	29.3	110	29.1	34	60	-	-	>UL15
Phosphorous	SS	S4	1060	689	154	358	830	N/A	-	-	>UL15, >OTR
Potassium	NG	E2	36400	33900	107	7660	-	-	-	-	>UL15
Sodium	NG	E6	207	193	107	22.9	-	N/A	-	-	>UL15
Strontium	SD	S1	65.8	64.3	102	27.3	-	-	N/A	N/A	>UL15
	SS	E2	31.9	26.9	119	13	63	N/A	-	-	>UL15
		E6	53.7	49.6	108	24	63	N/A	-	-	>UL15
		N4	31.9	28.7	111	13.9	63	N/A	-	-	>UL15
		S4	32.5	26.8	121	13	63	N/A	-	-	>UL15
Sulfur	FC	S5	1270	1210	105	358	-	-	-	-	>UL15
	NG	E2	6690	5740	117	2190	-	5000	-	-	>UL15, >ULN
Vanadium	SS	S1	51.2	50.9	101	23	86	70	-	-	>UL15
	SS	S4	55.3	54.5	102	26.6	86	70	-	-	>UL15
Zinc	NG	E2	41	40.4	102	12.7	-	40	-	-	>UL15, >ULN

Where: SD = sediment, NG = natural grass, SS = soil, SB = soybean, and WW = winter wheat

* The other split of the duplicate sample is below its UL15

Not Bold = Group 1

Bold = Group 2 Analyte

N/A = Not Available

LEL = Lowest Effect Level

- = Not Applicable for this particular environmental media

(1) MOECC O.Reg. 153/04 Table 1 Full Depth Background Site Condition Standards, Sediment, All Property Uses, Soil Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protec

(2) No O.Reg. 153/04 value. Lowest Effect Level values from the Provincial Sediment Quality Guidelines (PSQG) used instead. Guidelines for Identifying, Assessing and Managing Contaminated Sediments in Ontar

Table C-3c: List of Sites and Matrices Where the Concentrations of Analytes in Environmental Media Exceeded Upper Control Limits on a Site-Specific Basis, 2016 Biomonitoring Program, Lambton Facility

Site	Matrix						Total Exceedances of UL15
	Field Corn	Soybeans	Winter Wheat	Natural Grasses	Soil	Sediment	
E1	0	N/A	N/A	0	Mercury	N/A	1
E2	N/A	N/A	N/A	Manganese, Potassium, Sulfur, **Zinc**	**Arsenic**, Beryllium, Calcium, Chromium, Iron, **Lead**, Magnesium, **Mercury**, Molybdenum, Nickel, Strontium	0	15
E5	0	N/A	N/A	**Aluminum**, Iron	Barium, Beryllium, Manganese, **Mercury**, Nickel	N/A	7
E6	N/A	N/A	N/A	Molybdenum, Sodium	Beryllium, Manganese, Nickel, Strontium	N/A	6
N2	N/A	0	N/A	Chloride, Manganese	Barium, Beryllium, Nickel	0	5
N4	0	N/A	N/A	0	Beryllium, Calcium, **Copper**, Magnesium, Nickel, Strontium	N/A	6
N5	N/A	N/A	N/A	0	Calcium, Molybdenum	0	2
S1	0	N/A	N/A	0	**Arsenic**, Beryllium, Manganese, Nickel, Vanadium	Calcium, Strontium	7
S2	Magnesium	N/A	N/A	0	Beryllium, Calcium, Magnesium, **Mercury,** Nickel	N/A	6
S4	N/A	Molybdenum	N/A	Magnesium, Molybdenum	**Aluminum,** Barium, Beryllium, Calcium, Chromium, **Copper**, Magnesium, **Mercury**, Nickel, Phosphorus, Strontium, **Vanadium**	**Arsenic,** Manganese	17
S5	Sulfur	N/A	N/A	Iron, Molybdenum	**Arsenic,** Beryllium, **Mercury,** Nickel	N/A	7
W2	N/A	N/A	0	Barium	Beryllium, Manganese*, **Mercury,** Nickel*	N/A	5
W4	0	N/A	N/A	Chloride, Manganese	Beryllium, Manganese, Nickel	N/A	5
Total	2	1	0	17	65	4	89

N/A = Not Available

Not Bold = Group 1

Bold = Group 2 Analyte

* = Field duplicate did not exceed the UL15.

Table C-3d: Inorganic Analytes Where Concentrations of Analytes in Environmental Media Exceeded Upper Control Limits on a Site-Wide Basis, 2016 Biomonitoring Program, Lambton Facility

Analyte	Matrix	No. Samples (n)	RDL	Mean Conc	UL15	Conc. as	MOECC 2011 Rural OTR_{98}	Rural ULN	Exceedances
			(mg /kg)	(mg /kg)	(mg /kg)	% of UL15	(mg /kg)	(mg /kg)	
Beryllium	SS	14	0.2	0.88	0.75	118	1.1	N/A	>UL15
Calcium	SS	14	100	14969	10031	149	54000	N/A	>UL15
Magnesium	SS	14	20	9148	8061	113	19000	10000	>UL15
Nickel	SS	14	0.5	26.3	23.7	111	34	60	>UL15
Mercury	SS	14	0.05	0.055	0.053	103	0.13	0.15	>UL15

Where: SS = soil

N/A = Not Available

- = Not Applicable for this particular environmental media.

(1) MOECC O.Reg. 153/04 Table 1 Full Depth Background Site Condition Standards, Sediment, All Property Uses, Soil Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. April 15, 2011 (MOECC, 2011).

(2) No O.Reg. 153/04 value. Lowest Effect Level values from the Provincial Sediment Quality Guidelines (PSQG) used instead. Guidelines for Identifying, Assessing and Managing Contaminated Sediments in Ontario: An Integrated Approach (MOECC, 2008)

Table C-3e: Concentration of Dioxins and Furans (TEQ), 2016 Biomonitoring Program, Lambton Facility

Site	Soil			Natural Grass		Crop		
	Lower Bound TEQ	Upper Bound TEQ	Comment	Lower Bound TEQ	Upper Bound TEQ	Type	Lower Bound TEQ	Upper Bound TEQ
E1	0.474	0.621	TEQ<OTR98	0.146	1.05	Field Corn	0.0124	0.0803
E2	0.744	0.971	TEQ<OTR98	0.00847	0.716	N/A	N/A	N/A
E5	0.516	0.747	TEQ<OTR98	0.0704	0.634	Field Corn	0	0.0604
E5	N/A	N/A	N/A	0.0016	1.16	N/A	N/A	N/A
E6	0.504	0.702	TEQ<OTR98	0.0179	1.12	N/A	N/A	N/A
N2	0.668	0.722	TEQ<OTR98	0.00545	0.469	Soybean	0	0.0819
N2	N/A	N/A	TEQ<OTR98	N/A	N/A	Soybean	0.0000324	0.0727
N4	0.956	1.17	TEQ<OTR98	0.303	0.987	Field Corn	0.0000418	0.06
N4	N/A	N/A	N/A	N/A	N/A	Field Corn	0.0000309	0.0567
N5	1.08	1.1	TEQ<OTR98	0.0164	0.569	N/A	N/A	N/A
N5	N/A	N/A	N/A	0.0119	0.382	N/A	N/A	N/A
S1	1.03	1.08	TEQ<OTR98	0.00116	0.686	Field Corn	0.0000582	0.131
S2	0.737	0.986	TEQ<OTR98	0.0125	1.08	Field Corn	0.0000147	0.0499
S4	0.668	0.777	TEQ<OTR98	0.000123	0.477	Soybean	0.0000582	0.182
S5	0.627	0.871	TEQ<OTR98	0.00179	5.45	Field Corn	0	0.0599
S7	0.544	0.759	TEQ<OTR98	0.00559	0.563	N/A	N/A	N/A
W2	0.472	0.933	TEQ<OTR98	0.00125	0.721	Winter Wheat	0.000745	0.0635
W2	0.923	0.961	TEQ<OTR98	N/A	N/A	Winter Wheat	0.0000804	0.0874
W4	1.9	1.9	TEQ<OTR98	0.0193	0.541	Field Corn	0.000013	0.0445

Notes:

Data presented in pg/g

N/A = Not Available

(WHO 2005) TEFs were used to calculate TEQ values (Van den Berg et al., 2006)

OTR_{98} of 0.0048 ng/g = 4.8 pg/g

Lower Bound TEQ - where ND substituted as 0 pg/g in the calculation of TEQ

Upper Bound TEQ - where ND substituted as RDL in the calculation of TEQ

APPENDIX D:
PHOTO LOG

Photo 1: Field corn collection area at Site E1

Photo 2: Plot layout at Site E2

Photo 3: Field corn collection area at Site E5

Photo 4: Natural grass collection area at Site E6

Photo 5: Soybean collection area at Site N2

Photo 6: Locating ball marker at Site N4

Photo 7: Natural grass collection area at Site N5

Photo 8: Sediment collection area at Site S1

Photo 9: Natural grass collection area at Site S1

Photo 10: Soil sample homogenization at Site S2

Photo 11: Locating Site S3

Photo 12: Soybean collection area at Site S4

Photo 133:Proposed natural grass collection area at Site S7

Photo 14: Proposed sediment collection area at Site S7

Photo 15: Winter wheat collection area at Site W2

Photo 16: Natural grass collection area at Site W4

APPENDIX E:
SITE SPECIFIC INORGANIC TRENDS

APPENDIX E-1:
SITE-SPECIFIC INORGANIC REGRESSIONS

APPENDIX E-1 SITE-SPECIFIC INORGANIC REGRESSIONS

Analyte	Matrix	Variable	DF	Parameter Estimate	Standard Error	t	Pr > |t|	Regression P < 0.003	Slope	Data Set	Normality	Notes
Aluminum	NG	CONSTANT	1	-82.75	13.385	-6.183	<0.001			1991 onwards	Lognormal	
Aluminum	NG	YEAR	1	0.043	0.007	6.491	<0.001	Yes	pos	1991 onwards	Lognormal	
Aluminum	SB	CONSTANT	1	-41.58	24.989	-1.664	0.1			2002 onwards	Lognormal	
Aluminum	SB	YEAR	1	0.022	0.012	1.759	0.082			2002 onwards	Lognormal	
Aluminum	SD	CONSTANT	1	-28.601	5.099	-5.609	<0.001			1991 onwards	Lognormal	
Aluminum	SD	YEAR	1	0.019	0.003	7.516	<0.001	Yes	pos	1991 onwards	Lognormal	
Aluminum	SS	CONSTANT	1	-15.401	8.224	-1.873	0.062			2002 onwards	Lognormal	
Aluminum	SS	YEAR	1	0.012	0.004	3.051	0.003			2002 onwards	Lognormal	
Aluminum	WW	CONSTANT	1	61.303	59.81	1.025	0.345			1991 onwards	Lognormal	
Aluminum	WW	YEAR	1	-0.029	0.03	-0.984	0.363			1991 onwards	Lognormal	
Arsenic	NG	CONSTANT	1	133.933	13.44	9.965	<0.001			1991 onwards	Lognormal	
Arsenic	NG	YEAR	1	-0.067	0.007	-10.056	<0.001	Yes	neg	1991 onwards	Lognormal	
Arsenic	SB	CONSTANT	1	NC	NC	NC	NC			2004 onwards	Lognormal	All samples ≤ RDL
Arsenic	SB	YEAR	1	NC	NC	NC	NC			2004 onwards	Lognormal	All samples ≤ RDL
Arsenic	SD	CONSTANT	1	-12.693	6.444	-1.97	0.051			1991 onwards	Lognormal	
Arsenic	SD	YEAR	1	0.007	0.003	2.228	0.027			1991 onwards	Lognormal	
Arsenic	SS	CONSTANT	1	-92.474	13.086	-7.067	<0.001			1991 onwards	Normal	
Arsenic	SS	YEAR	1	0.049	0.007	7.451	<0.001	Yes	pos	1991 onwards	Normal	
Barium	FC	CONSTANT	1	326.216	231.688	1.408	0.254			2002 onwards	Lognormal	
Barium	FC	YEAR	1	-0.163	0.115	-1.416	0.252			2002 onwards	Lognormal	
Barium	NG	CONSTANT	1	-33.916	20.284	-1.672	0.096			2002 onwards	Lognormal	
Barium	NG	YEAR	1	0.018	0.01	1.792	0.075			2002 onwards	Lognormal	
Barium	SB	CONSTANT	1	-16.82	13.281	-1.266	0.207			1991 onwards	Lognormal	
Barium	SB	YEAR	1	0.008	0.007	1.245	0.215			1991 onwards	Lognormal	
Barium	SD	CONSTANT	1	-18.533	5.069	-3.656	<0.001			1991 onwards	Lognormal	
Barium	SD	YEAR	1	0.012	0.003	4.551	<0.001	Yes	pos	1991 onwards	Lognormal	
Barium	SS	CONSTANT	1	-10.036	3.783	-2.653	0.008			1991 onwards	Lognormal	
Barium	SS	YEAR	1	0.007	0.002	3.814	<0.001	Yes	pos	1991 onwards	Lognormal	
Barium	WW	CONSTANT	1	-105.388	30.632	-3.44	0.004			1991 onwards	Lognormal	
Barium	WW	YEAR	1	0.053	0.015	3.477	0.004			1991 onwards	Lognormal	
Beryllium	NG	CONSTANT	1	NC	NC	NC	NC			2003 onwards	Lognormal	All samples ≤ RDL
Beryllium	NG	YEAR	1	NC	NC	NC	NC			2003 onwards	Lognormal	All samples ≤ RDL
Beryllium	SB	CONSTANT	1	NC	NC	NC	NC			2003 onwards	Lognormal	All samples ≤ RDL
Beryllium	SB	YEAR	1	NC	NC	NC	NC			2003 onwards	Lognormal	All samples ≤ RDL

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Analyte	Matrix	Variable	DF	Parameter Estimate	Standard Error	t	Pr > |t|	Regression P < 0.003	Slope	Data Set	Normality	Notes
Beryllium	SD	CONSTANT	1	-35.923	5.366	-6.694	<0.001			1991 onwards	Lognormal	
Beryllium	SD	YEAR	1	0.018	0.003	6.648	<0.001	Yes	pos	1991 onwards	Lognormal	
Beryllium	SS	CONSTANT	1	-15.398	3.058	-5.036	<0.001			1991 onwards	Normal	
Beryllium	SS	YEAR	1	0.008	0.002	5.284	<0.001	Yes	pos	1991 onwards	Normal	
Boron	FC	CONSTANT	1	54.987	14.901	3.69	0.004			2002 onwards	Lognormal	
Boron	FC	YEAR	1	-0.027	0.007	-3.636	0.005			2002 onwards	Lognormal	
Boron	NG	CONSTANT	1	1.702	12.757	0.133	0.894			1991 onwards	Lognormal	
Boron	NG	YEAR	1	0	0.006	0.051	0.96			1991 onwards	Lognormal	
Boron	SB	CONSTANT	1	-38.479	110.943	-0.347	0.729			1991 onwards	Normal	
Boron	SB	YEAR	1	0.033	0.055	0.589	0.557			1991 onwards	Normal	
Boron	SD	CONSTANT	1	-25.397	14.392	-1.765	0.081			2002 onwards	Lognormal	
Boron	SD	YEAR	1	0.014	0.007	1.963	0.052			2002 onwards	Lognormal	
Boron	SS	CONSTANT	1	-21.169	14.196	-1.491	0.137			2002 onwards	Lognormal	
Boron	SS	YEAR	1	0.012	0.007	1.659	0.099			2002 onwards	Lognormal	
Cadmium	NG	CONSTANT	1	28.616	30.12	0.95	0.343			2005 onwards	Lognormal	
Cadmium	NG	YEAR	1	-0.015	0.015	-1.033	0.303			2005 onwards	Lognormal	
Cadmium	SB	CONSTANT	1	128.46	21.804	5.891	<0.001			2002 onwards	Lognormal	
Cadmium	SB	YEAR	1	-0.065	0.011	-6.012	<0.001	Yes	neg	2002 onwards	Lognormal	
Cadmium	SD	CONSTANT	1	-12.837	15.145	-0.848	0.398			1991 onwards	Lognormal	
Cadmium	SD	YEAR	1	0.006	0.008	0.806	0.421			1991 onwards	Lognormal	
Cadmium	SS	CONSTANT	1	5.611	6.487	0.865	0.388			1991 onwards	Lognormal	
Cadmium	SS	YEAR	1	-0.003	0.003	-0.991	0.322			1991 onwards	Lognormal	
Cadmium	WW	CONSTANT	1	13.805	4.323	3.194	0.007			1991 onwards	Normal	
Cadmium	WW	YEAR	1	-0.007	0.002	-3.166	0.007			1991 onwards	Normal	
Calcium	FC	CONSTANT	1	57.01	20.007	2.849	0.012			1991 onwards	Lognormal	
Calcium	FC	YEAR	1	-0.026	0.01	-2.651	0.018			1991 onwards	Lognormal	
Calcium	NG	CONSTANT	1	-24.951	6.461	-3.862	<0.001			1991 onwards	Lognormal	
Calcium	NG	YEAR	1	0.017	0.003	5.23	<0.001	Yes	pos	1991 onwards	Lognormal	
Calcium	SB	CONSTANT	1	-7.922	4.594	-1.724	0.087			1991 onwards	Lognormal	
Calcium	SB	YEAR	1	0.008	0.002	3.374	0.001	Yes	pos	1991 onwards	Lognormal	
Calcium	SD	CONSTANT	1	1026324.0	431132.10	2.381	0.018			1991 onwards	Normal	
Calcium	SD	YEAR	1	-482.442	215.085	-2.243	0.026			1991 onwards	Normal	
Calcium	SS	CONSTANT	1	-26.706	9.374	-2.849	0.005			1991 onwards	Lognormal	
Calcium	SS	YEAR	1	0.018	0.005	3.804	<0.001	Yes	pos	1991 onwards	Lognormal	
Calcium	WW	CONSTANT	1	-45.492	21.365	-2.129	0.051			1991 onwards	Lognormal	
Calcium	WW	YEAR	1	0.026	0.011	2.425	0.029			1991 onwards	Lognormal	
Chloride	FC	CONSTANT	1	51.273	21.654	2.368	0.032			1991 onwards	Lognormal	

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Analyte	Matrix	Variable	DF	Parameter Estimate	Standard Error	t	Pr > |t|	Regression P < 0.003	Slope	Data Set	Normality	Notes
Chloride	FC	YEAR	1	-0.023	0.011	-2.092	0.054			1991 onwards	Lognormal	
Chloride	NG	CONSTANT	1	-222294.05	83294.205	-2.669	0.008			1991 onwards	Normal	
Chloride	NG	YEAR	1	114.094	41.514	2.748	0.006			1991 onwards	Normal	
Chloride	SB	CONSTANT	1	262.8	45.358	5.794	<0.001			2002 onwards	Lognormal	
Chloride	SB	YEAR	1	-0.129	0.023	-5.701	<0.001	Yes	neg	2002 onwards	Lognormal	
Chloride	SD	CONSTANT	1	-62.839	38.518	-1.631	0.105			1991 onwards	Lognormal	
Chloride	SD	YEAR	1	0.033	0.019	1.74	0.084			1991 onwards	Lognormal	
Chloride	SS	CONSTANT	1	-50.793	107.187	-0.474	0.637			2010 onwards	Lognormal	
Chloride	SS	YEAR	1	0.026	0.053	0.487	0.627			2010 onwards	Lognormal	
Chloride	WW	CONSTANT	1	-2.865	44.091	-0.065	0.949			1991 onwards	Lognormal	
Chloride	WW	YEAR	1	0.005	0.022	0.212	0.835			1991 onwards	Lognormal	
Chromium	NG	CONSTANT	1	-50.889	23.484	-2.167	0.031			2002 onwards	Lognormal	
Chromium	NG	YEAR	1	0.026	0.012	2.202	0.029			2002 onwards	Lognormal	
Chromium	SB	CONSTANT	1	92.296	29.695	3.108	0.003			2002 onwards	Lognormal	
Chromium	SB	YEAR	1	-0.046	0.015	-3.145	0.002	Yes	neg	2002 onwards	Lognormal	
Chromium	SD	CONSTANT	1	-14.462	6.375	-2.269	0.025			1991 onwards	Lognormal	
Chromium	SD	YEAR	1	0.009	0.003	2.817	0.005			1991 onwards	Lognormal	
Chromium	SS	CONSTANT	1	-14.53	3.572	-4.068	<0.001			1991 onwards	Lognormal	
Chromium	SS	YEAR	1	0.009	0.002	4.968	<0.001	Yes	pos	1991 onwards	Lognormal	
Chromium	WW	CONSTANT	1	-179.641	81.668	-2.2	0.052			2002 onwards	Lognormal	
Chromium	WW	YEAR	1	0.089	0.041	2.192	0.053			2002 onwards	Lognormal	
Cobalt	NG	CONSTANT	1	-21.561	23.329	-0.924	0.357			2005 onwards	Lognormal	
Cobalt	NG	YEAR	1	0.01	0.012	0.838	0.403			2005 onwards	Lognormal	
Cobalt	SB	CONSTANT	1	1.085	7.182	0.151	0.88			2005 onwards	Lognormal	
Cobalt	SB	YEAR	1	-0.002	0.004	-0.469	0.64			2005 onwards	Lognormal	
Cobalt	SD	CONSTANT	1	-58.634	34.217	-1.714	0.089			1991 onwards	Normal	
Cobalt	SD	YEAR	1	0.034	0.017	2.006	0.047			1991 onwards	Normal	
Cobalt	SS	CONSTANT	1	-7.118	8.41	-0.846	0.398			2002 onwards	Lognormal	
Cobalt	SS	YEAR	1	0.005	0.004	1.108	0.269			2002 onwards	Lognormal	
Copper	FC	CONSTANT	1	-76.592	41.957	-1.826	0.098			2002 onwards	Lognormal	
Copper	FC	YEAR	1	0.038	0.021	1.834	0.097			2002 onwards	Lognormal	
Copper	NG	CONSTANT	1	-10.02	12.854	-0.779	0.437			2002 onwards	Lognormal	
Copper	NG	YEAR	1	0.006	0.006	0.925	0.356			2002 onwards	Lognormal	
Copper	SB	CONSTANT	1	2.542	6.371	0.399	0.69			1991 onwards	Lognormal	
Copper	SB	YEAR	1	0	0.003	-0.029	0.977			1991 onwards	Lognormal	
Copper	SD	CONSTANT	1	4.461	5.052	0.883	0.379			1991 onwards	Lognormal	
Copper	SD	YEAR	1	-0.001	0.003	-0.251	0.802			1991 onwards	Lognormal	

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Analyte	Matrix	Variable	DF	Parameter Estimate	Standard Error	t	Pr > |t|	Regression P < 0.003	Slope	Data Set	Normality	Notes
Copper	SS	CONSTANT	1	6.999	4.304	1.626	0.105			1991 onwards	Lognormal	
Copper	SS	YEAR	1	-0.002	0.002	-0.974	0.331			1991 onwards	Lognormal	
Copper	WW	CONSTANT	1	-3.286	15.499	-0.212	0.836			2002 onwards	Lognormal	
Copper	WW	YEAR	1	0.002	0.008	0.298	0.772			2002 onwards	Lognormal	
Iron	FC	CONSTANT	1	1.03	13.217	0.078	0.939			1991 onwards	Lognormal	
Iron	FC	YEAR	1	0.001	0.007	0.138	0.892			1991 onwards	Lognormal	
Iron	NG	CONSTANT	1	-36.978	8.913	-4.149	<0.001			1991 onwards	Lognormal	
Iron	NG	YEAR	1	0.021	0.004	4.697	<0.001	Yes	pos	1991 onwards	Lognormal	
Iron	SB	CONSTANT	1	-6.927	4.309	-1.608	0.11			1991 onwards	Lognormal	
Iron	SB	YEAR	1	0.006	0.002	2.567	0.011			1991 onwards	Lognormal	
Iron	SD	CONSTANT	1	-9.732	3.589	-2.712	0.007			1991 onwards	Lognormal	
Iron	SD	YEAR	1	0.01	0.002	5.504	<0.001	Yes	pos	1991 onwards	Lognormal	
Iron	SS	CONSTANT	1	-218728.61	59719.024	-3.663	<0.001			1991 onwards	Normal	
Iron	SS	YEAR	1	119.149	29.785	4	<0.001	Yes	pos	1991 onwards	Normal	
Iron	WW	CONSTANT	1	-10.984	14.182	-0.775	0.452			1991 onwards	Lognormal	
Iron	WW	YEAR	1	0.007	0.007	1.034	0.319			1991 onwards	Lognormal	
Lead	NG	CONSTANT	1	91.757	25.312	3.625	<0.001			2002 onwards	Lognormal	
Lead	NG	YEAR	1	-0.046	0.013	-3.664	<0.001	Yes	neg	2002 onwards	Lognormal	
Lead	SB	CONSTANT	1	-25.661	27.007	-0.95	0.353			2010 onwards	Lognormal	
Lead	SB	YEAR	1	0.012	0.013	0.867	0.396			2010 onwards	Lognormal	
Lead	SD	CONSTANT	1	-2.677	7.779	-0.344	0.731			1991 onwards	Lognormal	
Lead	SD	YEAR	1	0.003	0.004	0.701	0.484			1991 onwards	Lognormal	
Lead	SS	CONSTANT	1	-1.878	3.837	-0.49	0.625			1991 onwards	Lognormal	
Lead	SS	YEAR	1	0.002	0.002	1.212	0.226			1991 onwards	Lognormal	
Magnesium	FC	CONSTANT	1	-14437.107	11041.002	-1.308	0.211			1991 onwards	Normal	
Magnesium	FC	YEAR	1	7.677	5.498	1.396	0.183			1991 onwards	Normal	
Magnesium	NG	CONSTANT	1	-18.099	5.35	-3.383	0.001			1991 onwards	Lognormal	
Magnesium	NG	YEAR	1	0.013	0.003	4.836	<0.001	Yes	pos	1991 onwards	Lognormal	
Magnesium	SB	CONSTANT	1	-19437.627	6338.838	-3.066	0.003			1991 onwards	Normal	
Magnesium	SB	YEAR	1	10.771	3.164	3.404	0.001	Yes	pos	1991 onwards	Normal	
Magnesium	SD	CONSTANT	1	196182.96	114929.60	1.707	0.09			1991 onwards	Normal	
Magnesium	SD	YEAR	1	-86.43	57.336	-1.507	0.134			1991 onwards	Normal	
Magnesium	SS	CONSTANT	1	-24.572	5.723	-4.294	<0.001			1991 onwards	Lognormal	
Magnesium	SS	YEAR	1	0.017	0.003	5.82	<0.001	Yes	pos	1991 onwards	Lognormal	
Magnesium	WW	CONSTANT	1	1718.514	11900.77	0.144	0.887			1991 onwards	Normal	
Magnesium	WW	YEAR	1	-0.283	5.931	-0.048	0.963			1991 onwards	Normal	
Manganese	FC	CONSTANT	1	-236.77	186.22	-1.271	0.232			2002 onwards	Normal	

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Analyte	Matrix	Variable	DF	Parameter Estimate	Standard Error	t	Pr > |t|	Regression P < 0.003	Slope	Data Set	Normality	Notes
Manganese	FC	YEAR	1	0.119	0.093	1.291	0.226			2002 onwards	Normal	
Manganese	NG	CONSTANT	1	-12.745	8.667	-1.471	0.142			1991 onwards	Lognormal	
Manganese	NG	YEAR	1	0.008	0.004	1.865	0.063			1991 onwards	Lognormal	
Manganese	SB	CONSTANT	1	-7.264	4.24	-1.713	0.089			1991 onwards	Lognormal	
Manganese	SB	YEAR	1	0.005	0.002	2.402	0.017			1991 onwards	Lognormal	
Manganese	SD	CONSTANT	1	-1.781	5.679	-0.314	0.754			1991 onwards	Lognormal	
Manganese	SD	YEAR	1	0.004	0.003	1.335	0.184			1991 onwards	Lognormal	
Manganese	SS	CONSTANT	1	-19.135	4.791	-3.994	<0.001			1991 onwards	Lognormal	
Manganese	SS	YEAR	1	0.012	0.002	5.213	<0.001	Yes	pos	1991 onwards	Lognormal	
Manganese	WW	CONSTANT	1	42.833	28.569	1.499	0.156			1991 onwards	Lognormal	
Manganese	WW	YEAR	1	-0.02	0.014	-1.395	0.185			1991 onwards	Lognormal	
Mercury	FC	CONSTANT	1	NC	NC	NC	NC			2010 onwards	Normal	All samples ≤ RDL
Mercury	FC	YEAR	1	NC	NC	NC	NC			2010 onwards	Normal	All samples ≤ RDL
Mercury	NG	CONSTANT	1	65.333	10.439	6.258	<0.001			1991 onwards	Lognormal	
Mercury	NG	YEAR	1	-0.034	0.005	-6.577	<0.001	Yes	neg	1991 onwards	Lognormal	
Mercury	SB	CONSTANT	1	1.647	7.279	0.226	0.822			2005 onwards	Lognormal	
Mercury	SB	YEAR	1	-0.003	0.004	-0.762	0.449			2005 onwards	Lognormal	
Mercury	SD	CONSTANT	1	-32.688	26.412	-1.238	0.219			2003 onwards	Lognormal	
Mercury	SD	YEAR	1	0.015	0.013	1.136	0.259			2003 onwards	Lognormal	
Mercury	SS	CONSTANT	1	-1.028	0.355	-2.894	0.004			2003 onwards	Normal	
Mercury	SS	YEAR	1	0.001	0	3.047	0.003			2003 onwards	Normal	
Mercury	WW	CONSTANT	1	167.28	66.716	2.507	0.031			2003 onwards	Lognormal	
Mercury	WW	YEAR	1	-0.085	0.033	-2.561	0.028			2003 onwards	Lognormal	
Molybdenum	FC	CONSTANT	1	9.819	61.02	0.161	0.875			2002 onwards	Lognormal	
Molybdenum	FC	YEAR	1	-0.005	0.03	-0.174	0.865			2002 onwards	Lognormal	
Molybdenum	NG	CONSTANT	1	-64.985	20.169	-3.222	0.001			2002 onwards	Lognormal	
Molybdenum	NG	YEAR	1	0.033	0.01	3.276	0.001	Yes	pos	2002 onwards	Lognormal	
Molybdenum	SB	CONSTANT	1	-9.813	12.294	-0.798	0.426			1991 onwards	Lognormal	
Molybdenum	SB	YEAR	1	0.006	0.006	0.954	0.341			1991 onwards	Lognormal	
Molybdenum	SD	CONSTANT	1	13.157	14.751	0.892	0.374			1991 onwards	Lognormal	
Molybdenum	SD	YEAR	1	-0.006	0.007	-0.833	0.406			1991 onwards	Lognormal	
Molybdenum	SS	CONSTANT	1	-47.636	14.723	-3.236	0.001			2002 onwards	Lognormal	
Molybdenum	SS	YEAR	1	0.024	0.007	3.261	0.001	Yes	pos	2002 onwards	Lognormal	
Molybdenum	WW	CONSTANT	1	-19.215	29.532	-0.651	0.526			1991 onwards	Lognormal	
Molybdenum	WW	YEAR	1	0.01	0.015	0.659	0.521			1991 onwards	Lognormal	
Nickel	FC	CONSTANT	1	151.374	60.15	2.517	0.031			2002 onwards	Lognormal	
Nickel	FC	YEAR	1	-0.076	0.03	-2.538	0.029			2002 onwards	Lognormal	

Analyte	Matrix	Variable	DF	Parameter Estimate	Standard Error	t	Pr > |t|	Regression P < 0.003	Slope	Data Set	Normality	Notes
Nickel	NG	CONSTANT	1	-94.037	21.219	-4.432	<0.001			2002 onwards	Lognormal	
Nickel	NG	YEAR	1	0.047	0.011	4.452	<0.001	Yes	pos	2002 onwards	Lognormal	
Nickel	SB	CONSTANT	1	11.18	25.579	0.437	0.663			2002 onwards	Lognormal	
Nickel	SB	YEAR	1	-0.005	0.013	-0.417	0.677			2002 onwards	Lognormal	
Nickel	SD	CONSTANT	1	-7.844	3.874	-2.025	0.045			1991 onwards	Lognormal	
Nickel	SD	YEAR	1	0.006	0.002	2.911	0.004			1991 onwards	Lognormal	
Nickel	SS	CONSTANT	1	-248.938	87.374	-2.849	0.005			1991 onwards	Normal	
Nickel	SS	YEAR	1	0.136	0.044	3.122	0.002	Yes	pos	1991 onwards	Normal	
Nickel	WW	CONSTANT	1	-98.739	78.984	-1.25	0.24			2002 onwards	Lognormal	
Nickel	WW	YEAR	1	0.049	0.039	1.236	0.245			2002 onwards	Lognormal	
Phosphorus	FC	CONSTANT	1	6978.133	33832.828	0.206	0.84			1991 onwards	Normal	
Phosphorus	FC	YEAR	1	-2.285	16.857	-0.136	0.894			1991 onwards	Normal	
Phosphorus	NG	CONSTANT	1	19.373	6.446	3.005	0.003			1991 onwards	Lognormal	
Phosphorus	NG	YEAR	1	-0.006	0.003	-1.796	0.073			1991 onwards	Lognormal	
Phosphorus	SB	CONSTANT	1	-54950.901	18634.24	-2.949	0.004			1991 onwards	Normal	
Phosphorus	SB	YEAR	1	29.877	9.303	3.212	0.002	Yes	pos	1991 onwards	Normal	
Phosphorus	SD	CONSTANT	1	-27.171	6.166	-4.406	<0.001			1991 onwards	Lognormal	
Phosphorus	SD	YEAR	1	0.017	0.003	5.456	<0.001	Yes	pos	1991 onwards	Lognormal	
Phosphorus	SS	CONSTANT	1	-10.661	4.174	-2.554	0.011			1991 onwards	Lognormal	
Phosphorus	SS	YEAR	1	0.009	0.002	4.083	<0.001	Yes	pos	1991 onwards	Lognormal	
Phosphorus	WW	CONSTANT	1	-24191.942	31484.674	-0.768	0.471			1991 onwards	Normal	
Phosphorus	WW	YEAR	1	13.687	15.707	0.871	0.417			1991 onwards	Normal	
Potassium	FC	CONSTANT	1	-12.47	8.277	-1.507	0.153			1991 onwards	Lognormal	
Potassium	FC	YEAR	1	0.01	0.004	2.487	0.025			1991 onwards	Lognormal	
Potassium	NG	CONSTANT	1	440344.11	115253.07	3.821	<0.001			1991 onwards	Normal	
Potassium	NG	YEAR	1	-209.696	57.506	-3.646	<0.001	Yes	neg	1991 onwards	Normal	
Potassium	SB	CONSTANT	1	-26331.173	47573.12	-0.553	0.581			1991 onwards	Normal	
Potassium	SB	YEAR	1	21.433	23.747	0.903	0.368			1991 onwards	Normal	
Potassium	SD	CONSTANT	1	-37.136	5.136	-7.23	<0.001			1991 onwards	Lognormal	
Potassium	SD	YEAR	1	0.022	0.003	8.779	<0.001	Yes	pos	1991 onwards	Lognormal	
Potassium	SS	CONSTANT	1	-30.366	5.467	-5.555	<0.001			1991 onwards	Lognormal	
Potassium	SS	YEAR	1	0.019	0.003	6.956	<0.001	Yes	pos	1991 onwards	Lognormal	
Potassium	WW	CONSTANT	1	-46761.653	66700.712	-0.701	0.495			1991 onwards	Normal	
Potassium	WW	YEAR	1	25.693	33.244	0.773	0.452			1991 onwards	Normal	
Silicon	FC	CONSTANT	1	458.901	62.905	7.295	<0.001			2002 onwards	Lognormal	
Silicon	FC	YEAR	1	-0.226	0.031	-7.234	<0.001	Yes	neg	2002 onwards	Lognormal	
Silicon	NG	CONSTANT	1	157.596	30.473	5.172	<0.001			2002 onwards	Lognormal	

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Analyte	Matrix	Variable	DF	Parameter Estimate	Standard Error	t	Pr > |t|	Regression P < 0.003	Slope	Data Set	Normality	Notes
Silicon	NG	YEAR	1	-0.074	0.015	-4.865	<0.001	Yes	neg	2002 onwards	Lognormal	
Silicon	SB	CONSTANT	1	345.567	81.501	4.24	<0.001			2003 onwards	Lognormal	
Silicon	SB	YEAR	1	-0.17	0.041	-4.19	<0.001	Yes	neg	2003 onwards	Lognormal	
Silicon	SD	CONSTANT	1	-19194.379	4717424.0	-0.004	0.997			2010 onwards	Normal	
Silicon	SD	YEAR	1	114.42	2343.551	0.049	0.961			2010 onwards	Normal	
Silicon	SS	CONSTANT	1	8824556.9	2944041.1	2.997	0.003			2010 onwards	Normal	
Silicon	SS	YEAR	1	-4230.112	1462.553	-2.892	0.005			2010 onwards	Normal	
Silicon	WW	CONSTANT	1	-562513.54	240853.14	-2.336	0.035			1991 onwards	Normal	
Silicon	WW	YEAR	1	282.592	120.043	2.354	0.034			1991 onwards	Normal	
Silver	NG	CONSTANT	1	NC	NC	NC	NC			2005 onwards	Normal	All samples ≤ RDL
Silver	NG	YEAR	1	NC	NC	NC	NC			2005 onwards	Normal	All samples ≤ RDL
Silver	SB	CONSTANT	1	NC	NC	NC	NC			2005 onwards	Normal	All samples ≤ RDL
Silver	SB	YEAR	1	NC	NC	NC	NC			2005 onwards	Normal	All samples ≤ RDL
Silver	SD	CONSTANT	1	-1.92	0.522	-3.68	<0.001			2003 onwards	Lognormal	
Silver	SD	YEAR	1	0	0	0.598	0.551			2003 onwards	Lognormal	
Silver	SS	CONSTANT	1	-1.535	0.376	-4.082	<0.001			2003 onwards	Lognormal	
Silver	SS	YEAR	1	0	0	-0.195	0.846			2003 onwards	Lognormal	
Sodium	FC	CONSTANT	1	3695.644	1441.175	2.564	0.062			2010 onwards	Normal	
Sodium	FC	YEAR	1	-1.824	0.716	-2.548	0.063			2010 onwards	Normal	
Sodium	NG	CONSTANT	1	96.489	38.378	2.514	0.013			2005 onwards	Lognormal	
Sodium	NG	YEAR	1	-0.046	0.019	-2.412	0.017			2005 onwards	Lognormal	
Sodium	SB	CONSTANT	1	55.133	23.778	2.319	0.024			2005 onwards	Lognormal	
Sodium	SB	YEAR	1	-0.026	0.012	-2.187	0.033			2005 onwards	Lognormal	
Sodium	SD	CONSTANT	1	-35.043	10.969	-3.195	0.002			1991 onwards	Lognormal	
Sodium	SD	YEAR	1	0.02	0.005	3.688	<0.001	Yes	pos	1991 onwards	Lognormal	
Sodium	SS	CONSTANT	1	103.462	16.282	6.354	<0.001			2003 onwards	Lognormal	
Sodium	SS	YEAR	1	-0.049	0.008	-6.054	<0.001	Yes	neg	2003 onwards	Lognormal	
Sodium	WW	CONSTANT	1	NC	NC	NC	NC			2005 onwards	Normal	All samples ≤ RDL
Sodium	WW	YEAR	1	NC	NC	NC	NC			2005 onwards	Normal	All samples ≤ RDL
Strontium	FC	CONSTANT	1	35.457	26.048	1.361	0.194			1991 onwards	Lognormal	
Strontium	FC	YEAR	1	-0.019	0.013	-1.439	0.171			1991 onwards	Lognormal	
Strontium	NG	CONSTANT	1	-25.019	9.365	-2.671	0.008			1991 onwards	Lognormal	
Strontium	NG	YEAR	1	0.014	0.005	2.977	0.003			1991 onwards	Lognormal	
Strontium	SB	CONSTANT	1	-25.362	10.612	-2.39	0.018			1991 onwards	Lognormal	
Strontium	SB	YEAR	1	0.013	0.005	2.452	0.015			1991 onwards	Lognormal	
Strontium	SD	CONSTANT	1	9.04	6.946	1.301	0.195			1991 onwards	Lognormal	
Strontium	SD	YEAR	1	-0.002	0.003	-0.704	0.482			1991 onwards	Lognormal	

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Analyte	Matrix	Variable	DF	Parameter Estimate	Standard Error	t	Pr > |t|	Regression P < 0.003	Slope	Data Set	Normality	Notes
Strontium	SS	CONSTANT	1	-29.681	6.619	-4.484	<0.001			1991 onwards	Lognormal	
Strontium	SS	YEAR	1	0.016	0.003	4.944	<0.001	Yes	pos	1991 onwards	Lognormal	
Strontium	WW	CONSTANT	1	-58.988	20.512	-2.876	0.012			1991 onwards	Lognormal	
Strontium	WW	YEAR	1	0.03	0.01	2.906	0.012			1991 onwards	Lognormal	
Sulfur	FC	CONSTANT	1	-18879.56	13525.197	-1.396	0.183			1991 onwards	Normal	
Sulfur	FC	YEAR	1	9.848	6.735	1.462	0.164			1991 onwards	Normal	
Sulfur	NG	CONSTANT	1	-47678.3	17058.957	-2.795	0.005			1991 onwards	Normal	
Sulfur	NG	YEAR	1	25.368	8.512	2.98	0.003			1991 onwards	Normal	
Sulfur	SB	CONSTANT	1	-43243.136	10249.396	-4.219	<0.001			1991 onwards	Normal	
Sulfur	SB	YEAR	1	23.082	5.116	4.512	<0.001	Yes	pos	1991 onwards	Normal	
Sulfur	SD	CONSTANT	1	5.647	15.297	0.369	0.713			1991 onwards	Lognormal	
Sulfur	SD	YEAR	1	0	0.008	0.063	0.95			1991 onwards	Lognormal	
Sulfur	SS	CONSTANT	1	18.198	6.865	2.651	0.008			1991 onwards	Lognormal	
Sulfur	SS	YEAR	1	-0.006	0.003	-1.817	0.07			1991 onwards	Lognormal	
Sulfur	WW	CONSTANT	1	973.577	12611.606	0.077	0.94			1991 onwards	Normal	
Sulfur	WW	YEAR	1	0.093	6.286	0.015	0.988			1991 onwards	Normal	
Thallium	NG	CONSTANT	1	131.27	37.523	3.498	0.001			2002 onwards	Lognormal	
Thallium	NG	YEAR	1	-0.067	0.019	-3.571	0.001	Yes	neg	2002 onwards	Lognormal	
Thallium	SD	CONSTANT	1	130.484	26.371	4.948	<0.001			2002 onwards	Lognormal	
Thallium	SD	YEAR	1	-0.065	0.013	-4.988	<0.001	Yes	neg	2002 onwards	Lognormal	
Thallium	SS	CONSTANT	1	116.761	17.182	6.796	<0.001			2002 onwards	Lognormal	
Thallium	SS	YEAR	1	-0.059	0.009	-6.883	<0.001	Yes	neg	2002 onwards	Lognormal	
Titanium	NG	CONSTANT	1	-72.458	30.352	-2.387	0.018			2002 onwards	Lognormal	
Titanium	NG	YEAR	1	0.037	0.015	2.422	0.016			2002 onwards	Lognormal	
Titanium	SB	CONSTANT	1	2.744	26.311	0.104	0.917			2007 onwards	Lognormal	
Titanium	SB	YEAR	1	-0.002	0.013	-0.125	0.901			2007 onwards	Lognormal	
Titanium	SD	CONSTANT	1	4210.504	1308.312	3.218	0.002			1991 onwards	Normal	
Titanium	SD	YEAR	1	-2.021	0.653	-3.096	0.002	Yes	neg	1991 onwards	Normal	
Titanium	SS	CONSTANT	1	-564.11	735.359	-0.767	0.444			1991 onwards	Normal	
Titanium	SS	YEAR	1	0.347	0.367	0.945	0.345			1991 onwards	Normal	
Titanium	WW	CONSTANT	1	NC	NC	NC	NC			2010 onwards	Lognormal	All samples ≤ RDL
Titanium	WW	YEAR	1	NC	NC	NC	NC			2010 onwards	Lognormal	All samples ≤ RDL
Vanadium	NG	CONSTANT	1	54.471	52.803	1.032	0.305			2010 onwards	Lognormal	
Vanadium	NG	YEAR	1	-0.027	0.026	-1.04	0.301			2010 onwards	Lognormal	
Vanadium	SB	CONSTANT	1	-3.175	5.321	-0.597	0.556			2010 onwards	Lognormal	
Vanadium	SB	YEAR	1	0.001	0.003	0.467	0.644			2010 onwards	Lognormal	
Vanadium	SD	CONSTANT	1	-30.161	4.062	-7.424	<0.001			1991 onwards	Lognormal	

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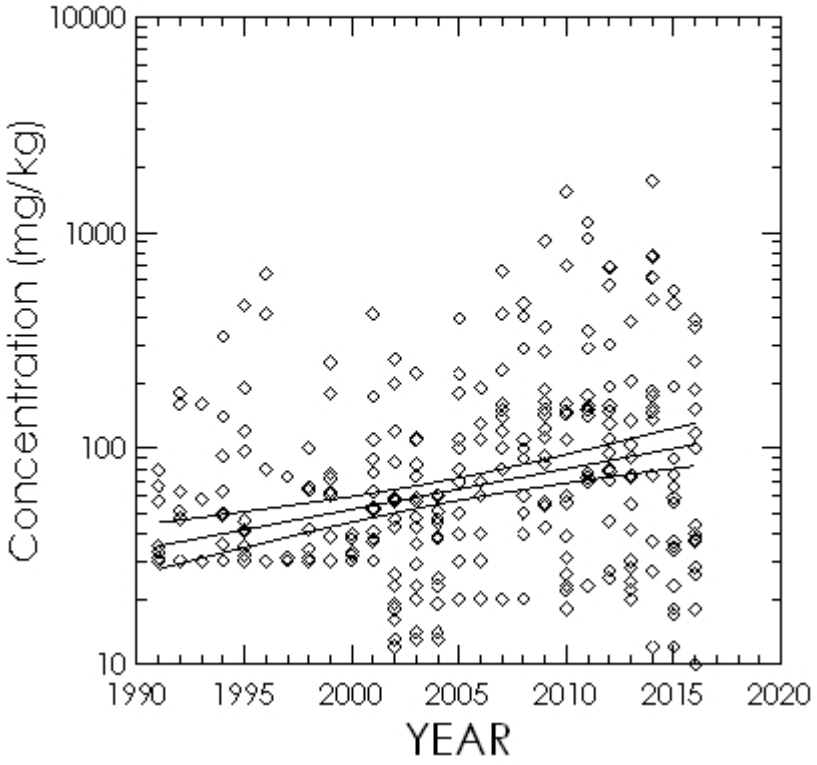
Analyte	Matrix	Variable	DF	Parameter Estimate	Standard Error	t	Pr > |t|	Regression P < 0.003	Slope	Data Set	Normality	Notes
Vanadium	SD	YEAR	1	0.017	0.002	8.297	<0.001	Yes	pos	1991 onwards	Lognormal	
Vanadium	SS	CONSTANT	1	-701.934	97.416	-7.206	<0.001			1991 onwards	Normal	
Vanadium	SS	YEAR	1	0.367	0.049	7.55	<0.001	Yes	pos	1991 onwards	Normal	
Vanadium	WW	CONSTANT	1	NC	NC	NC	NC			2010 onwards	Lognormal	All samples ≤ RDL
Vanadium	WW	YEAR	1	NC	NC	NC	NC			2010 onwards	Lognormal	All samples ≤ RDL
Zinc	FC	CONSTANT	1	-306.711	213.664	-1.435	0.172			1991 onwards	Normal	
Zinc	FC	YEAR	1	0.161	0.106	1.51	0.152			1991 onwards	Normal	
Zinc	NG	CONSTANT	1	-0.322	6.325	-0.051	0.959			1991 onwards	Lognormal	
Zinc	NG	YEAR	1	0.002	0.003	0.572	0.568			1991 onwards	Lognormal	
Zinc	SB	CONSTANT	1	60.383	147.305	0.41	0.682			1991 onwards	Normal	
Zinc	SB	YEAR	1	-0.014	0.074	-0.194	0.846			1991 onwards	Normal	
Zinc	SD	CONSTANT	1	-32.738	7.595	-4.311	<0.001			1991 onwards	Lognormal	
Zinc	SD	YEAR	1	0.019	0.004	4.892	<0.001	Yes	pos	1991 onwards	Lognormal	
Zinc	SS	CONSTANT	1	-9.35	3.214	-2.909	0.004			1991 onwards	Lognormal	
Zinc	SS	YEAR	1	0.007	0.002	4.201	<0.001	Yes	pos	1991 onwards	Lognormal	
Zinc	WW	CONSTANT	1	35.94	18.148	1.98	0.068			1991 onwards	Lognormal	
Zinc	WW	YEAR	1	-0.016	0.009	-1.817	0.091			1991 onwards	Lognormal	
Zirconium	SD	CONSTANT	1	212.548	12.921	16.45	<0.001			2003 onwards	Lognormal	
Zirconium	SD	YEAR	1	-0.105	0.006	-16.289	<0.001	Yes	neg	2003 onwards	Lognormal	
Zirconium	SS	CONSTANT	1	149.523	8.264	18.093	<0.001			2003 onwards	Lognormal	
Zirconium	SS	YEAR	1	-0.073	0.004	-17.862	<0.001	Yes	neg	2003 onwards	Lognormal	

APPENDIX E-2:
SITE-SPECIFIC INORGANIC TREND LINE GRAPHS P<0.003

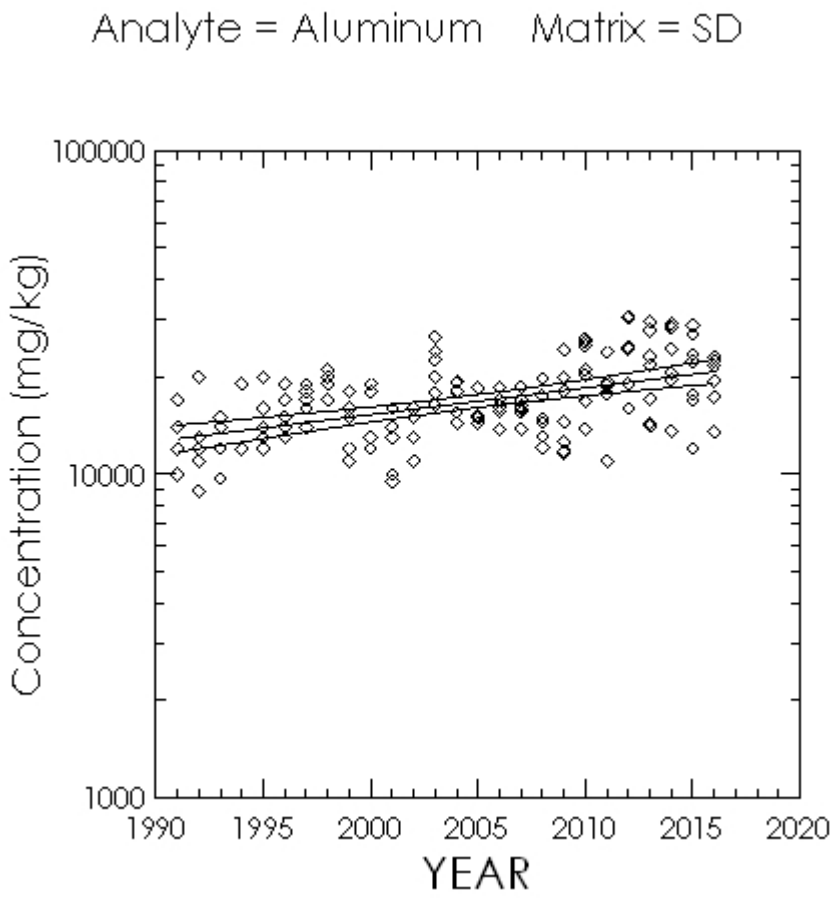
APPENDIX E-2 SITE-SPECIFIC INORGANIC TREND LINE GRAPHS P<0.003

Analyte = Aluminum Matrix = NG



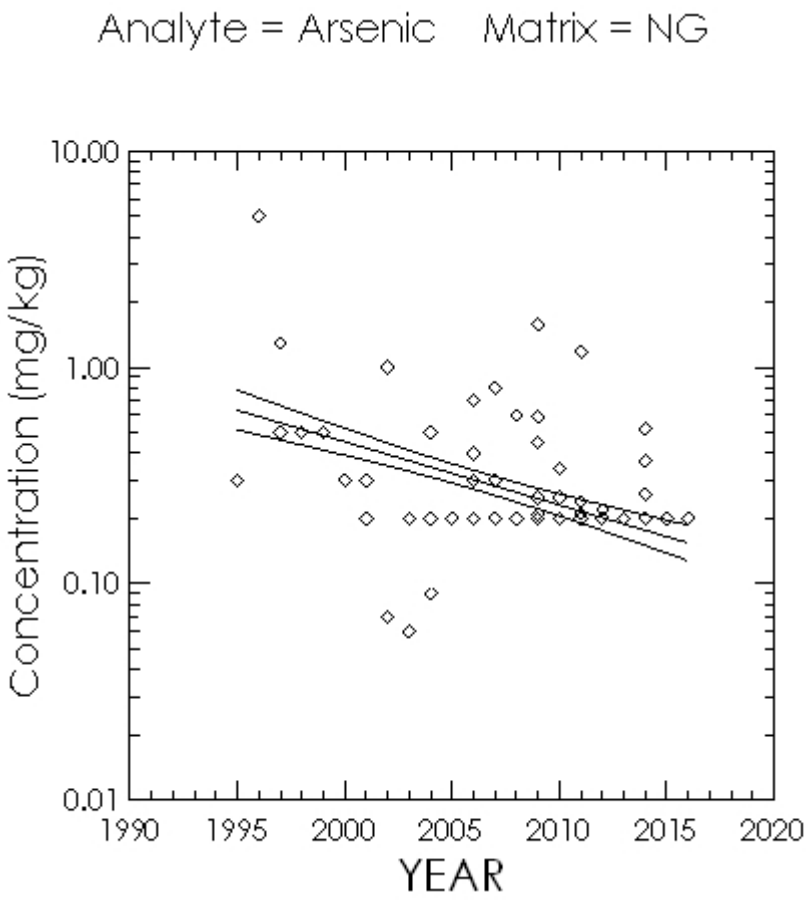
Concentration = $e^{(0.043*Year - 82.75)}$

R^2=0.103, p<0.001



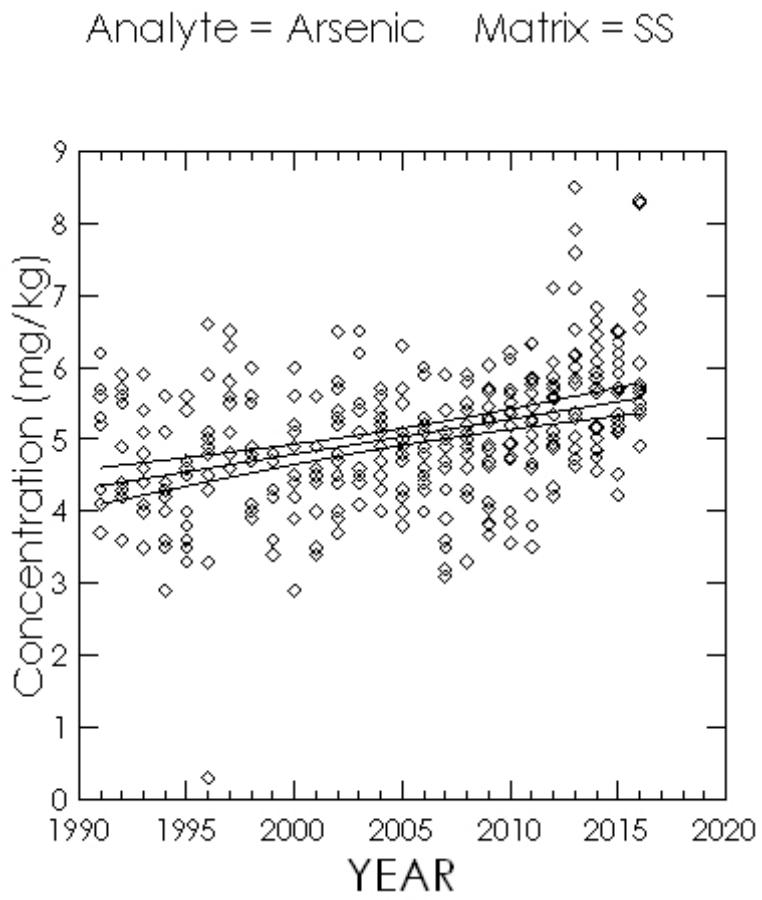
Concentration = $e^{(0.019*Year - 28.601)}$

R^2=0.266, p<0.001



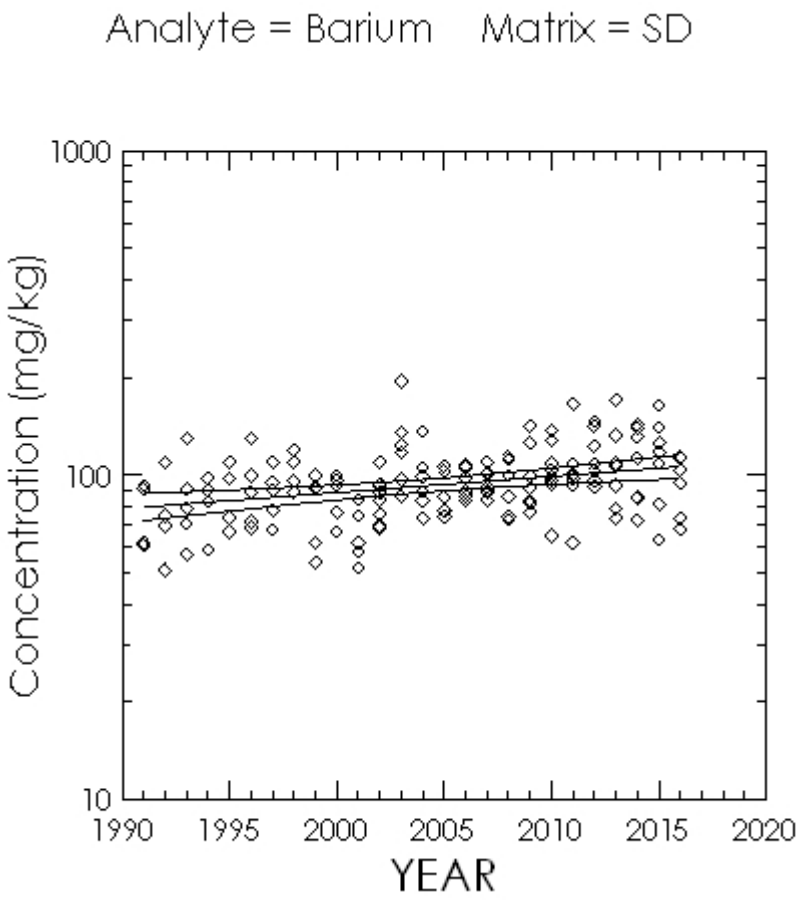
Concentration = $e^{(-0.067*Year + 133.933)}$

R^2=0.296, p<0.001



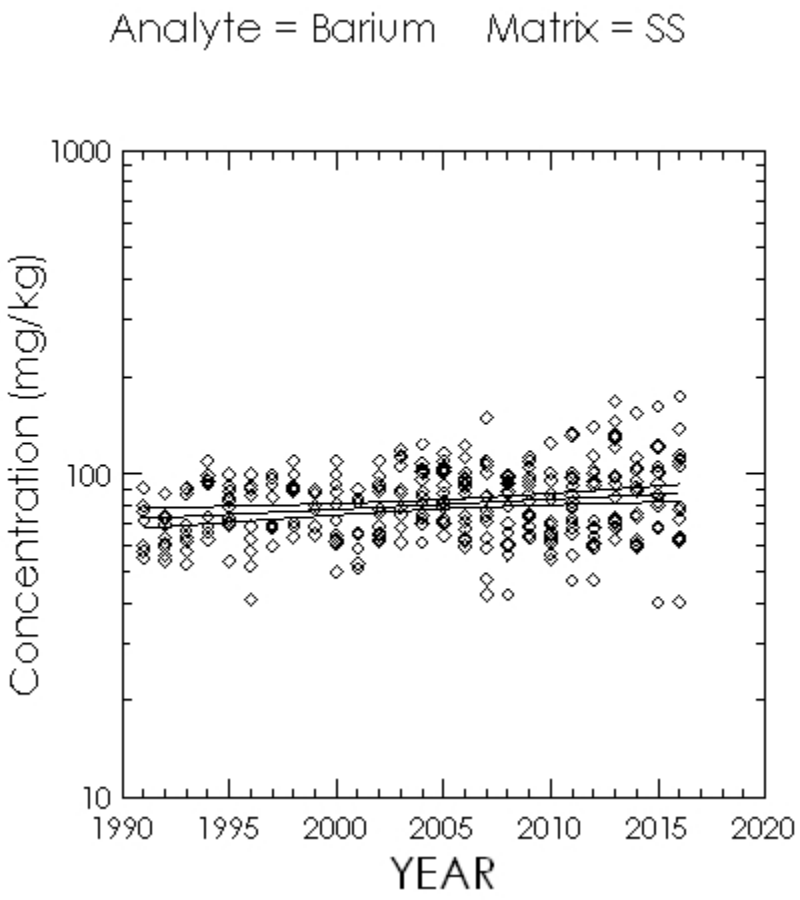
Concentration = 0.049*Year - 92.474

R^2=0.143, p<0.001



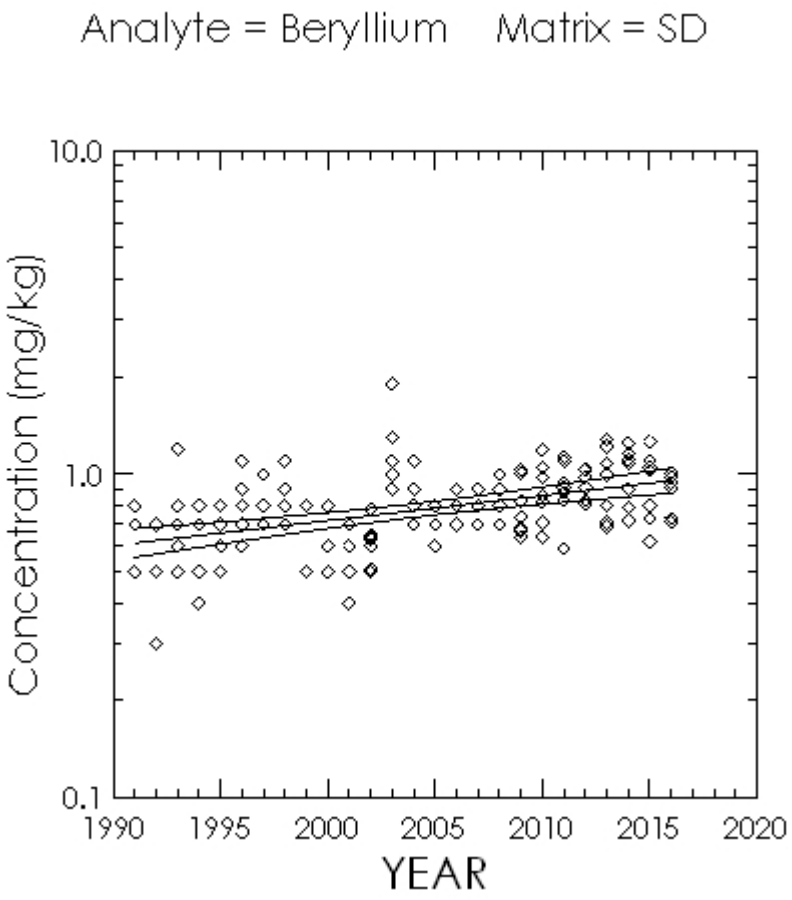
Concentration = $e^{(0.012*Year - 18.533)}$

R^2=0.117, p<0.001



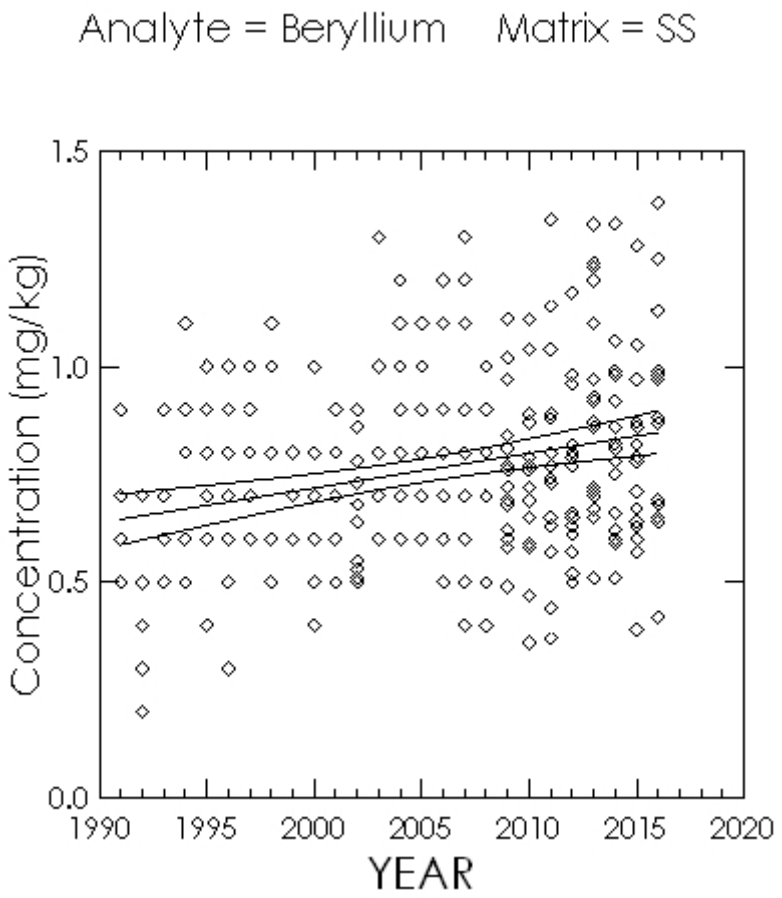
Concentration = $e^{(0.007*Year - 10.036)}$

R^2=0.042, p<0.001



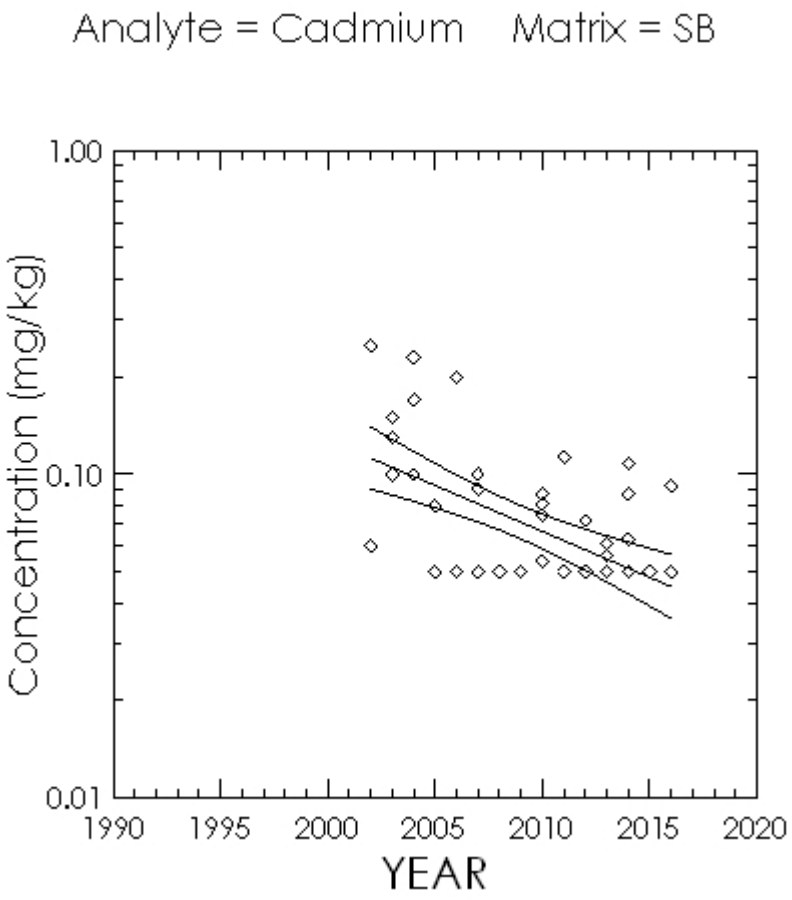
Concentration = $e^{(0.018*Year - 35.923)}$

R^2=0.221, p<0.001



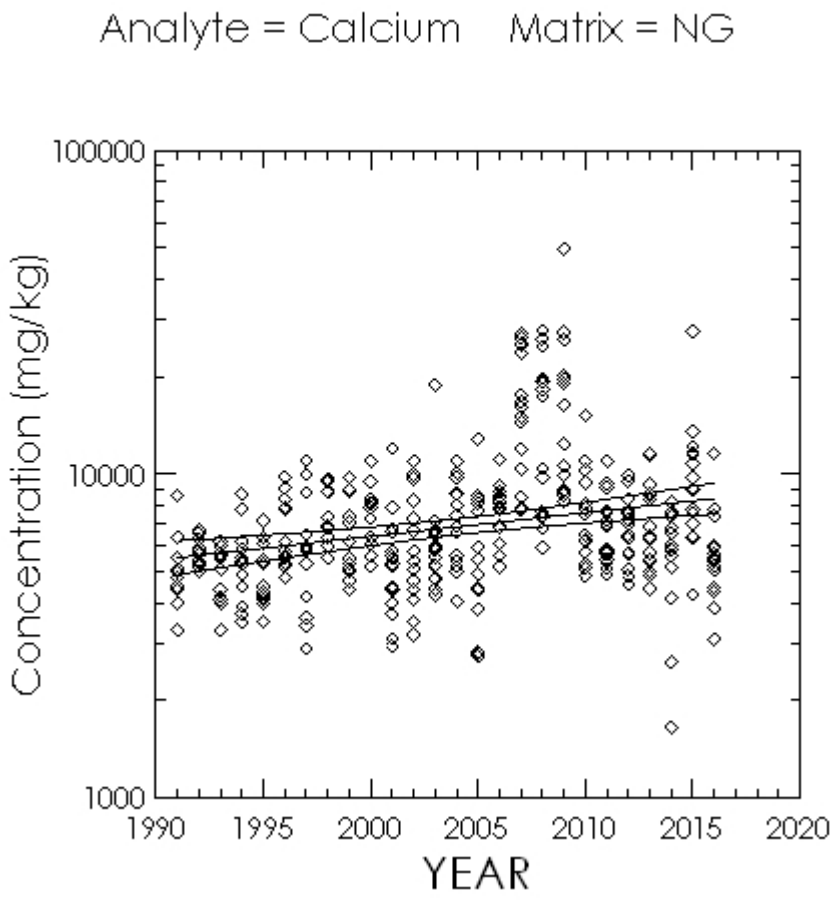
Concentration = 0.008*Year - 15.398

R^2=0.078, p<0.001



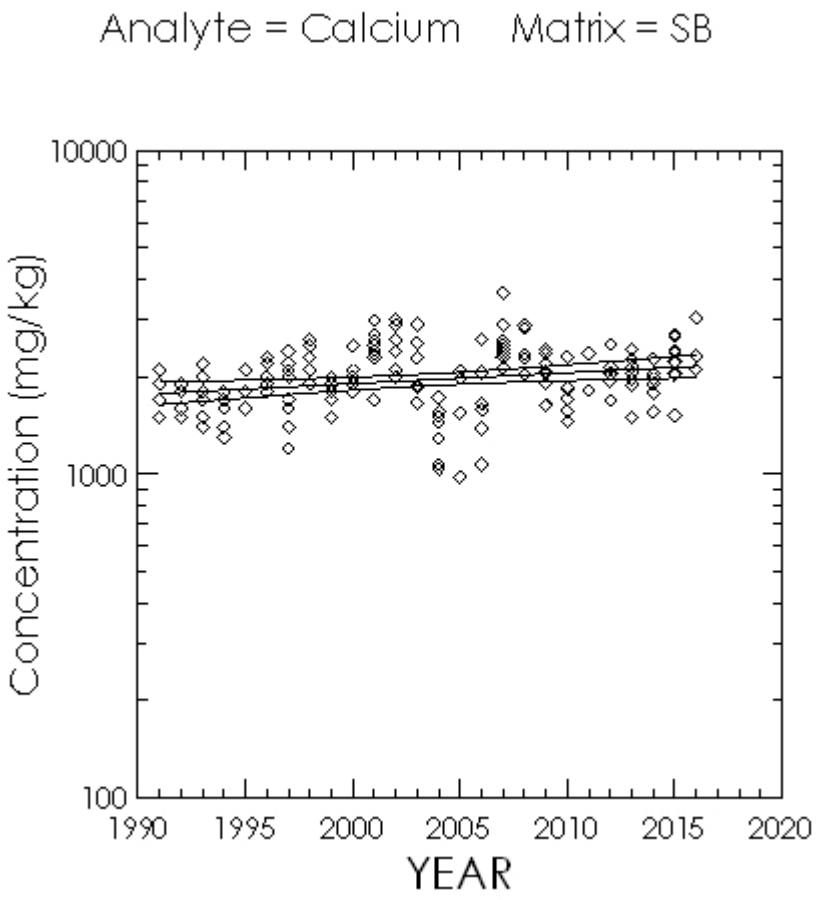
Concentration = $e^{(-0.065*Year + 128.46)}$

R^2=0.344, p<0.001



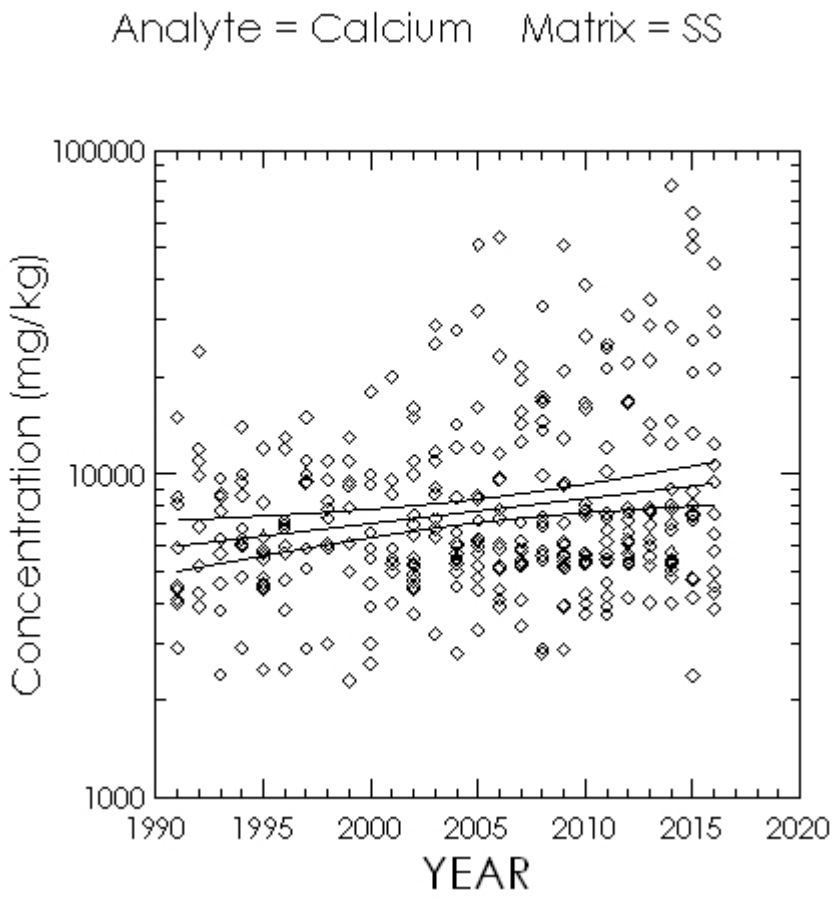
Concentration = $e^{(0.017*Year - 24.951)}$

R^2=0.07, p<0.001



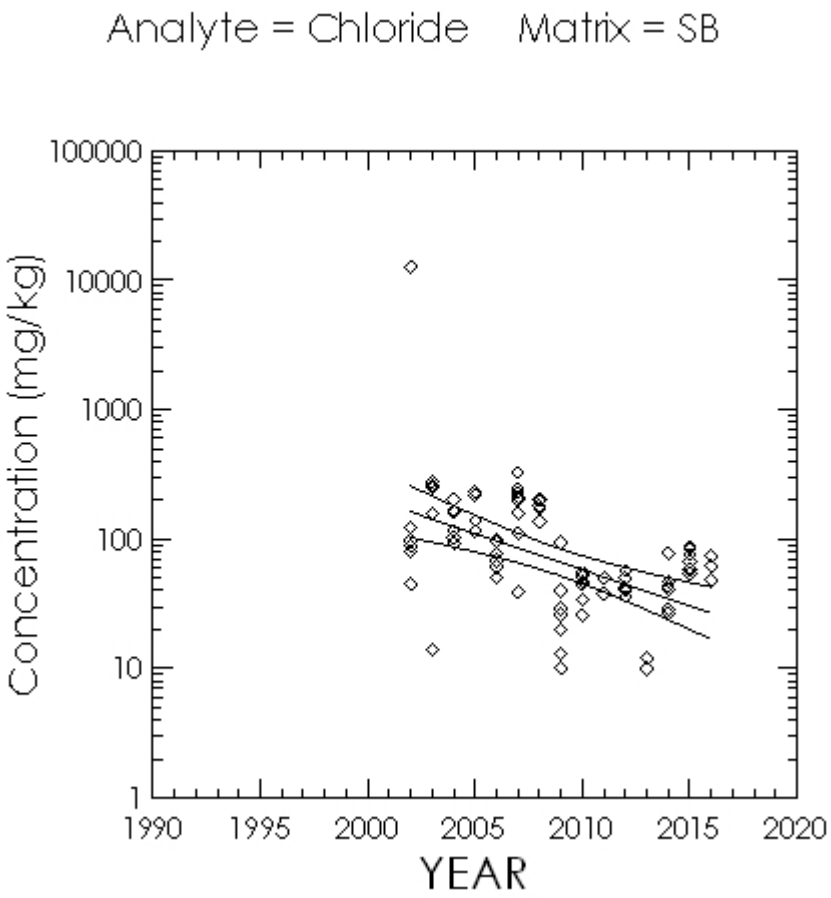
Concentration = $e^{(0.008*Year - 7.922)}$

R^2=0.066, p=0.001



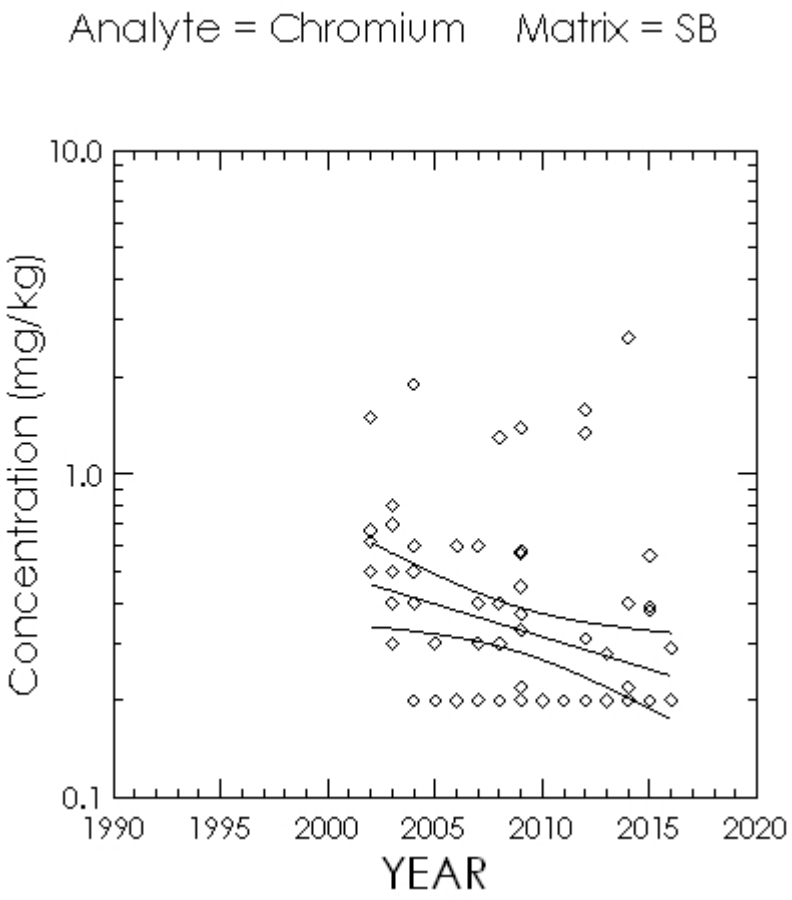
Concentration = $e^{(0.018*Year - 26.706)}$

R^2=0.042, p<0.001



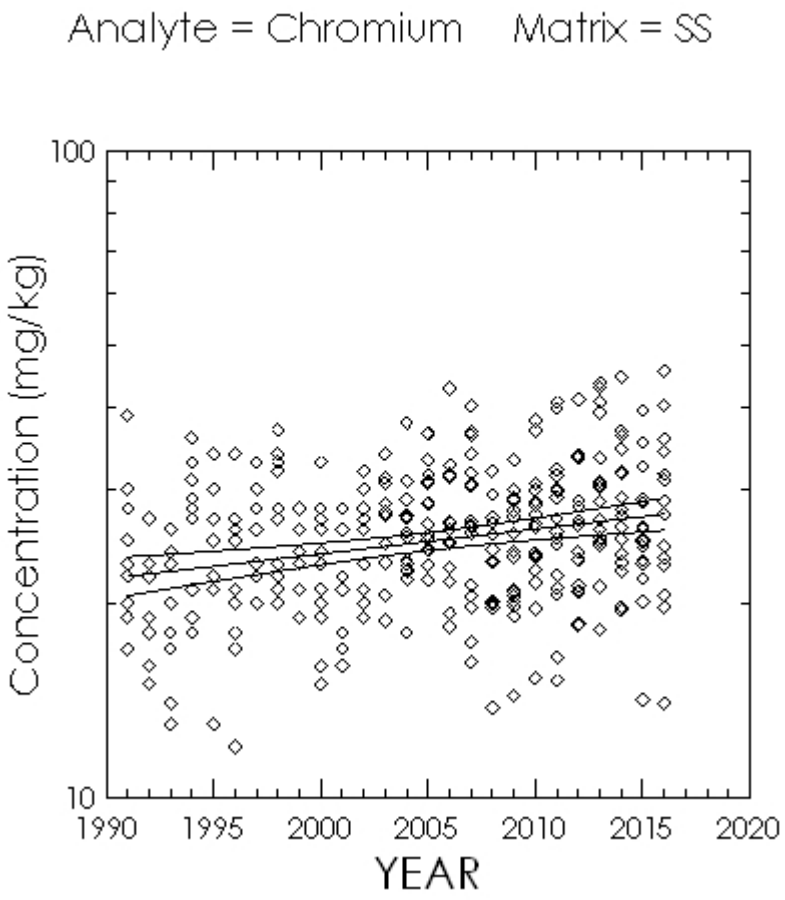
Concentration = $e^{(-0.129*Year + 262.8)}$

R^2=0.265, p<0.001



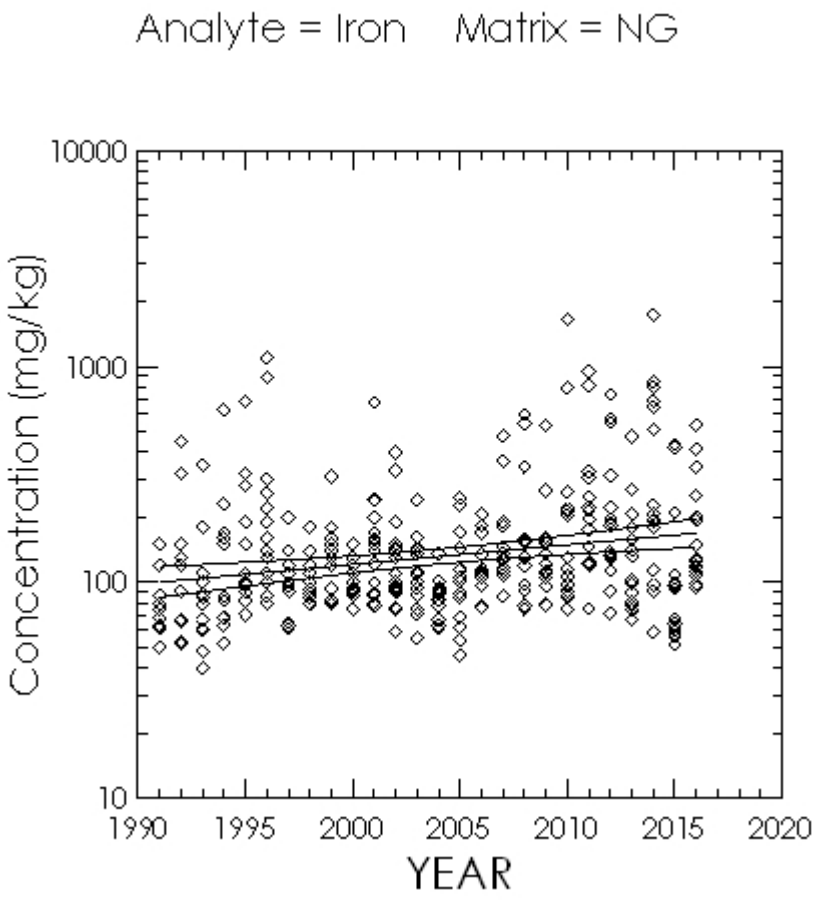
Concentration = $e^{(-0.046*Year + 92.296)}$

R^2=0.103, p=0.002



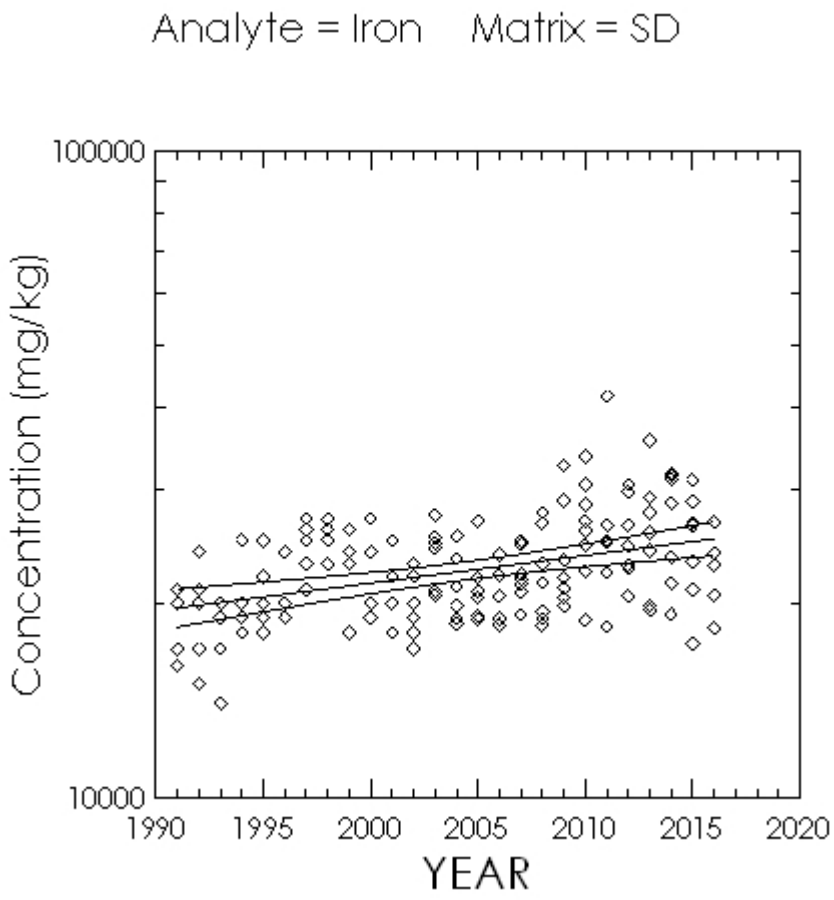
Concentration = $e^{(0.009*Year - 14.53)}$

R^2=0.069, p<0.001



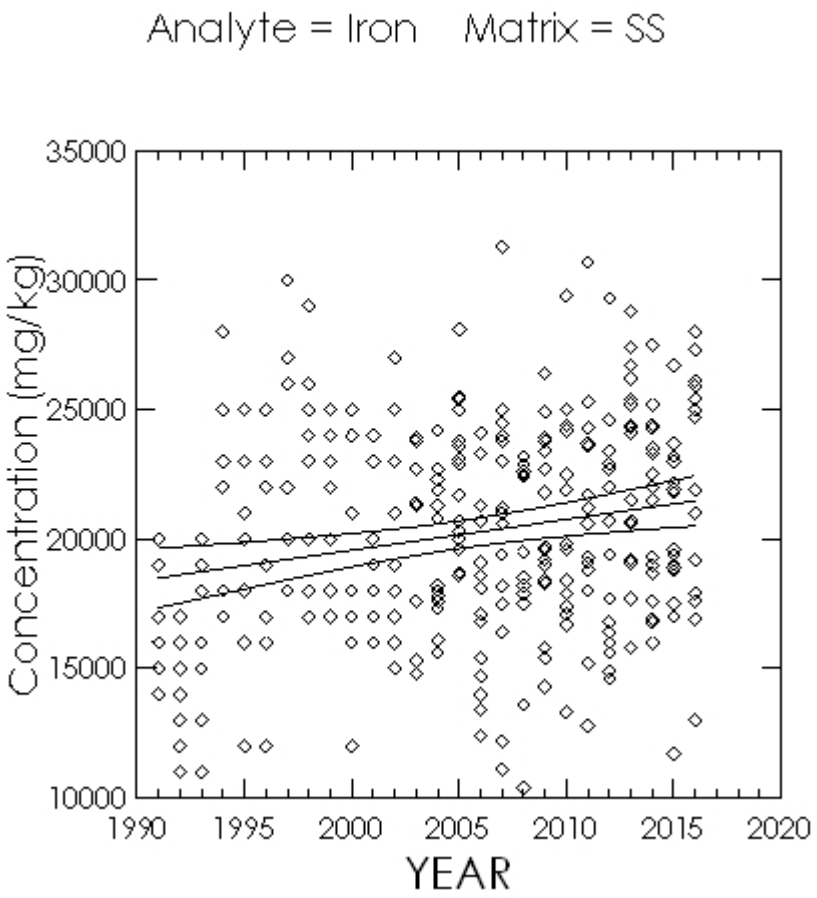
Concentration = $e^{(0.021*Year - 36.978)}$

R^2=0.057, p<0.001



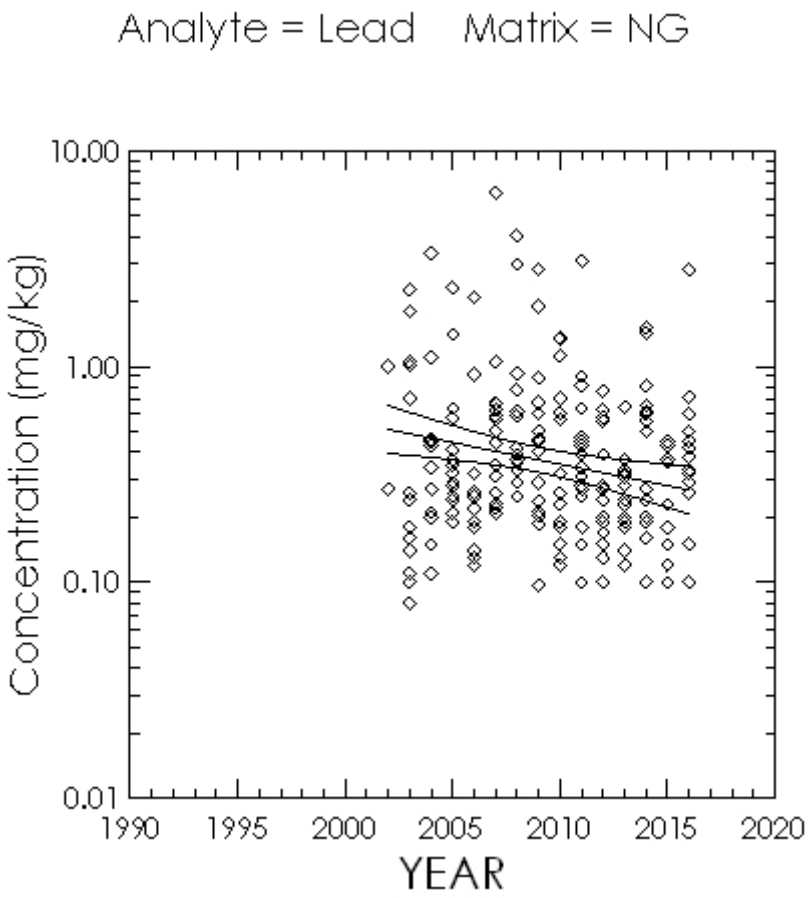
Concentration = $e^{(0.01*Year - 9.732)}$

R^2=0.163, p<0.001



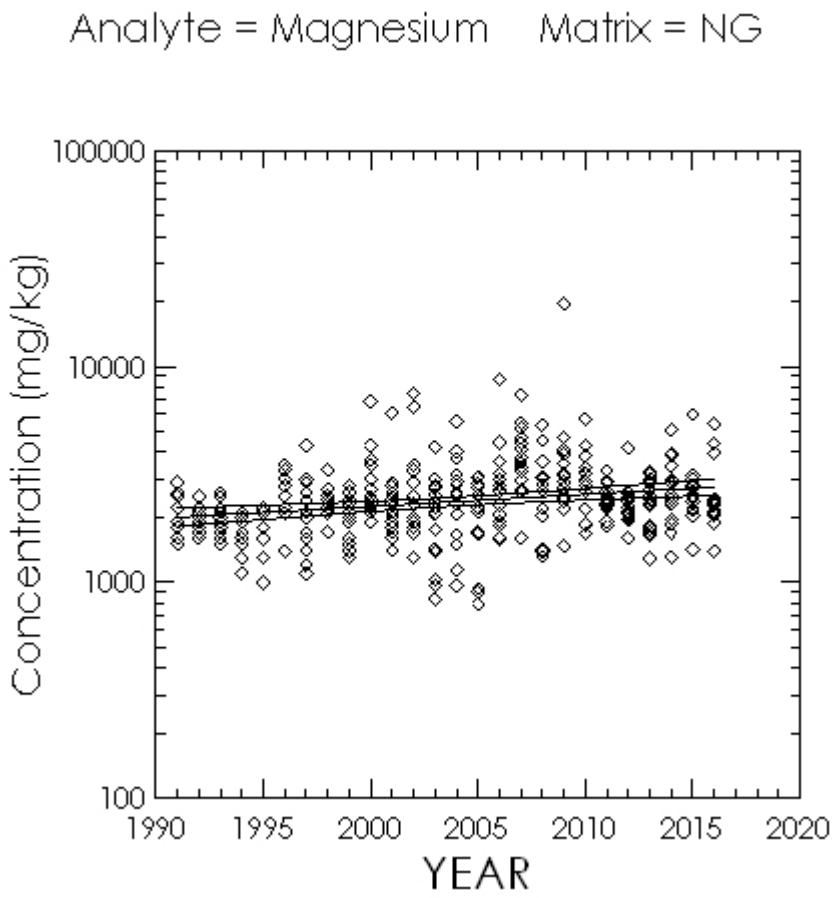
Concentration = 119.149*Year - 218728.606

R^2=0.046, p<0.001



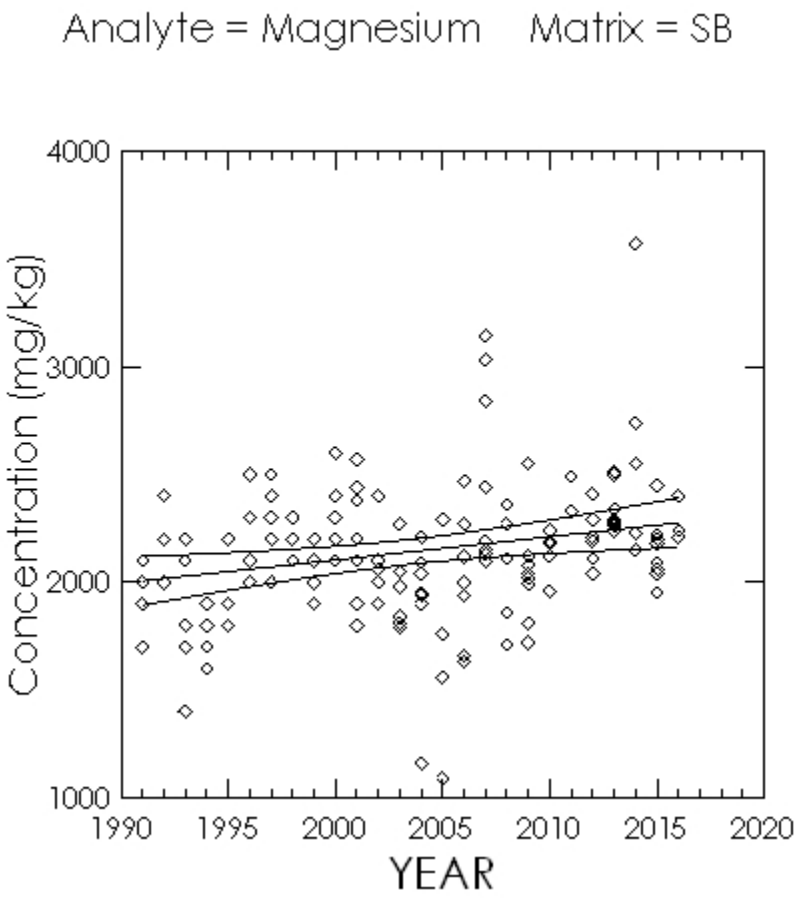
Concentration = $e^{(-0.046*Year + 91.757)}$

R^2=0.056, p<0.001



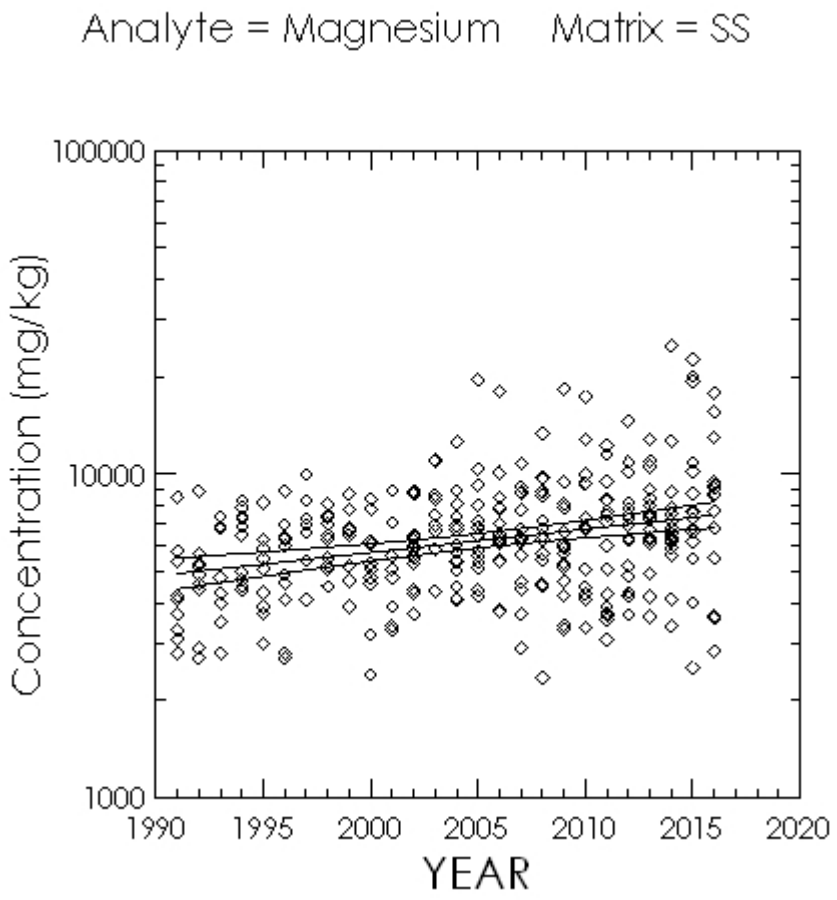
Concentration = $e^{(0.013*Year - 18.099)}$

R^2=0.06, p<0.001



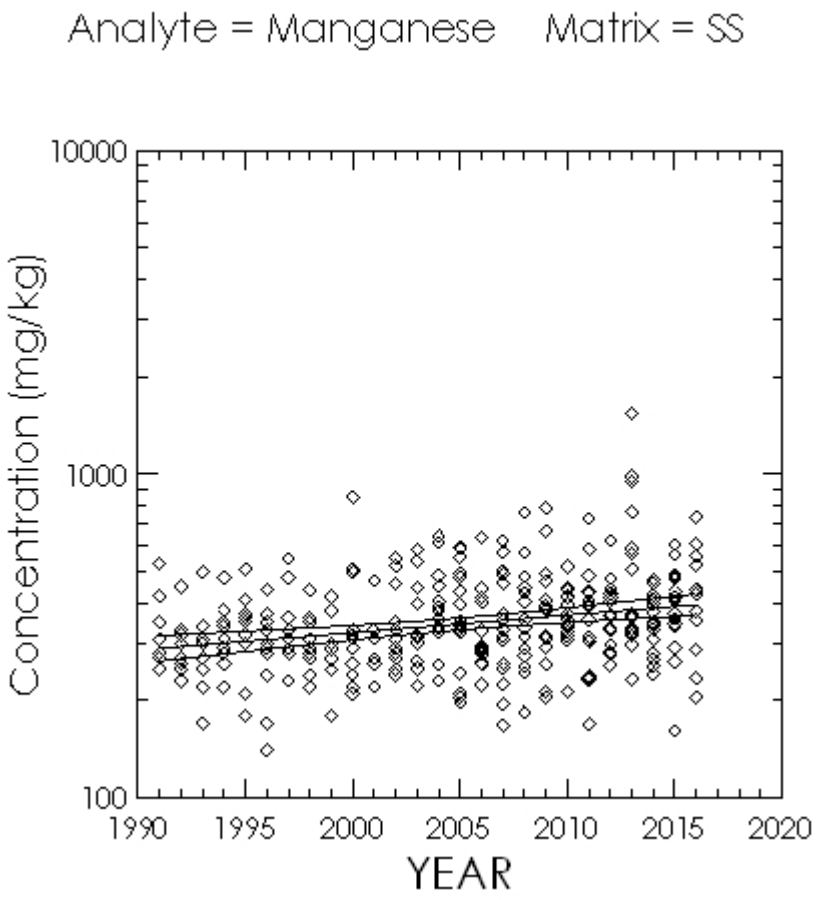
Concentration = 10.771*Year - 19437.627

R^2=0.067, p=0.001



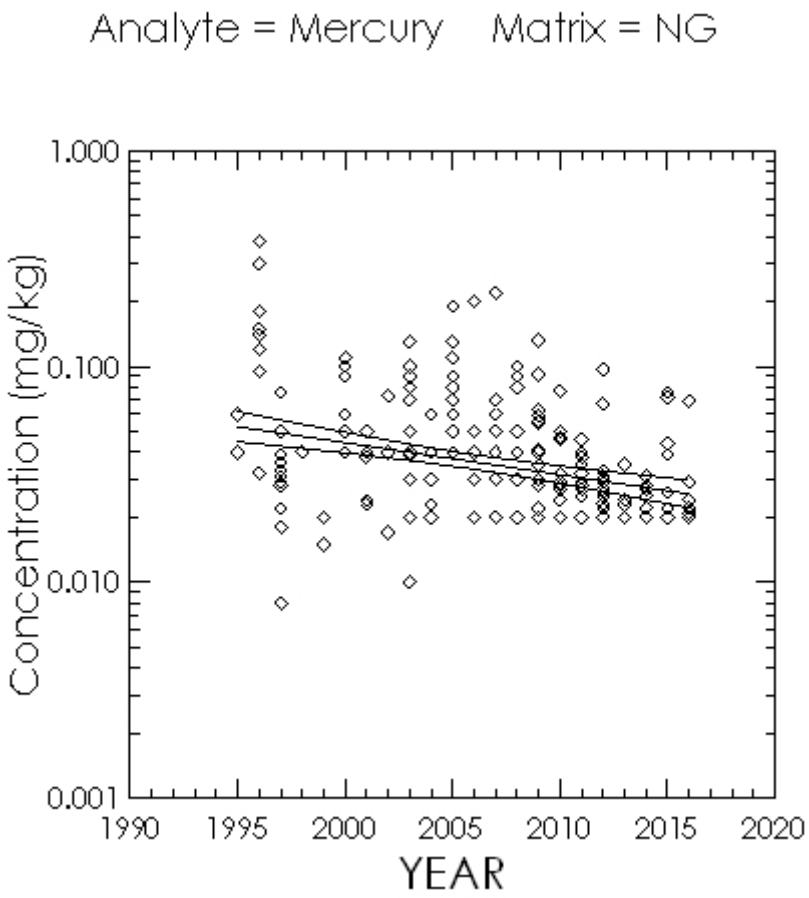
Concentration = $e^{(0.017*Year - 24.572)}$

R^2=0.093, p<0.001



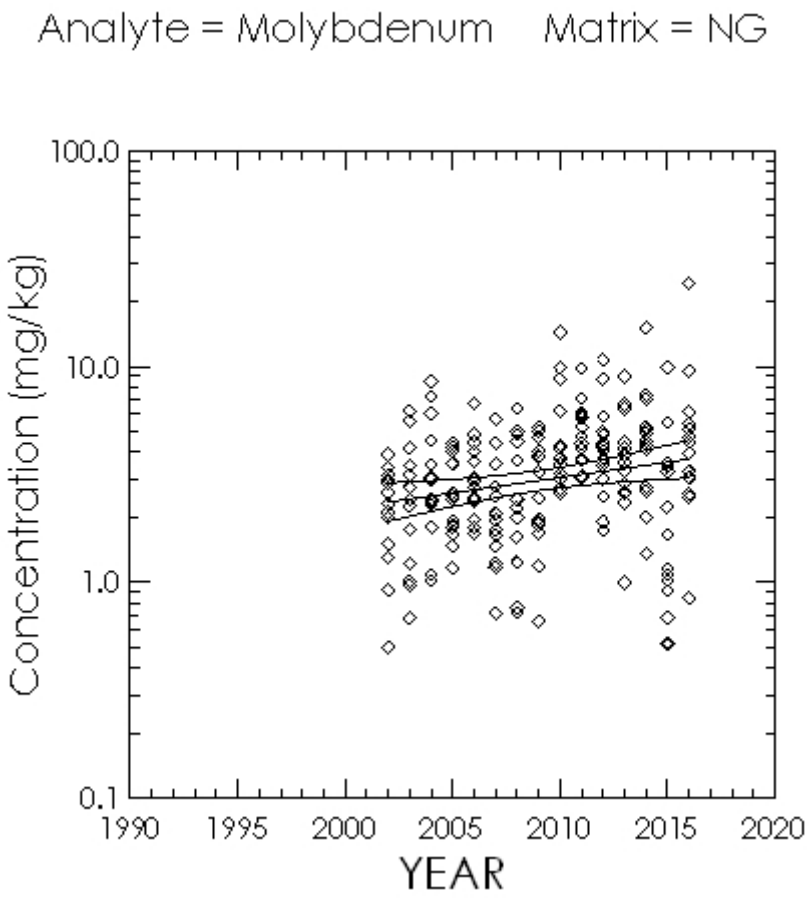
Concentration = $e^{(0.012*Year - 19.135)}$

R^2=0.076, p<0.001



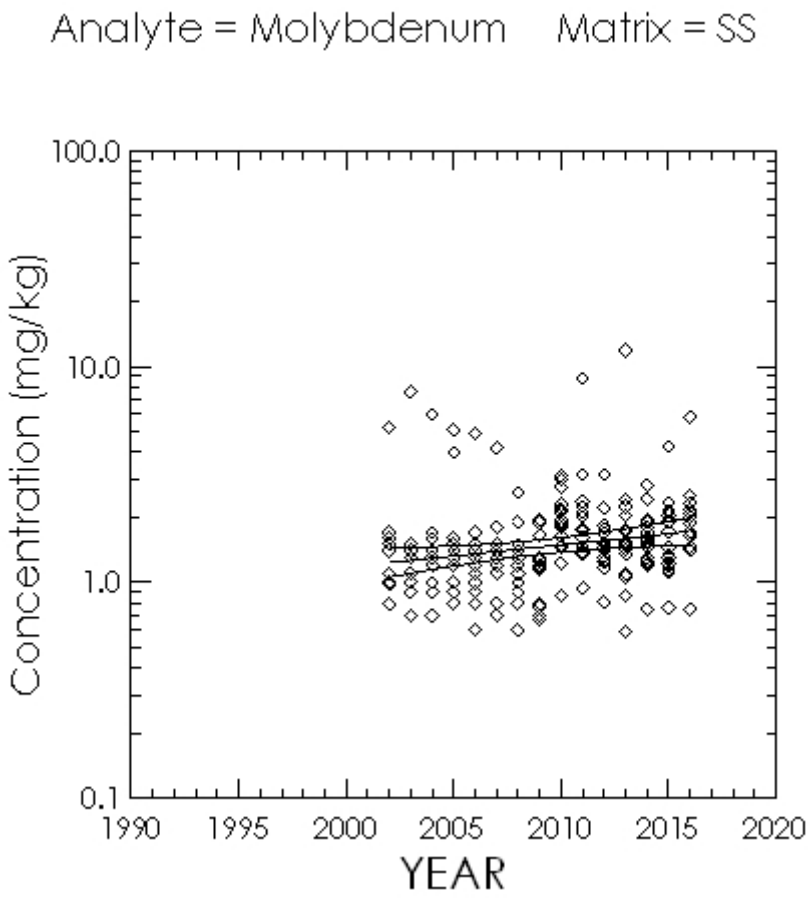
Concentration = $e^{(-0.034*Year + 65.333)}$

R^2=0.122, p<0.001



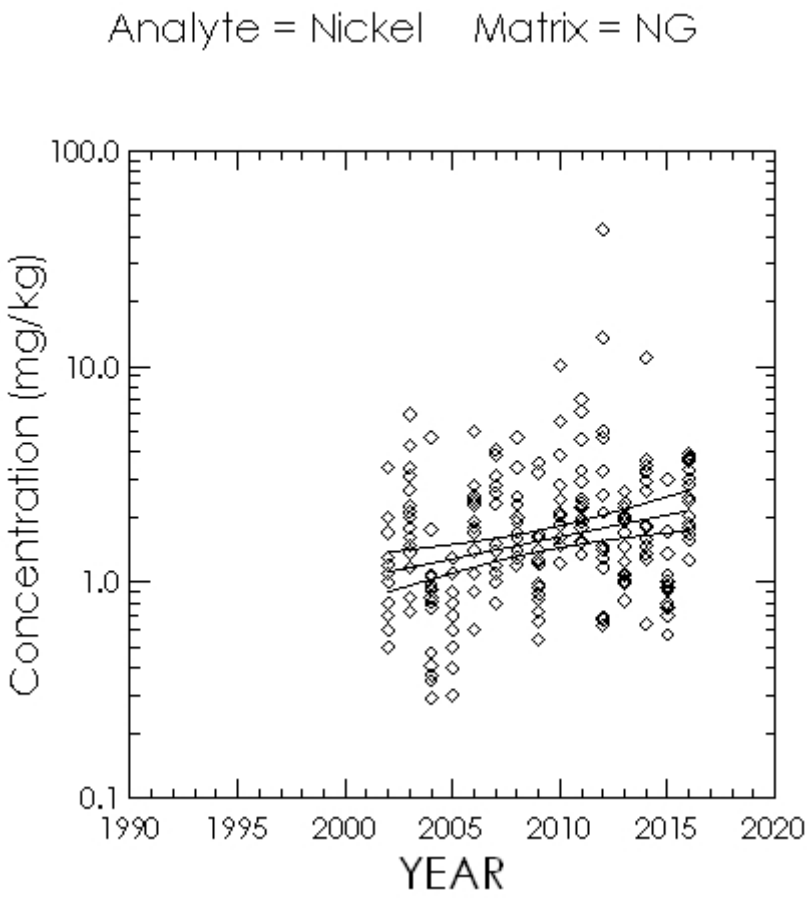
Concentration = $e^{(0.033*Year - 64.985)}$

R^2=0.046, p=0.001



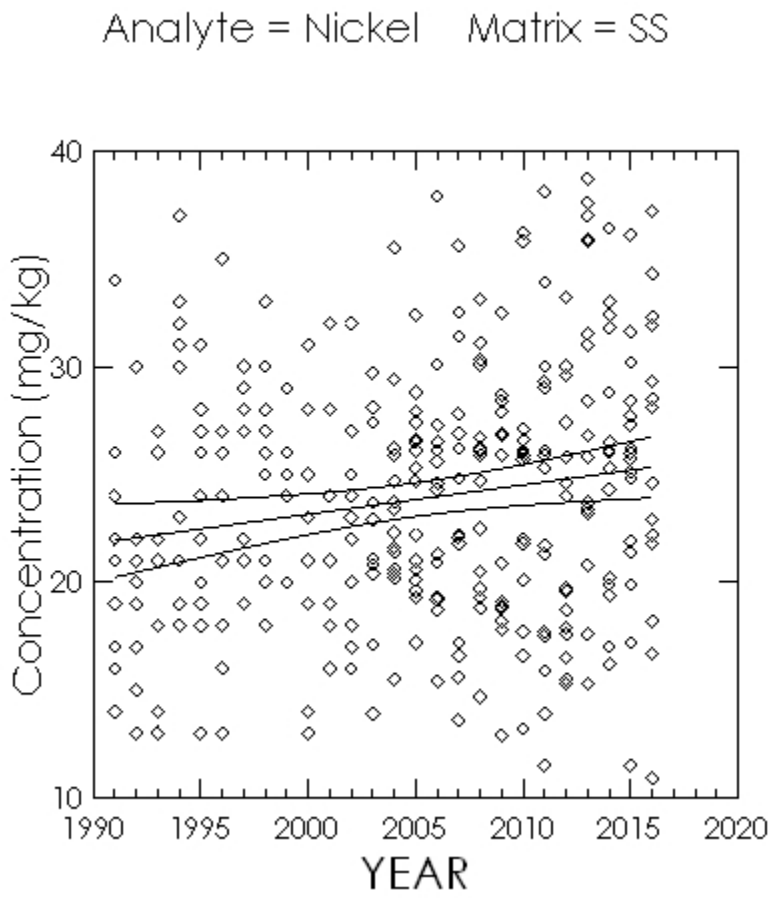
Concentration = $e^{(0.024*Year - 47.636)}$

R^2=0.046, p=0.001



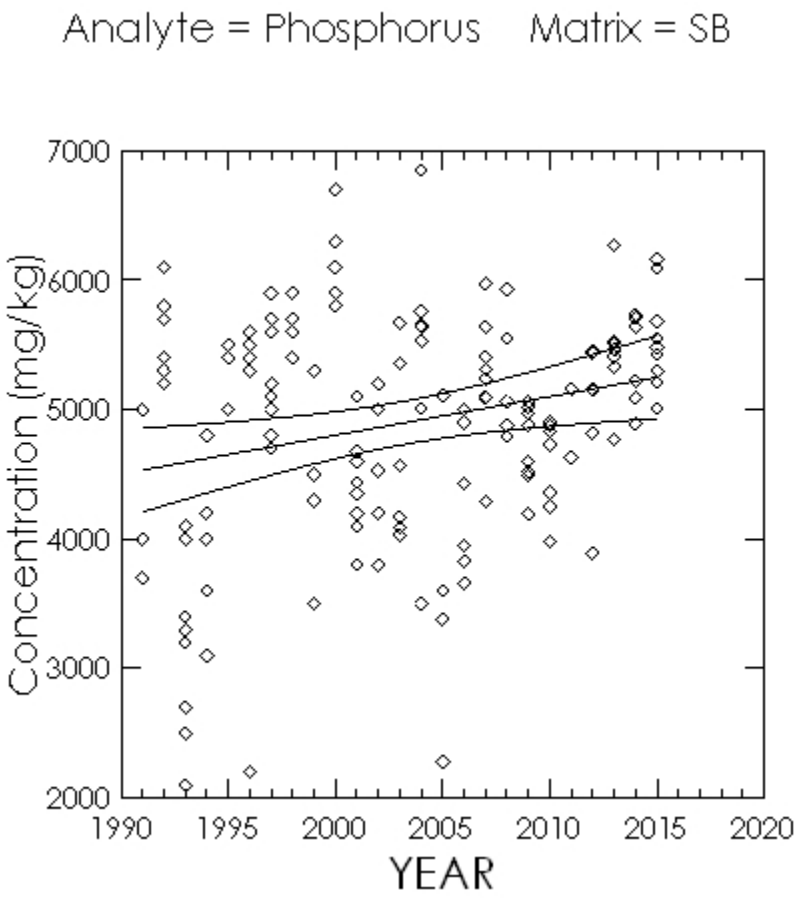
Concentration = $e^{(0.047*Year - 94.037)}$

R^2=0.081, p<0.001



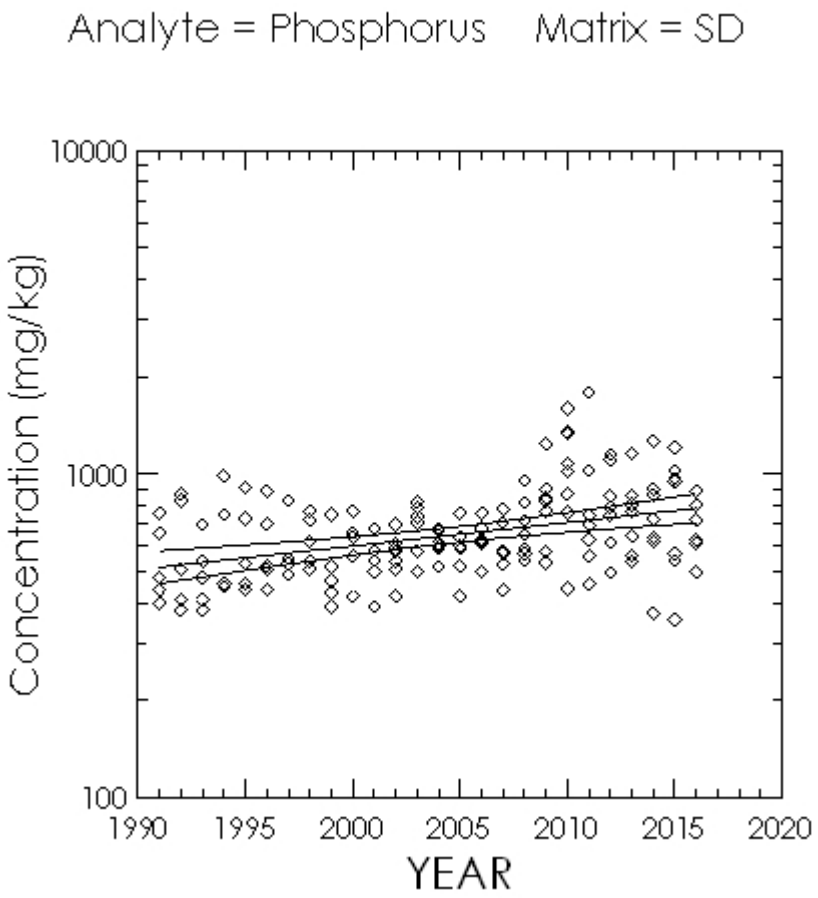
Concentration = 0.136*Year - 248.938

R^2=0.029, p=0.002



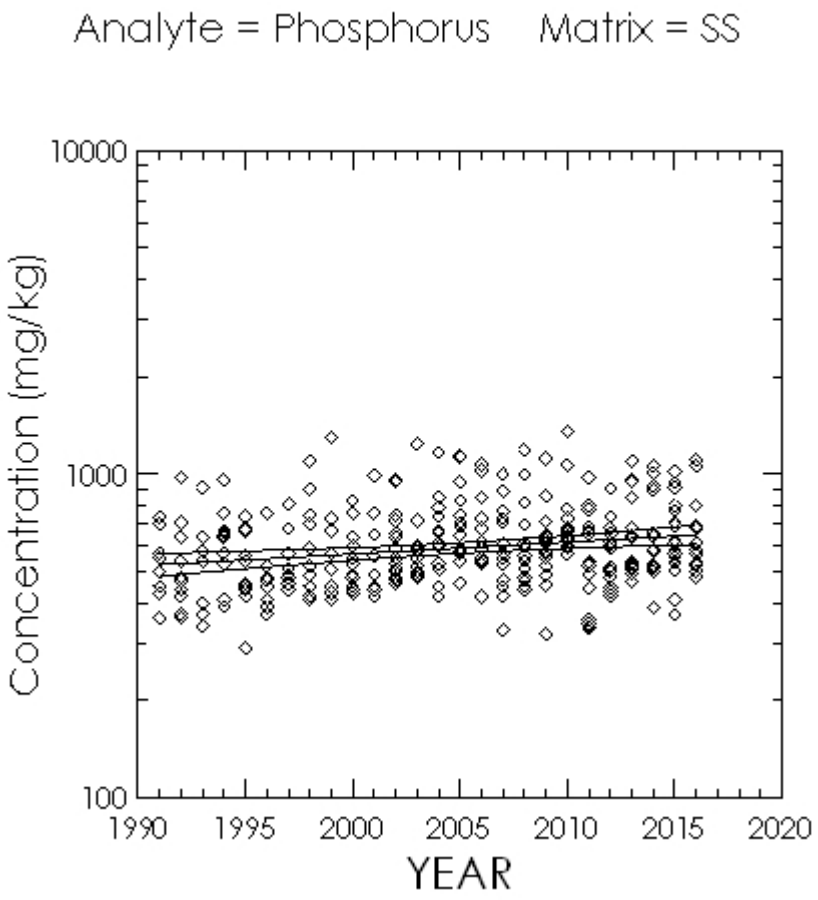
Concentration = 29.877*Year - 54950.901

R^2=0.061, p=0.002



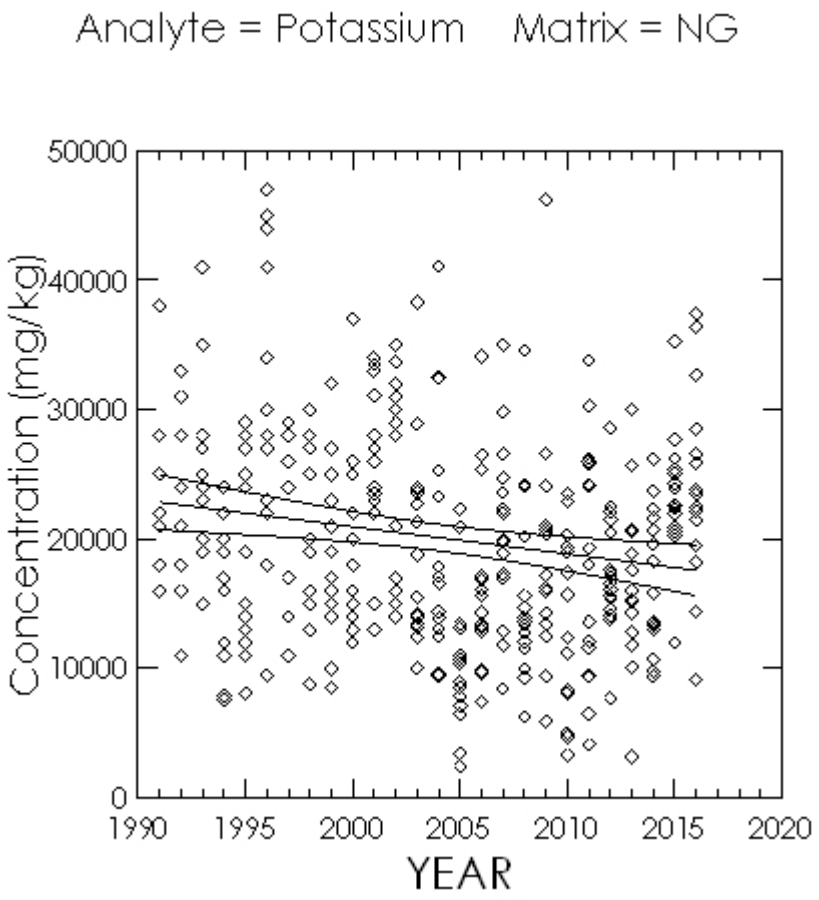
Concentration = $e^{(0.017*Year - 27.171)}$

R^2=0.16, p<0.001



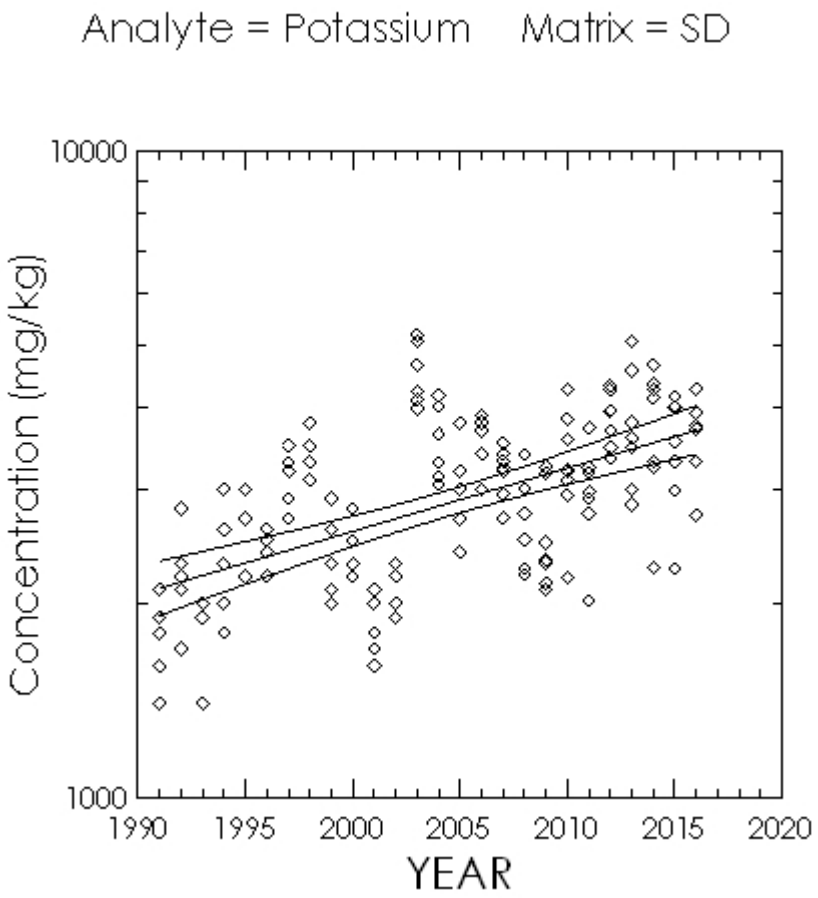
Concentration = $e^{(0.009*Year - 10.661)}$

R^2=0.048, p<0.001



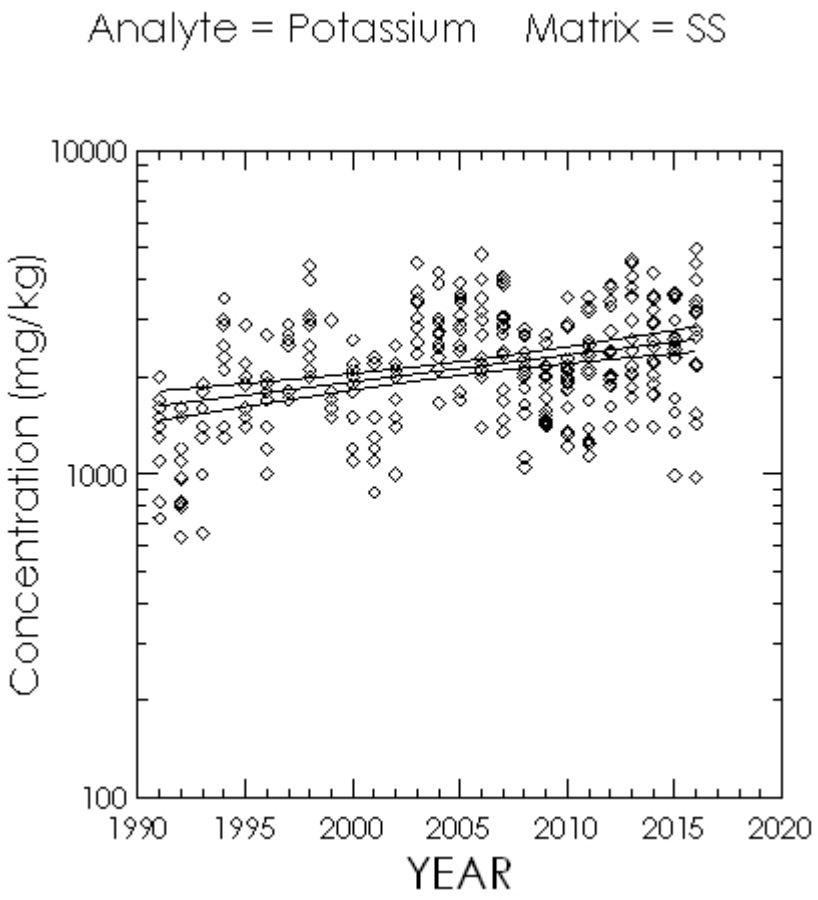
Concentration = -209.696*Year + 440344.11

R^2=0.035, p<0.001



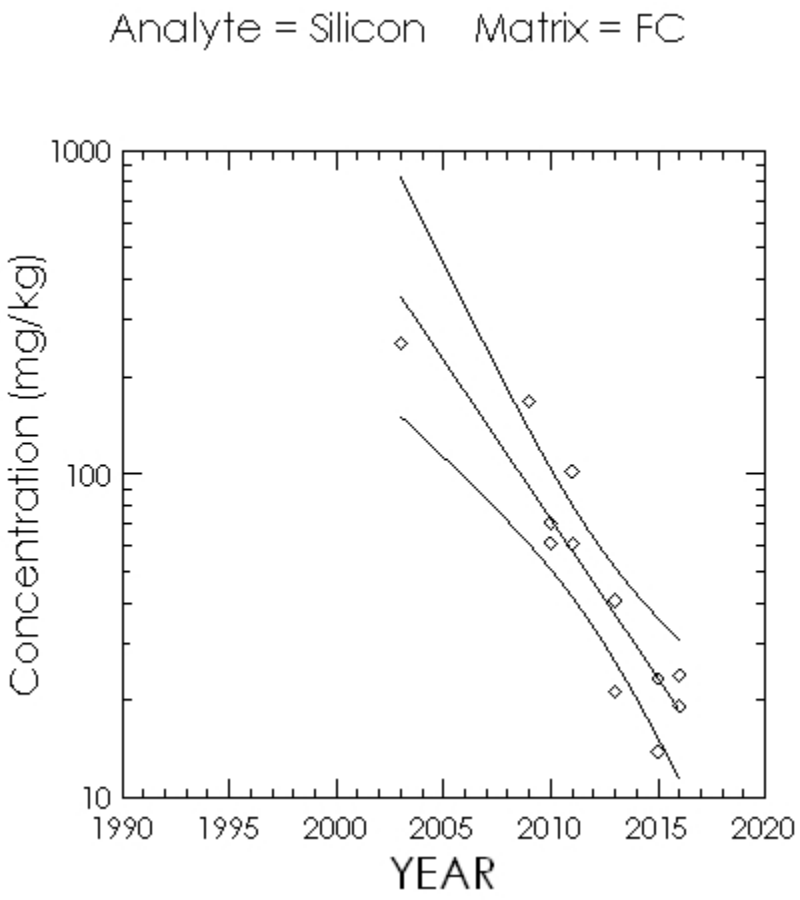
Concentration = $e^{(0.022*Year - 37.136)}$

R^2=0.331, p<0.001



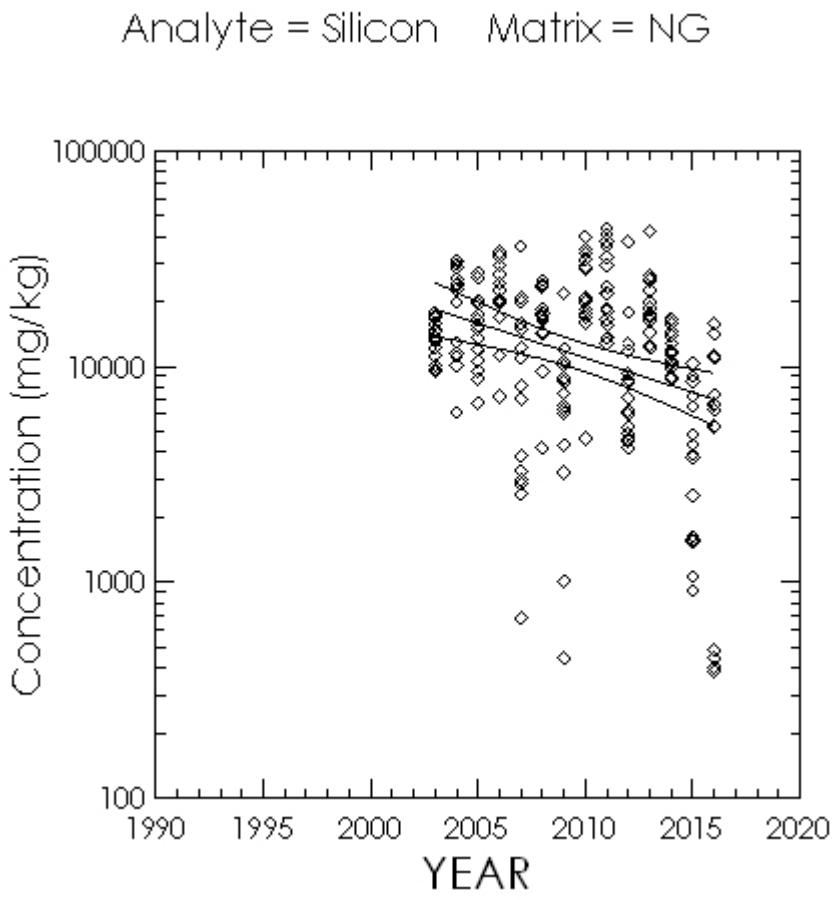
Concentration = $e^{(0.019*Year - 30.366)}$

R^2=0.128, p<0.001



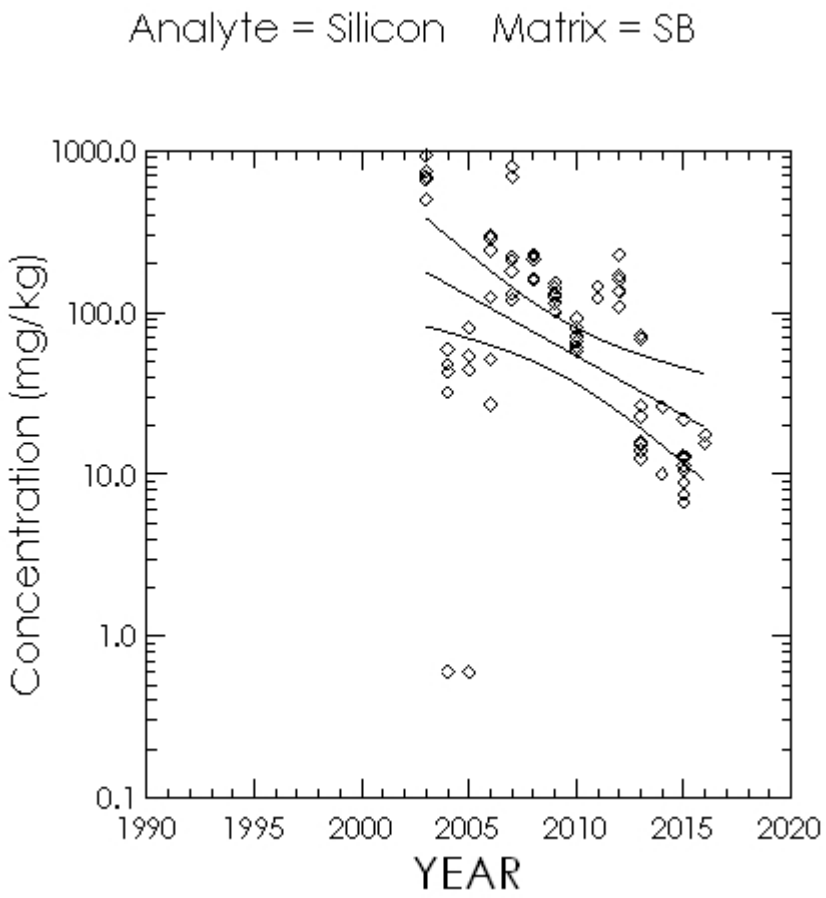
Concentration = $e^{(-0.226*Year + 458.901)}$

R^2=0.84, p<0.001



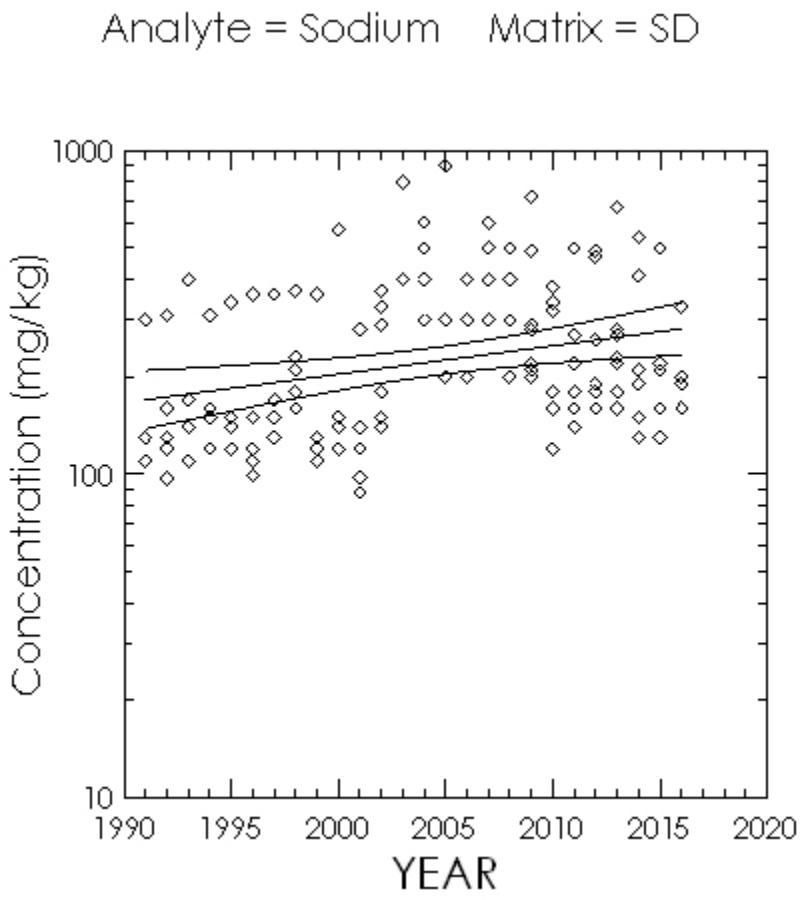
Concentration = $e^{(-0.074*Year + 157.596)}$

R^2=0.104, p<0.001



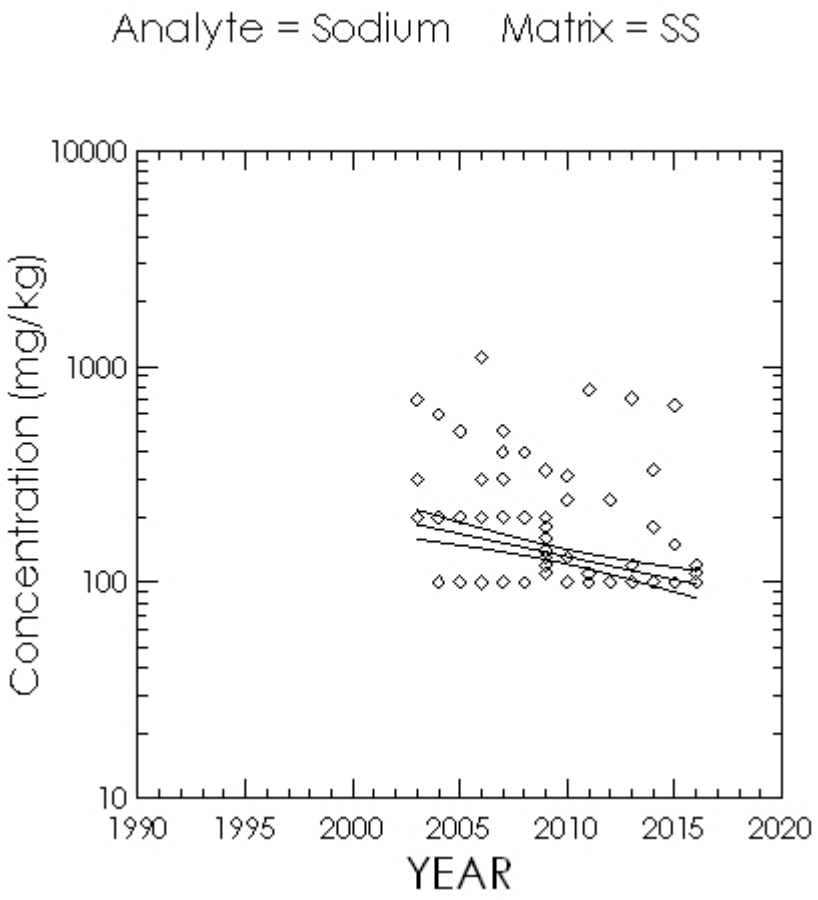
Concentration = $e^{(-0.17*Year + 345.567)}$

R^2=0.18, p<0.001



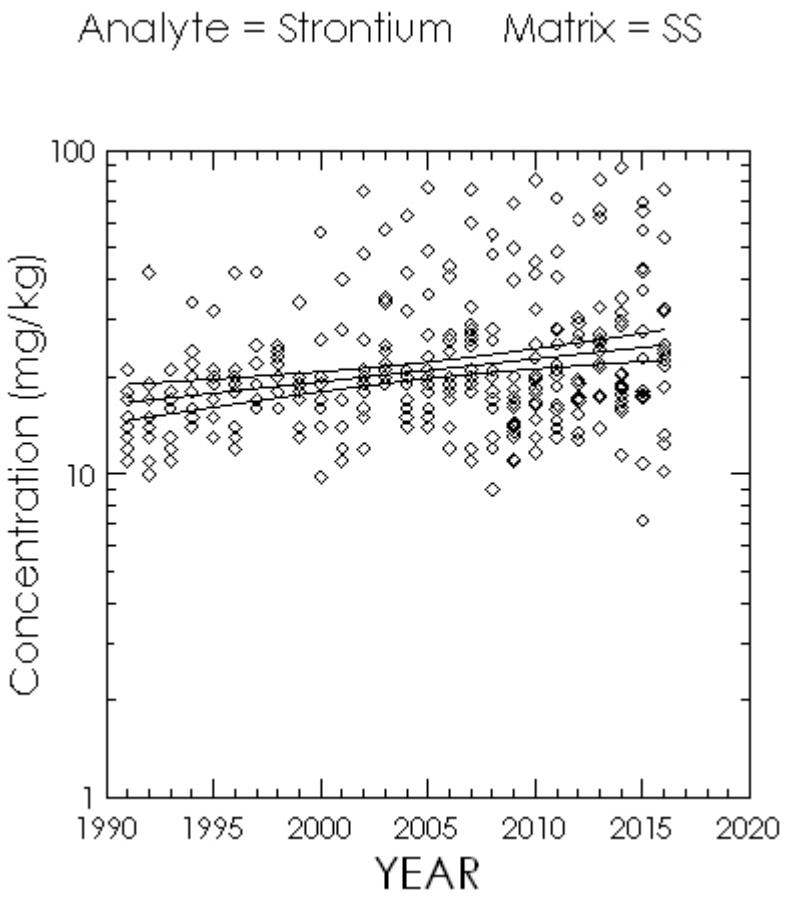
Concentration = $e^{(0.02*Year - 35.043)}$

R^2=0.08, p<0.001



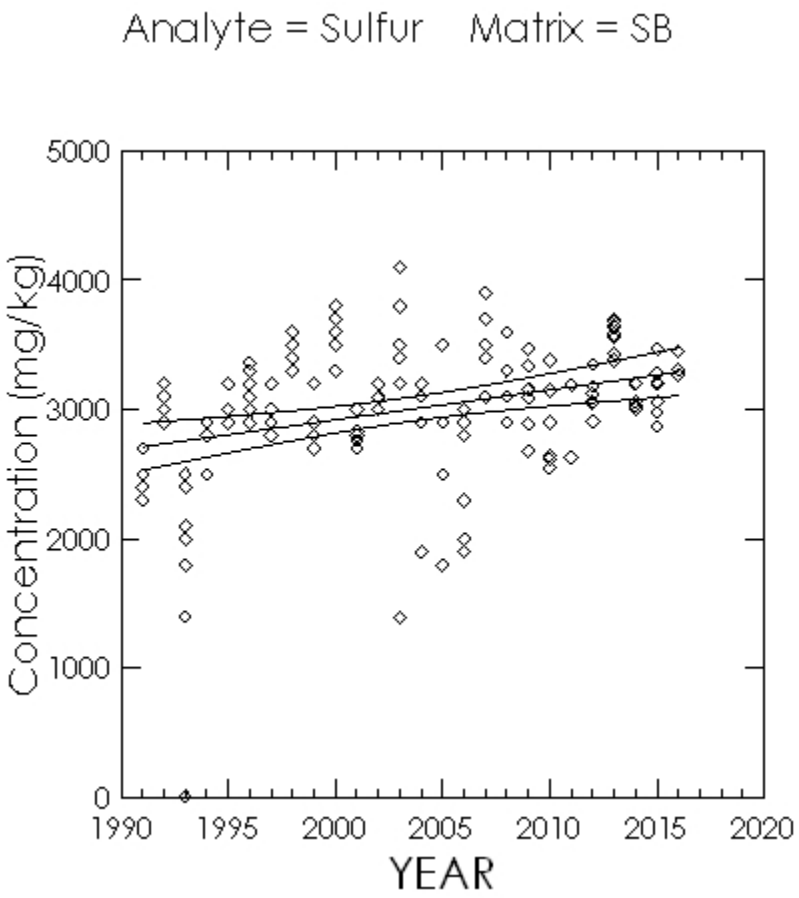
Concentration = $e^{(-0.049*Year + 103.462)}$

R^2=0.149, p<0.001



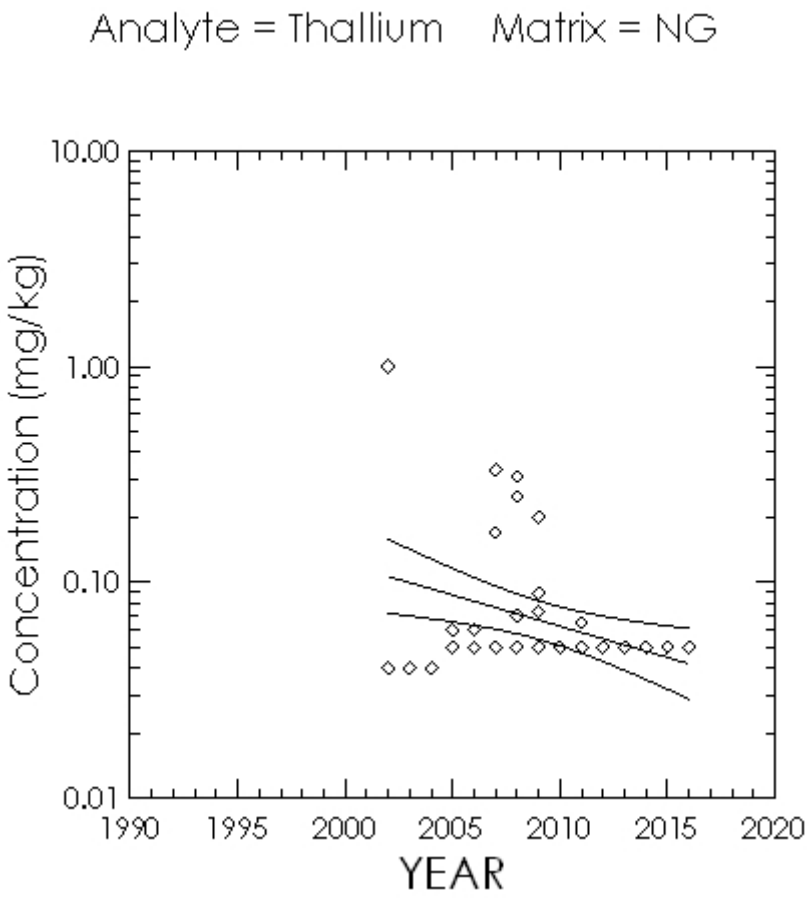
Concentration = $e^{(0.016*Year - 29.681)}$

R^2=0.069, p<0.001



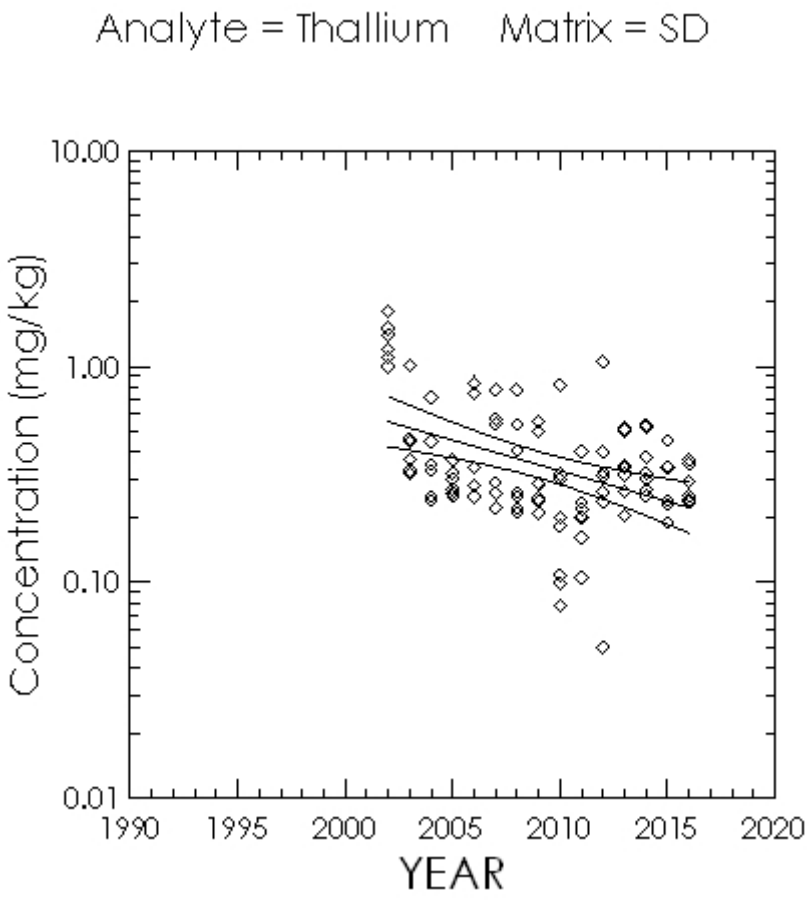
Concentration = 23.082*Year - 43243.136

R^2=0.112, p<0.001



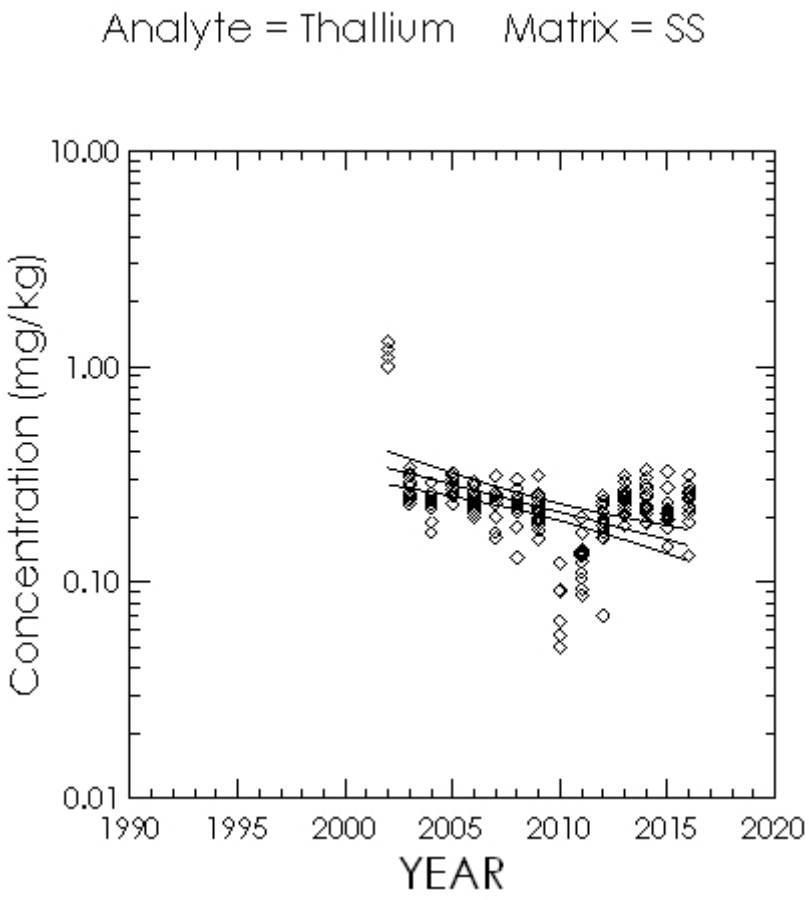
Concentration = $e^{(-0.067*Year + 131.27)}$

R^2=0.136, p=0.001



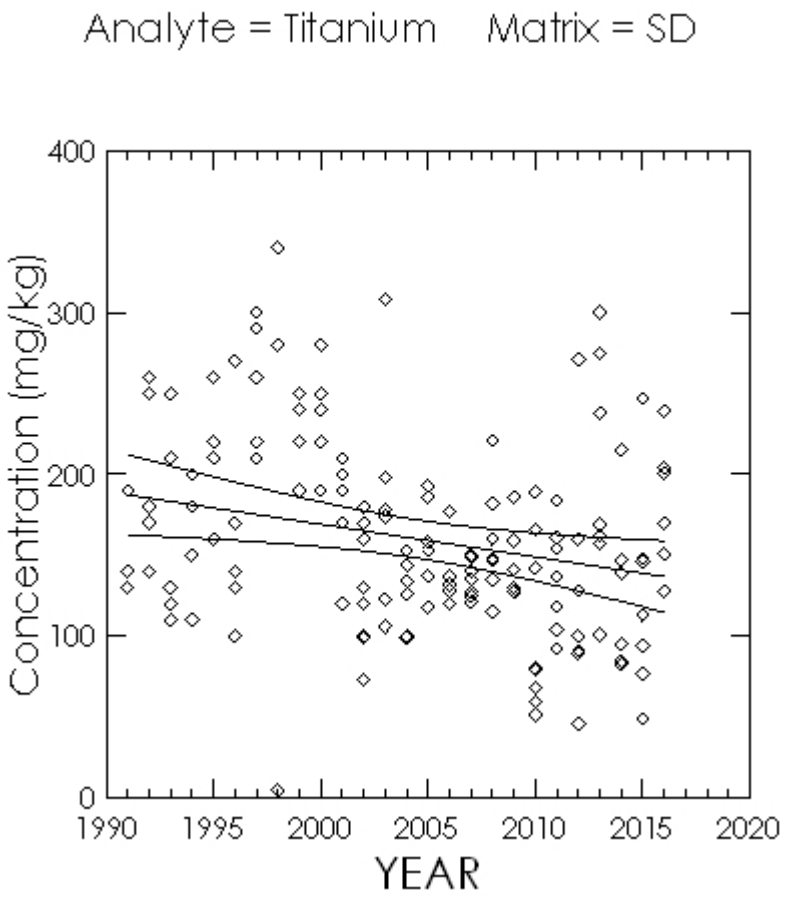
Concentration = $e^{(-0.065*Year + 130.484)}$

R^2=0.198, p<0.001



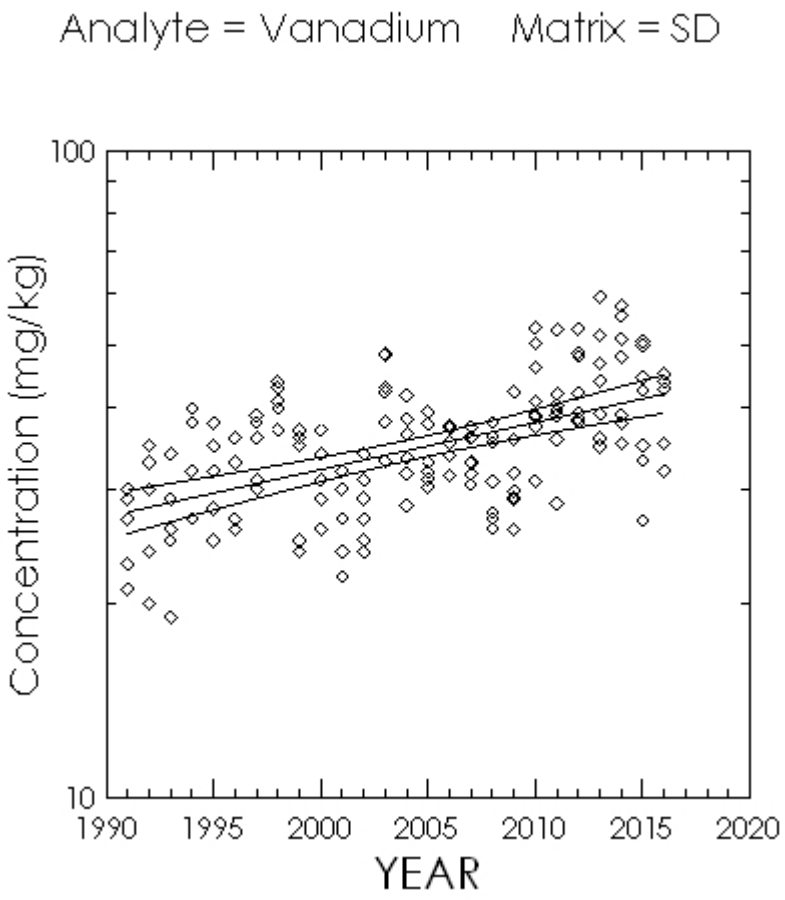
Concentration = $e^{(-0.059*Year + 116.761)}$

R^2=0.174, p<0.001



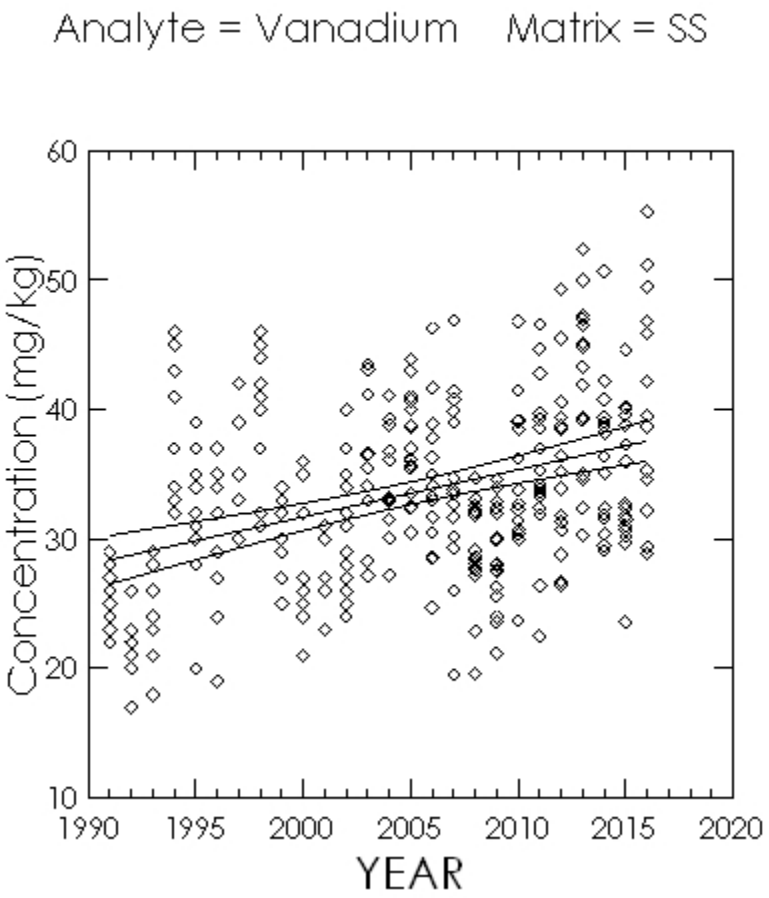
Concentration = -2.021*Year + 4210.504

R^2=0.058, p=0.002



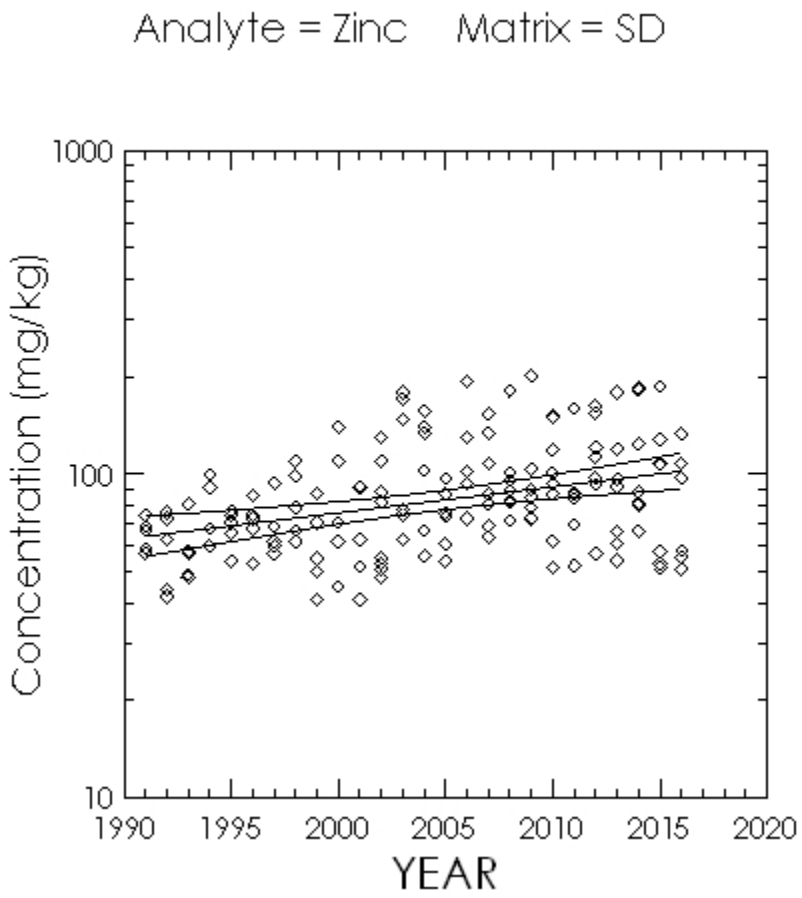
Concentration = $e^{(0.017*Year - 30.161)}$

R^2=0.306, p<0.001



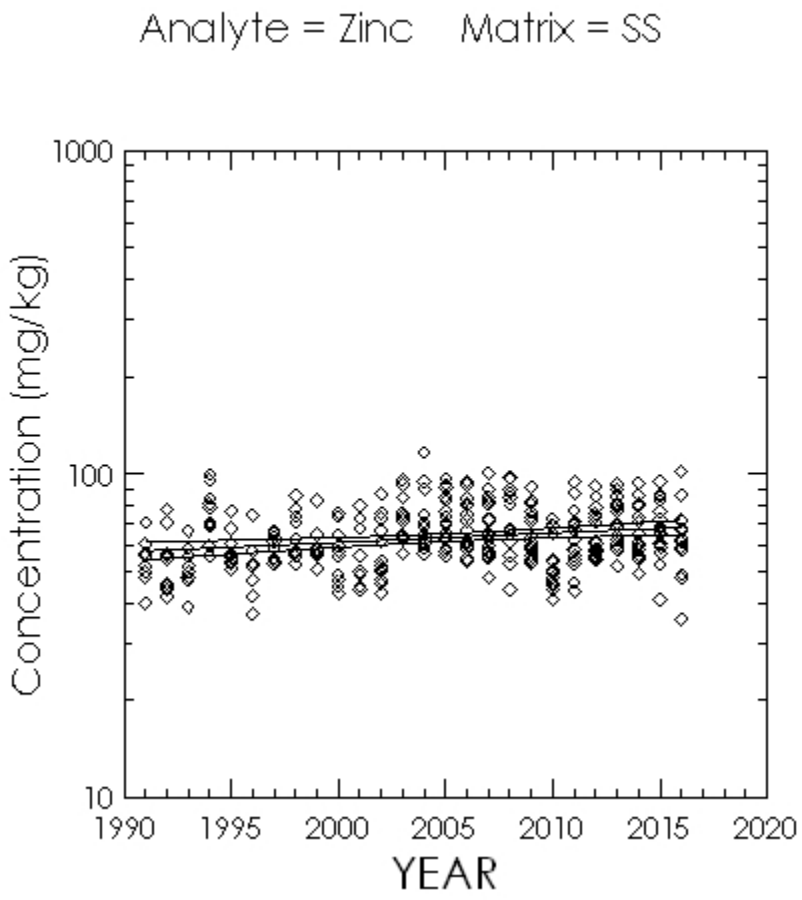
Concentration = 0.367*Year - 701.934

R^2=0.147, p<0.001



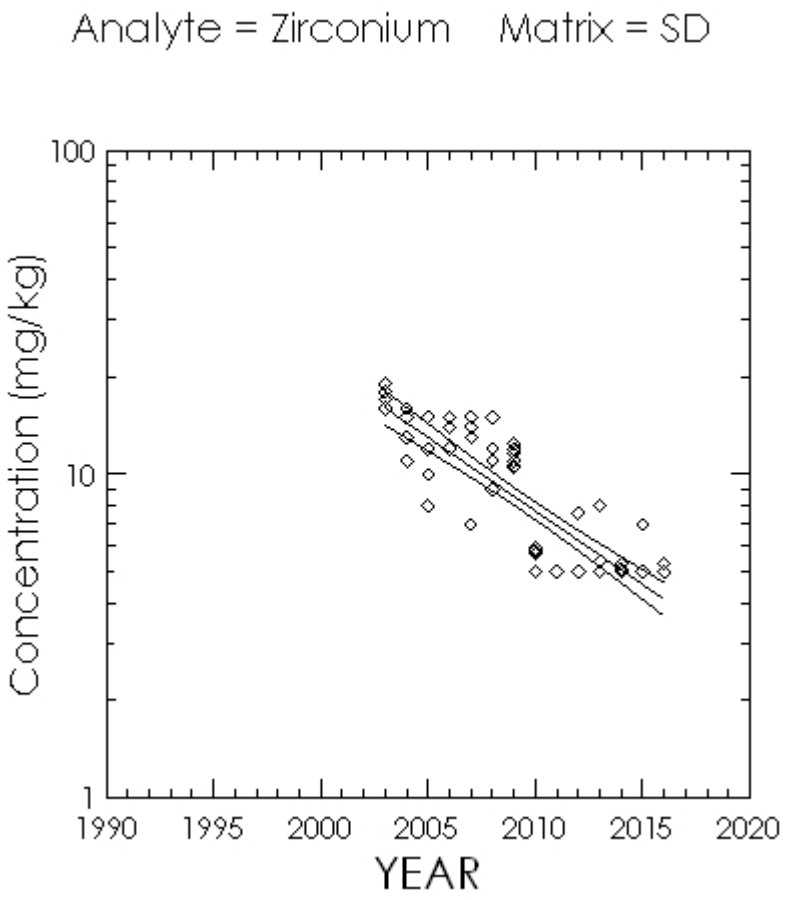
Concentration = $e^{(0.019*Year - 32.738)}$

R^2=0.133, p<0.001



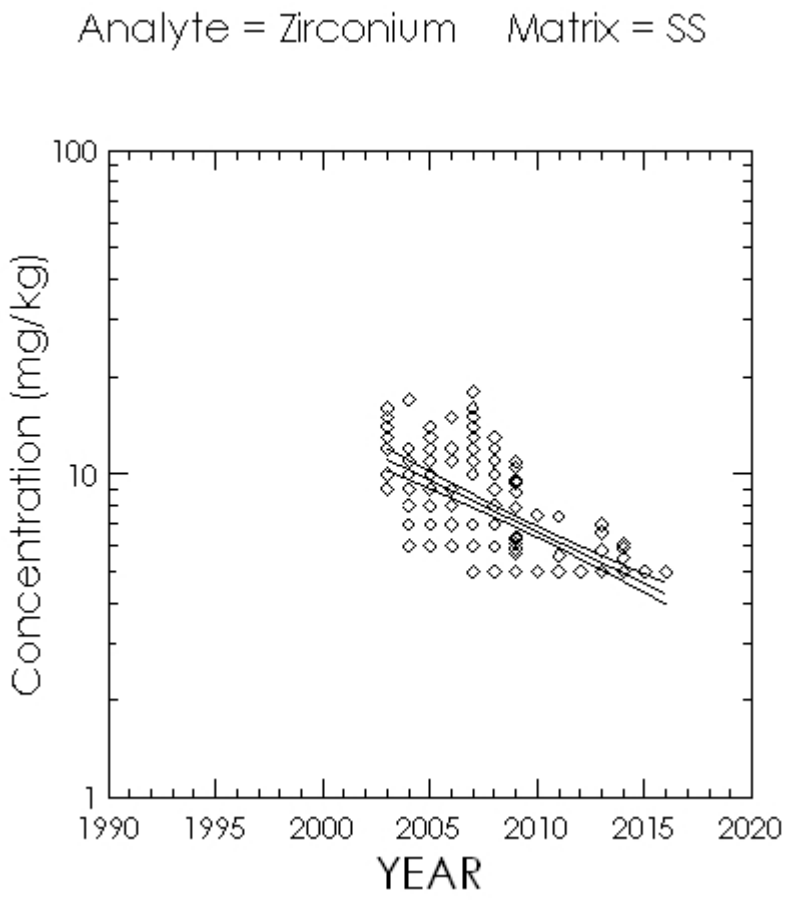
Concentration = $e^{(0.007*Year - 9.35)}$

R^2=0.05, p<0.001



Concentration = $e^{(-0.105*Year + 212.548)}$

R^2=0.743, p<0.001



Concentration = $e^{(-0.073*Year + 149.523)}$

R^2=0.603, p<0.001

APPENDIX F:
LABORATORY CERTIFICATES

[redacted]

STANTEC CONSULTING LTD.
ATTN: Katherine Ketis
70 Southgate Dr, Suite 01
Guelph ON N1G 4P5

Date Received: 24-NOV-16
Report Date: 06-FEB-17 09:19 (MT)
Version: FINAL

Client Phone: 519-836-6050

Certificate of Analysis

Lab Work Order #: L1861968

Project P.O. #: NOT SUBMITTED
Job Reference: 122160003 CLEAN HARBORS
C of C Numbers:
Legal Site Desc:

[redacted]

[redacted]

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-1 16-W2-SS-CH-001							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 14:00							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	8.9		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	14000		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	6.55		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	63.9		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.65		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.47		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	3840		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	20.6		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	7.61		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	12.3		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	17900		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	14.3		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	3640		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	523		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	2.16		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	18.2		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	12.4		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.209		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	97.7		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	34.6		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	47.8		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	2.38		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	1540		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-2 16-W2-NG-CH-003							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 07:45							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	38		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	17.5		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	3.9		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	0.059		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	5990		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	4.13		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	7.25		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	119		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.33		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	2130		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	36.2		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-2 16-W2-NG-CH-003							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 07:45							
Matrix: Plant tissue							
Metals in Tissue by CRC-ICPMS dry weight							
Molybdenum (Mo)-Total	4.48		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	1.78		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	4690		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	32700		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	23		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	10.6		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	3030		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	1.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	18.7		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	5370		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-3 16-W2-WW-CH-005							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:00							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	4.40		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	<2.0		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	0.084		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	672		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	1.29		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	3.68		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	40.8		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.13		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	1170		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	22.7		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	1.14		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	0.66		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	3180		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	4760		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	2.26		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	1070		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	17.1		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-3 16-W2-WW-CH-005							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:00							
Matrix: Plant tissue							
Chloride (Cl)	476		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-4 16-W4-SS-CH-007							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 11:45							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	19.9		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	23400		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	5.65		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	112		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	1.13		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.58		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	5810		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	35.9		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	10.2		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	26.1		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	25400		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	16.4		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	6800		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	441		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	1.66		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	32.3		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	21.6		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.314		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	133		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	46.8		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	102		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	150		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	1.37		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	4490		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-5 16-W4-NG-CH-009							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 12:15							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	187		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	17.6		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	4.2		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	0.201		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	4470		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	5.12		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-5 16-W4-NG-CH-009							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 12:15							
Matrix: Plant tissue							
Metals in Tissue by CRC-ICPMS dry weight							
Cobalt (Co)-Total	0.13		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	7.28		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	252		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.29		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	2390		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	84.4		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	5.43		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	3.81		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	4780		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	37400		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	22		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	7.42		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	2780		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	5.96		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	0.53		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	22.6		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	20200		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-6 16-W4-FC-CH-011							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 11:45							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	<2.0		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	56		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	1.40		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	21.8		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	1190		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	5.78		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	0.27		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	3190		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	3650		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	1120		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-6 16-W4-FC-CH-011							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 11:45							
Matrix: Plant tissue							
Metals in Tissue by CRC-ICPMS dry weight							
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	19.3		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	362		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-7 16-N2-SS-CH-013							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:30							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	18.4		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	28700		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	5.51		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	138		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	1.25		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.40		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	6540		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	40.4		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	11.9		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	21.8		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	27300		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	15.1		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	7720		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	438		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	1.64		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	34.3		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	25.2		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.220		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	131		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	49.5		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	71.6		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	1.14		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	4000		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-8 16-N2-SD-CH-015							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 17:15							
Matrix: Sediment							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	21.2		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-8 16-N2-SD-CH-015							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 17:15							
Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Aluminum (Al)	22400		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	4.99		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	94.8		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	1.01		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.45		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	58400		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	32.9		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	8.95		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	25.3		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	22900		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	14.7		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	22500		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	267		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	1.91		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	30.4		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	160		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	55.4		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.293		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	128		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	43.9		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	97.6		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	670		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	39.9		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	3720		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-9 16-N2-NG-CH-019							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 17:00							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	28		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	6.52		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	4.6		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	5410		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	6.46		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	0.13		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	5.24		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	128		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	2320		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	73.3		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	0.84		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	2.83		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	3600		20	mg/kg	16-JAN-17	21-JAN-17	R3637440

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-9 16-N2-NG-CH-019							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 17:00							
Matrix: Plant tissue							
Metals in Tissue by CRC-ICPMS dry weight							
Potassium (K)-Total	22200		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	34		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	12.6		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	4050		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	0.78		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	26.6		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	14900		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-10 16-N2-SB-CH-021							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:00							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	0.80		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	27.3		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	2330		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	11.4		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	71.8		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	2400		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	21.8		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	11.6		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	2.30		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	5610		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	17200		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	1.91		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	3270		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	28.0		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	48		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-11 16-N4-SS-CH-023							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	19.4		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	19000		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	5.66		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	77.4		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.87		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.35		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	31800		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	28.8		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	8.89		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	22.3		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	21000		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	12.1		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	15600		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	287		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	1.88		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	28.1		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	31.9		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.247		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	158		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	38.7		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	63.1		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	210		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	4.03		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	3450		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-12 16-N4-NG-CH-025							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 17:30							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	7.95		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	5.8		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	5200		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	6.67		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	5.73		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	94.9		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	2040		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	44.2		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-12 16-N4-NG-CH-025							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 17:30							
Matrix: Plant tissue							
Metals in Tissue by CRC-ICPMS dry weight							
Molybdenum (Mo)-Total	4.72		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	3.66		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	3210		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	23500		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	9.29		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	4680		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	29.1		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	10700		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-13 16-N4-FC-CH-027							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	2.0		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	32		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	1.05		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	17.3		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	1260		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	4.35		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	0.49		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	0.25		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	3280		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	3810		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	1080		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	15.7		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-13 16-N4-FC-CH-027							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Plant tissue							
Chloride (Cl)	380		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-14 16-N5-SS-CH-029							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	14.4		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	14700		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	5.70		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	62.3		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.64		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.61		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	44600		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	22.9		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	8.27		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	15.8		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	17600		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	15.9		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	17900		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	354		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	2.34		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	21.8		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	110		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	75.9		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.266		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	122		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	29.4		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	72.4		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	620		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	5.72		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	0.068		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	2200		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-15 16-N5-SD-CH-031							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 10:00							
Matrix: Sediment							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	25.5		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	19500		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	6.32		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	104		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.94		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.66		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	70300		100	mg/kg	16-JAN-17	18-JAN-17	R3634679

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-15 16-N5-SD-CH-031							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 10:00							
Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Chromium (Cr)	32.7		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	9.84		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	23.6		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	23900		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	16.2		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	24400		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	326		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	3.16		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	31.8		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	330		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	79.5		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.354		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	170		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	42.9		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	108		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	680		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	123		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	0.071		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	3930		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-16 16-N5-NG-CH-035							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	152		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	15.0		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	7.6		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	0.083		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	5470		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	5.85		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	0.15		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	5.45		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	201		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.60		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	2050		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	24.5		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	3.28		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	3.92		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	3070		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	19500		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	22		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	53.1		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	4300		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	5.21		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-16 16-N5-NG-CH-035							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Plant tissue							
Metals in Tissue by CRC-ICPMS dry weight							
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	24.2		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	6340		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	0.022		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-17 16-E1-SS-CH-037							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 14:45							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	8.2		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	9000		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	5.35		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	40.4		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.42		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.28		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	4290		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	14.0		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	4.22		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	7.55		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	13000		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	10.8		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	2840		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	205		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	1.71		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	10.9		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	10.2		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.133		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	117		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	28.9		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	35.8		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	1.25		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	978		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-18 16-E1-NG-CH-039							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:30							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	40		10	mg/kg	16-JAN-17	21-JAN-17	R3637440

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-18 16-E1-NG-CH-039							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:30							
Matrix: Plant tissue							
Metals in Tissue by CRC-ICPMS dry weight							
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	27.2		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	5.8		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	5660		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	2.48		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	6.78		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	108		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.45		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	2080		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	17.6		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	3.96		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	1.26		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	4020		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	26600		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	15.7		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	3990		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	1.29		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	27.9		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	6410		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	0.021		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-19 16-E1-FC-CH-041							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 14:45							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	2.1		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	59		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	1.59		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	18.2		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	1130		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	3.14		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	0.85		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-19 16-E1-FC-CH-041							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 14:45							
Matrix: Plant tissue							
Metals in Tissue by CRC-ICPMS dry weight							
Phosphorus (P)-Total	2730		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	3620		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	0.13		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	1150		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	16.4		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	511		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-20 16-E2-SS-CH-043							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 13:30							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	15.7		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	16300		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	8.31		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	79.5		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.68		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.34		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	27600		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	24.5		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	8.20		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	17.0		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	25900		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	50.7		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	13000		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	379		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	5.85		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	22.9		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	31.9		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.222		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	185		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	39.5		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	67.4		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	230		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	8.04		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	0.082		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	2660		50	mg/kg	16-JAN-17	18-JAN-17	R3634679

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-20 16-E2-SS-CH-043							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 13:30							
Matrix: Soil							
L1861968-21 16-E2-SD-CH-045							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 14:30							
Matrix: Sediment							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	21.7		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	17400		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	5.55		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	74.0		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.73		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.26		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	83500		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	26.9		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	8.67		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	18.2		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	20600		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	9.24		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	29400		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	315		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	2.34		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	26.8		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	200		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	82.4		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.251		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	201		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	35.3		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	55.4		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	400		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	69.5		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	3310		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-22 16-E2-NG-CH-049							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 12:45							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	26		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	6.85		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	3.2		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	3100		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	4.71		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	10.0		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	112		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-22 16-E2-NG-CH-049							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 12:45							
Matrix: Plant tissue							
Metals in Tissue by CRC-ICPMS dry weight							
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	2290		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	53.9		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	2.56		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	3.01		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	6170		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	36400		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	31		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	6.07		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	6690		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	0.77		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	41.0		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	8760		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-23 16-E5-SS-CH-053							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 15:30							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	15.6		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	19300		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	5.41		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	110		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.88		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.44		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	5000		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	27.5		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	10.1		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	15.7		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	21900		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	13.4		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	5510		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	607		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	2.09		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	24.6		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	18.6		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.244		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	156		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	42.2		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	61.7		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-23 16-E5-SS-CH-053							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 15:30							
Matrix: Soil							
Sulfur Soil by CRC ICPMS							
Sulfur (S)	140		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	2.27		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	2800		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-24 16-E5-NG-CH-055							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:00							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	393		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	18.0		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	7.7		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	0.165		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	7420		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	9.08		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	0.29		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	8.23		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	538		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.50		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	4400		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	31.7		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	3.26		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	3.74		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	2790		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	28500		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	88		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	11.8		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	2810		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	8.37		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	0.97		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	24.8		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	7650		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-25 16-E5-FC-CH-057							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 15:30							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-25 16-E5-FC-CH-057							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 15:30							
Matrix: Plant tissue							
Metals in Tissue by CRC-ICPMS dry weight							
Boron (B)-Total	2.3		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	48		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	1.25		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	19.7		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	1280		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	4.74		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	0.70		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	3250		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	3790		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	1090		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	17.1		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	441		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-26 16-E6-SS-CH-059							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 11:30							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	16.1		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	14800		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	6.06		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	72.8		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.69		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.48		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	21200		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	23.5		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	8.84		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	15.3		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	19200		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	14.5		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	9270		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	558		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	2.52		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	22.2		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-26 16-E6-SS-CH-059							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 11:30							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Strontium (Sr)	53.7		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.224		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	157		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	35.3		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	59.7		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	270		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	10.3		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	0.054		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	2160		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-27 16-E6-NG-CH-061							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 11:30							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	44		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	10.8		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	7.9		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	0.309		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	5530		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	3.58		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	0.32		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	5.58		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	117		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	2.82		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	2120		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	38.0		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	24.3		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	2.47		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	1230		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	21500		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	207		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	30.5		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	3150		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	1.67		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	27.5		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	13100		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	0.069		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-28 16-S1-SS-CH-063							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:50							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	18.3		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	22600		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	8.28		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	115		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.98		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.59		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	12400		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	34.3		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	13.2		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	16.1		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	26100		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	15.5		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	9480		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	738		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	1.41		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	31.9		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	23.5		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.266		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	220		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	51.2		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	68.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	7.29		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	3310		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-29 16-S1-SD-CH-065							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:10							
Matrix: Sediment							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	20.6		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	13500		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	4.44		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	68.4		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.71		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.30		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	84400		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	25.9		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	8.39		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	16.4		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	18300		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	11.8		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	25000		20	mg/kg	16-JAN-17	18-JAN-17	R3634679

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-29 16-S1-SD-CH-065							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:10							
Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Manganese (Mn)	255		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	2.36		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	25.0		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	160		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	65.8		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.235		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	204		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	32.0		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	51.1		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	550		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	13.6		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	2740		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-30 16-S1-NG-CH-069							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:10							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	118		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	11.1		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	5.7		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	0.069		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	5050		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	3.55		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	0.12		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	4.43		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	194		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.72		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	2440		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	17.2		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	5.11		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	1.86		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	2120		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	18200		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	9.49		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	2720		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	3.91		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	16.4		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-30 16-S1-NG-CH-069							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:10							
Matrix: Plant tissue							
Chloride (Cl)	6040		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	0.029		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-31 16-S1-FC-CH-071							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:50							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	<2.0		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	39		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	1.29		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	17.1		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	1170		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	4.75		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	0.34		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	3170		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	3690		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	1160		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	15.3		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	392		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-32 16-S2-SS-CH-073							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 15:00							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	17.3		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	22100		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	6.81		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	106		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.99		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.40		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	10700		100	mg/kg	16-JAN-17	18-JAN-17	R3634679

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-32 16-S2-SS-CH-073							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 15:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Chromium (Cr)	31.6		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	13.4		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	15.5		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	25000		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	14.7		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	8620		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	560		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	1.66		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	29.3		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	24.3		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.257		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	211		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	45.9		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	63.1		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	7.70		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	3150		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-33 16-S2-NG-CH-075							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 15:15							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	100		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	23.0		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	4.9		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	3850		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	3.80		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	3.80		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	149		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.26		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	1400		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	15.3		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	3.08		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	1.68		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	1690		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	9140		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	12.6		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	1720		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	3.31		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-33 16-S2-NG-CH-075							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 15:15							
Matrix: Plant tissue							
Metals in Tissue by CRC-ICPMS dry weight							
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	17.2		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	3110		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-34 16-S2-FC-CH-077							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 14:30							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	<2.0		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	45		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	1.32		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	19.2		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	1430		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	6.55		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	0.44		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	3630		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	4230		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	1230		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	16.7		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	325		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-35 16-S4-SS-CH-087							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 12:00							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	22.9		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-35 16-S4-SS-CH-087							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 12:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Aluminum (Al)	33500		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	4.91		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	174		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	1.38		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.43		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	7550		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	45.7		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	11.1		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	29.6		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	28000		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	17.1		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	9070		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	234		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	0.75		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	37.2		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	120		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	32.5		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.278		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	179		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	55.3		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	86.1		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	7.06		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	0.058		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	4990		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-36 16-S4-SD-CH-089							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 13:00							
Matrix: Sediment							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	25.6		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	21700		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	6.20		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	113		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.91		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.19		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	80900		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	34.0		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	13.8		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	21.4		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	26700		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	11.1		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	27600		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	585		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	1.72		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	33.8		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-36 16-S4-SD-CH-089							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 13:00							
Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	190		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	90.9		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.240		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	239		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	42.9		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	58.1		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	5.3		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	150		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	7.56		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	4280		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-37 16-S4-NG-CH-093							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 13:30							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	18		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	14.8		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	4.1		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	0.079		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	11600		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	5.07		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	6.34		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	97.7		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.15		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	5420		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	23.1		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	6.16		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	2.02		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	3720		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	14400		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	26		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	22.1		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	4550		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	0.55		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	26.0		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	7860		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-38 16-S4-SB-CH-095							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 12:30							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	1.48		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	32.3		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	0.092		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	3050		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	8.79		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	54.3		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	2210		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	14.8		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	12.2		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	4.63		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	6170		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	20300		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	3.42		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	3450		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	38.4		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	74		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-39 16-S5-SS-CH-097							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 09:30							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	16.7		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	22300		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	6.99		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	110		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.97		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.33		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	9490		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	31.0		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	11.7		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	14.2		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	24700		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	14.3		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	8710		20	mg/kg	16-JAN-17	18-JAN-17	R3634679

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-39 16-S5-SS-CH-097							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 09:30							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Manganese (Mn)	427		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	1.46		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	28.5		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	22.6		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.247		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	182		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	45.9		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	58.2		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	3.57		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	3200		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-40 16-S5-NG-CH-099							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 09:00							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	252		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	17.3		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	8.8		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	7830		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	3.38		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	0.14		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	6.78		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	341		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.32		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	2420		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	28.7		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	9.50		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	1.56		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	3400		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	23800		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	26		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	16.0		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	2490		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	7.39		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	0.59		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	19.7		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-40 16-S5-NG-CH-099							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 09:00							
Matrix: Plant tissue							
Chloride (Cl)	6330		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	0.024		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-41 16-S5-FC-CH-101							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 21:30							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	<2.0		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	42		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	1.59		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	19.6		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	1330		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	5.96		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	0.49		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	3580		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	4050		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	1270		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	18.2		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	359		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-42 16-S7-SS-CH-079							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 16:30							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	18.1		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	19200		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	6.02		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	91.7		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.83		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.49		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	18400		100	mg/kg	16-JAN-17	18-JAN-17	R3634679

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-42 16-S7-SS-CH-079							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 16:30							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Chromium (Cr)	28.0		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	9.16		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	20.1		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	21300		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	14.8		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	9930		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	474		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	2.03		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	26.6		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	27.3		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.255		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	157		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	39.9		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	71.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	330		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	5.07		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	0.054		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	3380		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-43 16-S7-SD-CH-081							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 17:15							
Matrix: Sediment							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	21.7		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	22000		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	7.21		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	107		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.99		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.33		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	30200		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	32.6		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	13.9		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	17.4		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	25600		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	12.6		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	12500		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	583		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	3.49		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	33.0		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	190		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	52.1		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.331		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	203		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	46.1		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-43 16-S7-SD-CH-081							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 17:15							
Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Zinc (Zn)	61.4		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	280		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	29.9		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	3510		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-44 16-S7-NG-CH-085							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 16:00							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	23		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	16.3		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	17.0		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	8660		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	5.30		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	4.98		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	96.1		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.35		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	1610		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	41.3		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	12.1		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	2.89		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	2410		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	17000		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	26.5		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	3390		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	0.95		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	26.8		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	8240		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-45 16-D1-SS-CH-103							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 14:05							
Matrix: Soil							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	8.4		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-45 16-D1-SS-CH-103							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 14:05							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Aluminum (Al)	13900		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	5.76		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	63.2		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.64		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.43		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	4520		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	19.7		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	6.75		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	11.6		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	16900		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	13.6		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	3590		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	438		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	2.00		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	16.7		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	13.2		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.191		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	100		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	32.2		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	49.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	<100		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	2.91		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	<0.050		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	1430		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
L1861968-46 16-D3-NG-CH-105							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	37		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	10.9		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	6.4		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	0.058		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	4340		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	5.06		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	5.72		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	125		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.38		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	1880		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	27.4		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	2.49		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	2.37		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	3360		20	mg/kg	16-JAN-17	21-JAN-17	R3637440

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-46 16-D3-NG-CH-105							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Plant tissue							
Metals in Tissue by CRC-ICPMS dry weight							
Potassium (K)-Total	22500		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	22		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	46.0		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	4990		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	1.06		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	29.1		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	8480		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-47 16-D4-SD-CH-106							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 10:15							
Matrix: Sediment							
Metals package for Clean Harbors-Lambton							
Boron in Soil by ICPMS							
Boron (B)	21.1		2.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Metals in Soil by CRC ICPMS							
Aluminum (Al)	23100		50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Arsenic (As)	5.89		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Barium (Ba)	114		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Beryllium (Be)	0.98		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cadmium (Cd)	0.77		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Calcium (Ca)	65300		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Chromium (Cr)	35.1		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Cobalt (Co)	10.6		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Copper (Cu)	26.6		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Iron (Fe)	23900		200	mg/kg	16-JAN-17	18-JAN-17	R3634679
Lead (Pb)	20.8		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Magnesium (Mg)	23100		20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Manganese (Mn)	329		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Molybdenum (Mo)	2.75		0.10	mg/kg	16-JAN-17	18-JAN-17	R3634679
Nickel (Ni)	34.5		0.50	mg/kg	16-JAN-17	18-JAN-17	R3634679
Silver (Ag)	<0.20		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sodium (Na)	330		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Strontium (Sr)	79.6		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Thallium (Tl)	0.370		0.050	mg/kg	16-JAN-17	18-JAN-17	R3634679
Titanium (Ti)	151		1.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Vanadium (V)	45.2		0.20	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zinc (Zn)	133		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Zirconium (Zr)	<5.0		5.0	mg/kg	16-JAN-17	18-JAN-17	R3634679
Sulfur Soil by CRC ICPMS							
Sulfur (S)	750		100	mg/kg	16-JAN-17	18-JAN-17	R3634679
Miscellaneous Parameters							
Chloride (Cl)	112		0.50	mg/kg	17-JAN-17	18-JAN-17	R3636254
Mercury (Hg)	0.089		0.050	mg/kg	16-JAN-17	17-JAN-17	R3634702
Potassium (K)	3750		50	mg/kg	16-JAN-17	18-JAN-17	R3634679

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-48 16-D5-SB-CH-107							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:00							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	0.79		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	26.6		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	2110		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	0.29		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	10.8		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	72.8		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	2240		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	22.2		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	12.3		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	2.37		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	5580		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	17300		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	1.82		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	3310		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	29.0		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	62		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-49 16-D6-FC-CH-108							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	2.4		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	27		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	1.22		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	16.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	1060		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	3.42		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-49 16-D6-FC-CH-108							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Plant tissue							
Metals in Tissue by CRC-ICPMS dry weight							
Molybdenum (Mo)-Total	0.53		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	0.28		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	2970		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	3390		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	980		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	14.6		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	384		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-50 16-D7-WW-CH-109							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:05							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	<10		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	5.32		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	<2.0		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	0.076		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	627		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	0.99		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	3.44		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	44.4		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.15		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	1100		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	24.6		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	1.00		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	0.61		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	2890		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	4440		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	<20		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	2.03		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	1050		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	<0.50		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	15.5		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-50 16-D7-WW-CH-109							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:05							
Matrix: Plant tissue							
Chloride (Cl)	426		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-51 16-D15-NG-CH-200							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:00							
Matrix: Plant tissue							
Lambton metals package							
Metals in Tissue by CRC-ICPMS dry weight							
Aluminum (Al)-Total	365		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Arsenic (As)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Barium (Ba)-Total	15.2		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Beryllium (Be)-Total	<0.20		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Boron (B)-Total	6.4		2.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cadmium (Cd)-Total	0.131		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Calcium (Ca)-Total	5940		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Chromium (Cr)-Total	6.43		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Cobalt (Co)-Total	0.22		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Copper (Cu)-Total	7.81		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Iron (Fe)-Total	414		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Lead (Pb)-Total	0.42		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Magnesium (Mg)-Total	3960		10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Manganese (Mn)-Total	27.9		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Molybdenum (Mo)-Total	3.03		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Nickel (Ni)-Total	3.32		0.20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Phosphorus (P)-Total	2960		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Potassium (K)-Total	25900		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sodium (Na)-Total	79		20	mg/kg	16-JAN-17	21-JAN-17	R3637440
Strontium (Sr)-Total	10.2		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Sulfur (S)-Total	2720		100	mg/kg	16-JAN-17	21-JAN-17	R3637440
Thallium (Tl)-Total	<0.050		0.050	mg/kg	16-JAN-17	21-JAN-17	R3637440
Titanium (Ti)-Total	11.3		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Vanadium (V)-Total	0.88		0.50	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zinc (Zn)-Total	24.5		1.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Zirconium (Zr)-Total	<5.0		5.0	mg/kg	16-JAN-17	21-JAN-17	R3637440
Silver in Tissue by ICPMS dry weight							
Silver (Ag)-Total	<0.10		0.10	mg/kg	16-JAN-17	21-JAN-17	R3637440
Miscellaneous Parameters							
Chloride (Cl)	6960		10	mg/kg	17-JAN-17	19-JAN-17	R3637697
Mercury (Hg)-Total	<0.020		0.020	mg/kg	16-JAN-17	22-JAN-17	R3637780
L1861968-52 16-W2-FB-CH-111							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:00							
Matrix: Water							
Total Metals - CCME							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	0.34	HTC	0.13	mg/L		16-JAN-17	
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0171	RRV	0.0030	mg/L		14-JAN-17	R3633185
Antimony (Sb)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Arsenic (As)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Barium (Ba)-Total	0.000232	RRV	0.000050	mg/L		14-JAN-17	R3633185
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-52 16-W2-FB-CH-111							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:00							
Matrix: Water							
Total Metals in Water by CRC ICPMS							
Boron (B)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		14-JAN-17	R3633185
Calcium (Ca)-Total	0.102	RRV	0.050	mg/L		14-JAN-17	R3633185
Cesium (Cs)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Chromium (Cr)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Cobalt (Co)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Copper (Cu)-Total	0.00122	RRV	0.00050	mg/L		14-JAN-17	R3633185
Iron (Fe)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Lead (Pb)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Lithium (Li)-Total	<0.0010		0.0010	mg/L		14-JAN-17	R3633185
Magnesium (Mg)-Total	0.0201	RRV	0.0050	mg/L		14-JAN-17	R3633185
Manganese (Mn)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Molybdenum (Mo)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Nickel (Ni)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Phosphorus (P)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Potassium (K)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Rubidium (Rb)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Selenium (Se)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Silicon (Si)-Total	0.163	RRV	0.050	mg/L		14-JAN-17	R3633185
Silver (Ag)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Sodium (Na)-Total	0.799	RRV	0.050	mg/L		14-JAN-17	R3633185
Strontium (Sr)-Total	0.00046	RRV	0.00020	mg/L		14-JAN-17	R3633185
Sulfur (S)-Total	<0.50		0.50	mg/L		14-JAN-17	R3633185
Tellurium (Te)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Thorium (Th)-Total	<0.00010		0.00010	mg/L		16-JAN-17	R3634118
Tin (Sn)-Total	0.00672	RRV	0.00010	mg/L		14-JAN-17	R3633185
Titanium (Ti)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Tungsten (W)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Uranium (U)-Total	<0.000010		0.000010	mg/L		16-JAN-17	R3634118
Vanadium (V)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Zinc (Zn)-Total	<0.0030		0.0030	mg/L		14-JAN-17	R3633185
Zirconium (Zr)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Total Metals							
Miscellaneous Parameters							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		23-JAN-17	R3638504
L1861968-53 16-N2-FB-CH-112							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:00							
Matrix: Water							
Total Metals - CCME							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	0.38	HTC	0.13	mg/L		16-JAN-17	
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0223	RRV	0.0030	mg/L		14-JAN-17	R3633185
Antimony (Sb)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Arsenic (As)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Barium (Ba)-Total	0.000367	RRV	0.000050	mg/L		14-JAN-17	R3633185
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Boron (B)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Cadmium (Cd)-Total	0.0000104	RRV	0.0000050	mg/L		14-JAN-17	R3633185

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-53 16-N2-FB-CH-112							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:00							
Matrix: Water							
Total Metals in Water by CRC ICPMS							
Calcium (Ca)-Total	0.114	RRV	0.050	mg/L		14-JAN-17	R3633185
Cesium (Cs)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Chromium (Cr)-Total	0.00012	RRV	0.00010	mg/L		14-JAN-17	R3633185
Cobalt (Co)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Copper (Cu)-Total	0.00198	RRV	0.00050	mg/L		14-JAN-17	R3633185
Iron (Fe)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Lead (Pb)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Lithium (Li)-Total	<0.0010		0.0010	mg/L		14-JAN-17	R3633185
Magnesium (Mg)-Total	0.0232	RRV	0.0050	mg/L		14-JAN-17	R3633185
Manganese (Mn)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Molybdenum (Mo)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Nickel (Ni)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Phosphorus (P)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Potassium (K)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Rubidium (Rb)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Selenium (Se)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Silicon (Si)-Total	0.198	RRV	0.050	mg/L		14-JAN-17	R3633185
Silver (Ag)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Sodium (Na)-Total	0.987	RRV	0.050	mg/L		14-JAN-17	R3633185
Strontium (Sr)-Total	0.00050	RRV	0.00020	mg/L		14-JAN-17	R3633185
Sulfur (S)-Total	<0.50		0.50	mg/L		14-JAN-17	R3633185
Tellurium (Te)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Thorium (Th)-Total	<0.00010		0.00010	mg/L		16-JAN-17	R3634118
Tin (Sn)-Total	0.00255	RRV	0.00010	mg/L		14-JAN-17	R3633185
Titanium (Ti)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Tungsten (W)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Uranium (U)-Total	<0.000010		0.000010	mg/L		16-JAN-17	R3634118
Vanadium (V)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Zinc (Zn)-Total	<0.0030		0.0030	mg/L		14-JAN-17	R3633185
Zirconium (Zr)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Total Metals							
Miscellaneous Parameters							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		23-JAN-17	R3638504
L1861968-54 16-E1-FB-CH-113							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:30							
Matrix: Water							
Total Metals - CCME							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	0.29	HTC	0.13	mg/L		16-JAN-17	
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0159	RRV	0.0030	mg/L		14-JAN-17	R3633185
Antimony (Sb)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Arsenic (As)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Barium (Ba)-Total	0.000278	RRV	0.000050	mg/L		14-JAN-17	R3633185
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Boron (B)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Cadmium (Cd)-Total	0.0000053	RRV	0.0000050	mg/L		14-JAN-17	R3633185
Calcium (Ca)-Total	0.084	RRV	0.050	mg/L		14-JAN-17	R3633185
Cesium (Cs)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-54 16-E1-FB-CH-113							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:30							
Matrix: Water							
Total Metals in Water by CRC ICPMS							
Chromium (Cr)-Total	0.00013	RRV	0.00010	mg/L		14-JAN-17	R3633185
Cobalt (Co)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Copper (Cu)-Total	0.00075	RRV	0.00050	mg/L		14-JAN-17	R3633185
Iron (Fe)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Lead (Pb)-Total	0.000143	RRV	0.000050	mg/L		14-JAN-17	R3633185
Lithium (Li)-Total	<0.0010		0.0010	mg/L		14-JAN-17	R3633185
Magnesium (Mg)-Total	0.0187	RRV	0.0050	mg/L		14-JAN-17	R3633185
Manganese (Mn)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Molybdenum (Mo)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Nickel (Ni)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Phosphorus (P)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Potassium (K)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Rubidium (Rb)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Selenium (Se)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Silicon (Si)-Total	0.166	RRV	0.050	mg/L		14-JAN-17	R3633185
Silver (Ag)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Sodium (Na)-Total	0.625	RRV	0.050	mg/L		14-JAN-17	R3633185
Strontium (Sr)-Total	0.00022	RRV	0.00020	mg/L		14-JAN-17	R3633185
Sulfur (S)-Total	<0.50		0.50	mg/L		14-JAN-17	R3633185
Tellurium (Te)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Thorium (Th)-Total	<0.00010		0.00010	mg/L		16-JAN-17	R3634118
Tin (Sn)-Total	0.00045	RRV	0.00010	mg/L		14-JAN-17	R3633185
Titanium (Ti)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Tungsten (W)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Uranium (U)-Total	<0.000010		0.000010	mg/L		16-JAN-17	R3634118
Vanadium (V)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Zinc (Zn)-Total	<0.0030		0.0030	mg/L		14-JAN-17	R3633185
Zirconium (Zr)-Total	0.00080	RRV	0.00030	mg/L		14-JAN-17	R3633185
Total Metals							
Miscellaneous Parameters							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		23-JAN-17	R3638504
L1861968-55 16-W2-RB-CH-115							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:05							
Matrix: Water							
Total Metals - CCME							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	0.19	HTC	0.13	mg/L		16-JAN-17	
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0075	RRV	0.0030	mg/L		14-JAN-17	R3633185
Antimony (Sb)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Arsenic (As)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Barium (Ba)-Total	0.000211	RRV	0.000050	mg/L		14-JAN-17	R3633185
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Boron (B)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		14-JAN-17	R3633185
Calcium (Ca)-Total	0.061	RRV	0.050	mg/L		14-JAN-17	R3633185
Cesium (Cs)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Chromium (Cr)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Cobalt (Co)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-55 16-W2-RB-CH-115							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:05							
Matrix: Water							
Total Metals in Water by CRC ICPMS							
Copper (Cu)-Total	0.00100	RRV	0.00050	mg/L		14-JAN-17	R3633185
Iron (Fe)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Lead (Pb)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Lithium (Li)-Total	<0.0010		0.0010	mg/L		14-JAN-17	R3633185
Magnesium (Mg)-Total	0.0088	RRV	0.0050	mg/L		14-JAN-17	R3633185
Manganese (Mn)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Molybdenum (Mo)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Nickel (Ni)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Phosphorus (P)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Potassium (K)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Rubidium (Rb)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Selenium (Se)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Silicon (Si)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Silver (Ag)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Sodium (Na)-Total	0.378	RRV	0.050	mg/L		14-JAN-17	R3633185
Strontium (Sr)-Total	0.00029	RRV	0.00020	mg/L		14-JAN-17	R3633185
Sulfur (S)-Total	<0.50		0.50	mg/L		14-JAN-17	R3633185
Tellurium (Te)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Thorium (Th)-Total	<0.00010		0.00010	mg/L		16-JAN-17	R3634118
Tin (Sn)-Total	0.00083	RRV	0.00010	mg/L		14-JAN-17	R3633185
Titanium (Ti)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Tungsten (W)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Uranium (U)-Total	<0.000010		0.000010	mg/L		16-JAN-17	R3634118
Vanadium (V)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Zinc (Zn)-Total	<0.0030		0.0030	mg/L		14-JAN-17	R3633185
Zirconium (Zr)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Total Metals							
Miscellaneous Parameters							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		23-JAN-17	R3638504
L1861968-56 16-S7-RB-CH-116							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 17:00							
Matrix: Water							
Total Metals - CCME							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	0.24	HTC	0.13	mg/L		16-JAN-17	
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0121	RRV	0.0030	mg/L		14-JAN-17	R3633185
Antimony (Sb)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Arsenic (As)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Barium (Ba)-Total	0.000242	RRV	0.000050	mg/L		14-JAN-17	R3633185
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Boron (B)-Total	<0.010		0.010	mg/L		16-JAN-17	R3634118
Cadmium (Cd)-Total	0.0000055	RRV	0.0000050	mg/L		14-JAN-17	R3633185
Calcium (Ca)-Total	0.074	RRV	0.050	mg/L		14-JAN-17	R3633185
Cesium (Cs)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Chromium (Cr)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Cobalt (Co)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Copper (Cu)-Total	0.00176	RRV	0.00050	mg/L		14-JAN-17	R3633185
Iron (Fe)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-56 16-S7-RB-CH-116							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 17:00							
Matrix: Water							
Total Metals in Water by CRC ICPMS							
Lead (Pb)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Lithium (Li)-Total	<0.0010		0.0010	mg/L		14-JAN-17	R3633185
Magnesium (Mg)-Total	0.0142	RRV	0.0050	mg/L		14-JAN-17	R3633185
Manganese (Mn)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Molybdenum (Mo)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Nickel (Ni)-Total	0.00340	RRV	0.00050	mg/L		14-JAN-17	R3633185
Phosphorus (P)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Potassium (K)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Rubidium (Rb)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Selenium (Se)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Silicon (Si)-Total	0.057	RRV	0.050	mg/L		14-JAN-17	R3633185
Silver (Ag)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Sodium (Na)-Total	0.950	RRV	0.050	mg/L		14-JAN-17	R3633185
Strontium (Sr)-Total	0.00031	RRV	0.00020	mg/L		14-JAN-17	R3633185
Sulfur (S)-Total	<0.50		0.50	mg/L		14-JAN-17	R3633185
Tellurium (Te)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Thorium (Th)-Total	<0.00010		0.00010	mg/L		16-JAN-17	R3634118
Tin (Sn)-Total	0.00046	RRV	0.00010	mg/L		14-JAN-17	R3633185
Titanium (Ti)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Tungsten (W)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Uranium (U)-Total	<0.000010		0.000010	mg/L		16-JAN-17	R3634118
Vanadium (V)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Zinc (Zn)-Total	<0.0030		0.0030	mg/L		14-JAN-17	R3633185
Zirconium (Zr)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Total Metals							
Miscellaneous Parameters							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		23-JAN-17	R3638504
L1861968-57 16-S4-RB-CH-117							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 09:00							
Matrix: Water							
Total Metals - CCME							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	0.23	HTC	0.13	mg/L		16-JAN-17	
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0117	RRV	0.0030	mg/L		14-JAN-17	R3633185
Antimony (Sb)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Arsenic (As)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Barium (Ba)-Total	0.000499	RRV	0.000050	mg/L		14-JAN-17	R3633185
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Boron (B)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		14-JAN-17	R3633185
Calcium (Ca)-Total	0.069	RRV	0.050	mg/L		14-JAN-17	R3633185
Cesium (Cs)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Chromium (Cr)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Cobalt (Co)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Copper (Cu)-Total	0.00072	RRV	0.00050	mg/L		14-JAN-17	R3633185
Iron (Fe)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Lead (Pb)-Total	0.000139	RRV	0.000050	mg/L		14-JAN-17	R3633185
Lithium (Li)-Total	<0.0010		0.0010	mg/L		14-JAN-17	R3633185

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-57 16-S4-RB-CH-117							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 09:00							
Matrix: Water							
Total Metals in Water by CRC ICPMS							
Magnesium (Mg)-Total	0.0149	RRV	0.0050	mg/L		14-JAN-17	R3633185
Manganese (Mn)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Molybdenum (Mo)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Nickel (Ni)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Phosphorus (P)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Potassium (K)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Rubidium (Rb)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Selenium (Se)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Silicon (Si)-Total	0.108	RRV	0.050	mg/L		14-JAN-17	R3633185
Silver (Ag)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Sodium (Na)-Total	0.567	RRV	0.050	mg/L		14-JAN-17	R3633185
Strontium (Sr)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Sulfur (S)-Total	<0.50		0.50	mg/L		14-JAN-17	R3633185
Tellurium (Te)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Thorium (Th)-Total	<0.00010		0.00010	mg/L		16-JAN-17	R3634118
Tin (Sn)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Titanium (Ti)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Tungsten (W)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Uranium (U)-Total	<0.000010		0.000010	mg/L		16-JAN-17	R3634118
Vanadium (V)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Zinc (Zn)-Total	<0.0030		0.0030	mg/L		14-JAN-17	R3633185
Zirconium (Zr)-Total	0.00041	RRV	0.00030	mg/L		14-JAN-17	R3633185
Total Metals							
Miscellaneous Parameters							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		23-JAN-17	R3638504
L1861968-58 16-S4-RB-CH-118							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 12:50							
Matrix: Water							
Total Metals - CCME							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	0.22	HTC	0.13	mg/L		16-JAN-17	
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0122	RRV	0.0030	mg/L		14-JAN-17	R3633185
Antimony (Sb)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Arsenic (As)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Barium (Ba)-Total	0.000280	RRV	0.000050	mg/L		14-JAN-17	R3633185
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Boron (B)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		14-JAN-17	R3633185
Calcium (Ca)-Total	0.065	RRV	0.050	mg/L		14-JAN-17	R3633185
Cesium (Cs)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Chromium (Cr)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Cobalt (Co)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Copper (Cu)-Total	0.00067	RRV	0.00050	mg/L		14-JAN-17	R3633185
Iron (Fe)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Lead (Pb)-Total	0.000108	RRV	0.000050	mg/L		14-JAN-17	R3633185
Lithium (Li)-Total	<0.0010		0.0010	mg/L		14-JAN-17	R3633185
Magnesium (Mg)-Total	0.0140	RRV	0.0050	mg/L		14-JAN-17	R3633185
Manganese (Mn)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-58 16-S4-RB-CH-118							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 12:50							
Matrix: Water							
Total Metals in Water by CRC ICPMS							
Molybdenum (Mo)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Nickel (Ni)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Phosphorus (P)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Potassium (K)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Rubidium (Rb)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Selenium (Se)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Silicon (Si)-Total	0.115	RRV	0.050	mg/L		14-JAN-17	R3633185
Silver (Ag)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Sodium (Na)-Total	0.631	RRV	0.050	mg/L		14-JAN-17	R3633185
Strontium (Sr)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Sulfur (S)-Total	<0.50		0.50	mg/L		14-JAN-17	R3633185
Tellurium (Te)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Thorium (Th)-Total	<0.00010		0.00010	mg/L		16-JAN-17	R3634118
Tin (Sn)-Total	0.00011	RRV	0.00010	mg/L		14-JAN-17	R3633185
Titanium (Ti)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Tungsten (W)-Total	0.00018	RRV	0.00010	mg/L		14-JAN-17	R3633185
Uranium (U)-Total	<0.000010		0.000010	mg/L		16-JAN-17	R3634118
Vanadium (V)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Zinc (Zn)-Total	<0.0030		0.0030	mg/L		14-JAN-17	R3633185
Zirconium (Zr)-Total	0.00047	RRV	0.00030	mg/L		14-JAN-17	R3633185
Total Metals							
Miscellaneous Parameters							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		23-JAN-17	R3638504
L1861968-59 16-S1-RB-CH-119							
Sampled By: Pascal Tuarze on 11-OCT-16							
Matrix: Water							
Total Metals - CCME							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	0.19	HTC	0.13	mg/L		17-JAN-17	
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0089	RRV	0.0030	mg/L		14-JAN-17	R3633185
Antimony (Sb)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Arsenic (As)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Barium (Ba)-Total	0.000822	RRV	0.000050	mg/L		14-JAN-17	R3633185
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Boron (B)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		14-JAN-17	R3633185
Calcium (Ca)-Total	0.055	RRV	0.050	mg/L		14-JAN-17	R3633185
Cesium (Cs)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Chromium (Cr)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Cobalt (Co)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Copper (Cu)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Iron (Fe)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Lead (Pb)-Total	0.000066	RRV	0.000050	mg/L		14-JAN-17	R3633185
Lithium (Li)-Total	<0.0010		0.0010	mg/L		14-JAN-17	R3633185
Magnesium (Mg)-Total	0.0124	RRV	0.0050	mg/L		14-JAN-17	R3633185
Manganese (Mn)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Molybdenum (Mo)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Nickel (Ni)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-59 16-S1-RB-CH-119							
Sampled By: Pascal Tuarze on 11-OCT-16							
Matrix: Water							
Total Metals in Water by CRC ICPMS							
Phosphorus (P)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Potassium (K)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Rubidium (Rb)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Selenium (Se)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Silicon (Si)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Silver (Ag)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Sodium (Na)-Total	0.466	RRV	0.050	mg/L		14-JAN-17	R3633185
Strontium (Sr)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Sulfur (S)-Total	<0.50		0.50	mg/L		14-JAN-17	R3633185
Tellurium (Te)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Thorium (Th)-Total	<0.00010		0.00010	mg/L		17-JAN-17	R3634118
Tin (Sn)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Titanium (Ti)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Tungsten (W)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Uranium (U)-Total	<0.000010		0.000010	mg/L		17-JAN-17	R3634118
Vanadium (V)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Zinc (Zn)-Total	<0.0030		0.0030	mg/L		14-JAN-17	R3633185
Zirconium (Zr)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Total Metals							
Miscellaneous Parameters							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		23-JAN-17	R3638504
L1861968-60 16-S1-RB-CH-120							
Sampled By: Pascal Tuarze on 11-OCT-16							
Matrix: Water							
Total Metals - CCME							
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	0.24	HTC	0.13	mg/L		17-JAN-17	
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0112	RRV	0.0030	mg/L		14-JAN-17	R3633185
Antimony (Sb)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Arsenic (As)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Barium (Ba)-Total	0.000497	RRV	0.000050	mg/L		14-JAN-17	R3633185
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Boron (B)-Total	<0.010		0.010	mg/L		17-JAN-17	R3634118
Cadmium (Cd)-Total	0.0000060	RRV	0.0000050	mg/L		14-JAN-17	R3633185
Calcium (Ca)-Total	0.068	RRV	0.050	mg/L		14-JAN-17	R3633185
Cesium (Cs)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Chromium (Cr)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Cobalt (Co)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Copper (Cu)-Total	0.00060	RRV	0.00050	mg/L		14-JAN-17	R3633185
Iron (Fe)-Total	<0.010		0.010	mg/L		14-JAN-17	R3633185
Lead (Pb)-Total	0.000090	RRV	0.000050	mg/L		14-JAN-17	R3633185
Lithium (Li)-Total	<0.0010		0.0010	mg/L		14-JAN-17	R3633185
Magnesium (Mg)-Total	0.0177	RRV	0.0050	mg/L		14-JAN-17	R3633185
Manganese (Mn)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Molybdenum (Mo)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Nickel (Ni)-Total	0.00077	RRV	0.00050	mg/L		14-JAN-17	R3633185
Phosphorus (P)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185
Potassium (K)-Total	<0.050		0.050	mg/L		14-JAN-17	R3633185

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1861968-60 16-S1-RB-CH-120							
Sampled By: Pascal Tuarze on 11-OCT-16							
Matrix: Water							
Total Metals in Water by CRC ICPMS							
Rubidium (Rb)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Selenium (Se)-Total	<0.000050		0.000050	mg/L		14-JAN-17	R3633185
Silicon (Si)-Total	0.073	RRV	0.050	mg/L		14-JAN-17	R3633185
Silver (Ag)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Sodium (Na)-Total	0.597	RRV	0.050	mg/L		14-JAN-17	R3633185
Strontium (Sr)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Sulfur (S)-Total	<0.50		0.50	mg/L		14-JAN-17	R3633185
Tellurium (Te)-Total	<0.00020		0.00020	mg/L		14-JAN-17	R3633185
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		14-JAN-17	R3633185
Thorium (Th)-Total	<0.00010		0.00010	mg/L		17-JAN-17	R3634118
Tin (Sn)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Titanium (Ti)-Total	<0.00030		0.00030	mg/L		14-JAN-17	R3633185
Tungsten (W)-Total	<0.00010		0.00010	mg/L		14-JAN-17	R3633185
Uranium (U)-Total	<0.000010		0.000010	mg/L		17-JAN-17	R3634118
Vanadium (V)-Total	<0.00050		0.00050	mg/L		14-JAN-17	R3633185
Zinc (Zn)-Total	<0.0030		0.0030	mg/L		14-JAN-17	R3633185
Zirconium (Zr)-Total	0.00043	RRV	0.00030	mg/L		14-JAN-17	R3633185
Total Metals							
Miscellaneous Parameters							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		23-JAN-17	R3638504

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Qualifiers for Sample Submission Listed:

Qualifier	Description
WSMT	HG-T - Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.

Sample Parameter Qualifier Key:

Qualifier	Description
HTC	Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
AG-DRY-MS-ED	Tissue	Silver in Tissue by ICPMS dry weight	EPA 200.3/200.8-ICPMS
B-200.2-L-MS-ED	Soil	Boron in Soil by ICPMS	EPA 200.2/6020A
B-T-L-CCMS-ED	Water	Total Boron in Water by CRC ICPMS	APHA 3030 E / EPA SW-846 6020A

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modifed from EPA Method 6020A).

CL-1:5-DI-IC-ED	Soil	Chloride by IC (Water Leach)	EPA 300.1

Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analyzed for anions by ion chromatography with conductivity or UV detection.

CL-DRY-SOL-L-IC-ED	Tissue	Chloride (Cl) - Soluble dry weight	Comm Soil Sci 16:7/APHA 4110B

Leachable Anions in vegetation analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analyzed for chloride by ion chromatography with conductivity or UV detection.

ETL-HARDNESS-TOT-ED	Water	Hardness (from Total Ca and Mg)	APHA 2340 B-Calculation
HG-200.2-CVAA-ED	Soil	Mercury in Soil by CVAAS	EPA 200.2/1631E (Mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAAS.

HG-DRY-CVAA-ED	Tissue	Mercury in Tissue by CVAA, Dry weight	EPA 200.3 / EPA 245.1

This method is conducted following British Columbia Lab Manual method "Metals in Animal Tissue and Vegetation (Biota) - Prescriptive". Tissue samples are homogenized and sub-sampled prior to hotblock digestion with nitric and hydrochloric acids, in combination with addition of hydrogen peroxide. Analysis is by atomic absorption spectrophotometry, adapted from US EPA Method 245.7.

HG-T-CVAA-ED	Water	Total Mercury in Water by CVAAS	EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.

K-200.2-L-CCMS-ED	Soil	Potassium in Soil by CRC ICPMS	EPA 200.2/6020A
MET-200.2-CCMS-ED	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction. depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.

MET-DRY-CCMS-ED	Tissue	Metals in Tissue by CRC-ICPMS dry weight	EPA 200.3/6020A

This method is conducted following British Columbia Lab Manual method "Metals in Animal Tissue and Vegetation (Biota) - Prescriptive". Tissue samples are homogenized and sub-sampled prior to hotblock digestion with nitric and hydrochloric acids, in combination with addition of hydrogen peroxide. Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Method Limitation: This method employs a strong acid/peroxide digestion, and is intended to provide a conservative estimate of bio-available metals. Near complete recoveries are achieved for most toxicologically important metals, but elements associated with recalcitrant minerals may be only partially recovered.

MET-T-CCMS-ED	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
S-200.2-CCMS-ED	Soil	Sulfur Soil by CRC ICPMS	EPA 200.2/6020A

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction. depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.

** 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
ED	ALS ENVIRONMENTAL - EDMONTON, ALBERTA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
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
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
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.

Quality Control Report

Client: STANTEC CONSULTING LTD.
70 Southgate Dr, Suite 01
Guelph ON N1G 4P5
Contact: Katherine Ketis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-T-CVAA-ED	**Water**							
Batch R3638504								
WG2467983-2 LCS								
Mercury (Hg)-Total			98.9		%		80-120	23-JAN-17
WG2467983-1 MB								
Mercury (Hg)-Total			<0.000005(		mg/L		0.000005	23-JAN-17
MET-T-CCMS-ED	**Water**							
Batch R3633185								
WG2464003-2 DUP		**L1861968-52**						
Aluminum (Al)-Total		0.0171	0.0161		mg/L	6.1	20	14-JAN-17
Antimony (Sb)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	14-JAN-17
Arsenic (As)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	14-JAN-17
Barium (Ba)-Total		0.000232	0.000222		mg/L	4.3	20	14-JAN-17
Beryllium (Be)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	14-JAN-17
Bismuth (Bi)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	14-JAN-17
Boron (B)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	20	14-JAN-17
Cadmium (Cd)-Total		<0.0000050	<0.000005(	RPD-NA	mg/L	N/A	20	14-JAN-17
Calcium (Ca)-Total		0.102	0.099		mg/L	2.8	20	14-JAN-17
Cesium (Cs)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	14-JAN-17
Chromium (Cr)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	14-JAN-17
Cobalt (Co)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	14-JAN-17
Copper (Cu)-Total		0.00122	0.00119		mg/L	2.2	20	14-JAN-17
Iron (Fe)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	20	14-JAN-17
Lead (Pb)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	14-JAN-17
Lithium (Li)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	14-JAN-17
Magnesium (Mg)-Total		0.0201	0.0192		mg/L	4.2	20	14-JAN-17
Manganese (Mn)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	14-JAN-17
Molybdenum (Mo)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	14-JAN-17
Nickel (Ni)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	14-JAN-17
Phosphorus (P)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	14-JAN-17
Potassium (K)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	14-JAN-17
Rubidium (Rb)-Total		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	14-JAN-17
Selenium (Se)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	14-JAN-17
Silicon (Si)-Total		0.163	0.160		mg/L	1.7	20	14-JAN-17
Silver (Ag)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	14-JAN-17
Sodium (Na)-Total		0.799	0.799		mg/L	0.0	20	14-JAN-17
Strontium (Sr)-Total		0.00046	0.00046		mg/L	1.7	20	14-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-ED	**Water**							
Batch R3633185								
WG2464003-2 DUP		**L1861968-52**						
Sulfur (S)-Total		<0.50	<0.50	RPD-NA	mg/L	N/A	20	14-JAN-17
Tellurium (Te)-Total		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	14-JAN-17
Thallium (Tl)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	14-JAN-17
Tin (Sn)-Total		0.00672	0.00674		mg/L	0.3	20	14-JAN-17
Titanium (Ti)-Total		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	14-JAN-17
Tungsten (W)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	14-JAN-17
Vanadium (V)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	14-JAN-17
Zinc (Zn)-Total		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	14-JAN-17
Zirconium (Zr)-Total		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	14-JAN-17
WG2464003-1 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	14-JAN-17
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	14-JAN-17
Arsenic (As)-Total			<0.00010		mg/L		0.0001	14-JAN-17
Barium (Ba)-Total			<0.000050		mg/L		0.00005	14-JAN-17
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	14-JAN-17
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	14-JAN-17
Boron (B)-Total			<0.010		mg/L		0.01	14-JAN-17
Cadmium (Cd)-Total			<0.000005(		mg/L		0.000005	14-JAN-17
Calcium (Ca)-Total			<0.050		mg/L		0.05	14-JAN-17
Cesium (Cs)-Total			<0.000010		mg/L		0.00001	14-JAN-17
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	14-JAN-17
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	14-JAN-17
Copper (Cu)-Total			<0.00050		mg/L		0.0005	14-JAN-17
Iron (Fe)-Total			<0.010		mg/L		0.01	14-JAN-17
Lead (Pb)-Total			<0.000050		mg/L		0.00005	14-JAN-17
Lithium (Li)-Total			<0.0010		mg/L		0.001	14-JAN-17
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	14-JAN-17
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	14-JAN-17
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	14-JAN-17
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	14-JAN-17
Phosphorus (P)-Total			<0.050		mg/L		0.05	14-JAN-17
Potassium (K)-Total			<0.050		mg/L		0.05	14-JAN-17
Rubidium (Rb)-Total			<0.00020		mg/L		0.0002	14-JAN-17
Selenium (Se)-Total			<0.000050		mg/L		0.00005	14-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-ED	**Water**							
Batch R3633185								
WG2464003-1 MB								
Silicon (Si)-Total			<0.050		mg/L		0.05	14-JAN-17
Silver (Ag)-Total			<0.000010		mg/L		0.00001	14-JAN-17
Sodium (Na)-Total			<0.050		mg/L		0.05	14-JAN-17
Strontium (Sr)-Total			<0.00020		mg/L		0.0002	14-JAN-17
Sulfur (S)-Total			<0.50		mg/L		0.5	14-JAN-17
Tellurium (Te)-Total			<0.00020		mg/L		0.0002	14-JAN-17
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	14-JAN-17
Tin (Sn)-Total			<0.00010		mg/L		0.0001	14-JAN-17
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	14-JAN-17
Tungsten (W)-Total			<0.00010		mg/L		0.0001	14-JAN-17
Vanadium (V)-Total			<0.00050		mg/L		0.0005	14-JAN-17
Zinc (Zn)-Total			<0.0030		mg/L		0.003	14-JAN-17
Zirconium (Zr)-Total			<0.00030		mg/L		0.0003	14-JAN-17
Batch R3634118								
WG2464003-2 DUP		**L1861968-52**						
Thorium (Th)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	16-JAN-17
Uranium (U)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	16-JAN-17
WG2464003-1 MB								
Thorium (Th)-Total			<0.00010		mg/L		0.0001	16-JAN-17
Uranium (U)-Total			<0.000010		mg/L		0.00001	16-JAN-17
B-200.2-L-MS-ED	**Soil**							
Batch R3634679								
WG2464670-3 CRM		**TILL-1_SOIL**						
Boron (B)			142.3		%		50-150	18-JAN-17
WG2464670-7 CRM		**TILL-1_SOIL**						
Boron (B)			119.4		%		50-150	18-JAN-17
WG2464670-4 DUP		**L1861968-43**						
Boron (B)		21.7	20.1		mg/kg	8.0	30	18-JAN-17
WG2464670-2 LCS								
Boron (B)			97.0		%		80-120	18-JAN-17
WG2464670-6 LCS								
Boron (B)			99.7		%		80-120	18-JAN-17
WG2464670-1 MB								
Boron (B)			<2.0		mg/kg		2	18-JAN-17
WG2464670-5 MB								
Boron (B)			<2.0		mg/kg		2	18-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-1:5-DI-IC-ED	**Soil**							
Batch R3636254								
WG2465165-3 DUP		**L1861968-39**						
Chloride (Cl)		3.57	3.66		mg/kg	2.6	30	18-JAN-17
WG2465165-2 IRM		**SALINITY_SOIL5**						
Chloride (Cl)			79.7		%		70-130	18-JAN-17
WG2465165-5 IRM		**SALINITY_SOIL5**						
Chloride (Cl)			76.3		%		70-130	17-JAN-17
WG2465165-1 MB								
Chloride (Cl)			<0.50		mg/kg		0.5	18-JAN-17
WG2465165-4 MB								
Chloride (Cl)			<0.50		mg/kg		0.5	17-JAN-17
HG-200.2-CVAA-ED	**Soil**							
Batch R3634702								
WG2464670-3 CRM		**TILL-1_SOIL**						
Mercury (Hg)			94.4		%		70-130	17-JAN-17
WG2464670-7 CRM		**TILL-1_SOIL**						
Mercury (Hg)			84.5		%		70-130	17-JAN-17
WG2464670-4 DUP		**L1861968-43**						
Mercury (Hg)		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	17-JAN-17
WG2464670-2 LCS								
Mercury (Hg)			105.0		%		70-130	17-JAN-17
WG2464670-6 LCS								
Mercury (Hg)			108.0		%		70-130	17-JAN-17
WG2464670-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	17-JAN-17
WG2464670-5 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	17-JAN-17
K-200.2-L-CCMS-ED	**Soil**							
Batch R3634679								
WG2464670-4 DUP		**L1861968-43**						
Potassium (K)		3510	3470		mg/kg	1.3	30	18-JAN-17
WG2464670-2 LCS								
Potassium (K)			101.7		%		80-120	18-JAN-17
WG2464670-6 LCS								
Potassium (K)			103.6		%		80-120	18-JAN-17
WG2464670-1 MB								
Potassium (K)			<50		mg/kg		50	18-JAN-17
WG2464670-5 MB								
Potassium (K)			<50		mg/kg		50	18-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-ED	**Soil**							
Batch R3634679								
WG2464670-3 CRM		**TILL-1_SOIL**						
Aluminum (Al)			115.0		%		70-130	18-JAN-17
Arsenic (As)			123.1		%		70-130	18-JAN-17
Barium (Ba)			111.0		%		70-130	18-JAN-17
Beryllium (Be)			106.9		%		70-130	18-JAN-17
Cadmium (Cd)			103.9		%		70-130	18-JAN-17
Calcium (Ca)			119.8		%		70-130	18-JAN-17
Chromium (Cr)			121.4		%		70-130	18-JAN-17
Cobalt (Co)			116.3		%		70-130	18-JAN-17
Copper (Cu)			111.4		%		70-130	18-JAN-17
Iron (Fe)			110.5		%		70-130	18-JAN-17
Lead (Pb)			105.6		%		70-130	18-JAN-17
Magnesium (Mg)			116.1		%		70-130	18-JAN-17
Manganese (Mn)			115.4		%		70-130	18-JAN-17
Molybdenum (Mo)			108.5		%		70-130	18-JAN-17
Nickel (Ni)			116.9		%		70-130	18-JAN-17
Silver (Ag)			118.5		%		70-130	18-JAN-17
Sodium (Na)			118.6		%		70-130	18-JAN-17
Strontium (Sr)			120.5		%		70-130	18-JAN-17
Thallium (Tl)			112.6		%		70-130	18-JAN-17
Titanium (Ti)			117.5		%		70-130	18-JAN-17
Vanadium (V)			124.0		%		70-130	18-JAN-17
Zinc (Zn)			113.5		%		70-130	18-JAN-17
Zirconium (Zr)			137.4		%		50-150	18-JAN-17
WG2464670-7 CRM		**TILL-1_SOIL**						
Aluminum (Al)			99.7		%		70-130	18-JAN-17
Arsenic (As)			107.5		%		70-130	18-JAN-17
Barium (Ba)			99.3		%		70-130	18-JAN-17
Beryllium (Be)			98.4		%		70-130	18-JAN-17
Cadmium (Cd)			90.0		%		70-130	18-JAN-17
Calcium (Ca)			107.6		%		70-130	18-JAN-17
Chromium (Cr)			103.3		%		70-130	18-JAN-17
Cobalt (Co)			100.5		%		70-130	18-JAN-17
Copper (Cu)			98.4		%		70-130	18-JAN-17
Iron (Fe)			97.5		%		70-130	18-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-ED	**Soil**							
Batch R3634679								
WG2464670-7 CRM		**TILL-1_SOIL**						
Lead (Pb)			89.1		%		70-130	18-JAN-17
Magnesium (Mg)			102.6		%		70-130	18-JAN-17
Manganese (Mn)			103.1		%		70-130	18-JAN-17
Molybdenum (Mo)			99.2		%		70-130	18-JAN-17
Nickel (Ni)			101.6		%		70-130	18-JAN-17
Silver (Ag)			110.1		%		70-130	18-JAN-17
Sodium (Na)			113.7		%		70-130	18-JAN-17
Strontium (Sr)			111.5		%		70-130	18-JAN-17
Thallium (Tl)			95.3		%		70-130	18-JAN-17
Titanium (Ti)			103.7		%		70-130	18-JAN-17
Vanadium (V)			106.3		%		70-130	18-JAN-17
Zinc (Zn)			98.9		%		70-130	18-JAN-17
Zirconium (Zr)			93.3		%		50-150	18-JAN-17
WG2464670-4 DUP		**L1861968-43**						
Aluminum (Al)		22000	22500		mg/kg	2.2	40	18-JAN-17
Arsenic (As)		7.21	7.18		mg/kg	0.4	30	18-JAN-17
Barium (Ba)		107	109		mg/kg	1.9	40	18-JAN-17
Beryllium (Be)		0.99	1.00		mg/kg	1.4	30	18-JAN-17
Cadmium (Cd)		0.33	0.33		mg/kg	1.8	30	18-JAN-17
Calcium (Ca)		30200	27200		mg/kg	10	30	18-JAN-17
Chromium (Cr)		32.6	32.6		mg/kg	0.3	30	18-JAN-17
Cobalt (Co)		13.9	11.8		mg/kg	16	30	18-JAN-17
Copper (Cu)		17.4	17.9		mg/kg	2.8	30	18-JAN-17
Iron (Fe)		25600	25300		mg/kg	1.4	30	18-JAN-17
Lead (Pb)		12.6	12.9		mg/kg	1.8	40	18-JAN-17
Magnesium (Mg)		12500	11700		mg/kg	5.9	30	18-JAN-17
Manganese (Mn)		583	461		mg/kg	23	30	18-JAN-17
Molybdenum (Mo)		3.49	3.57		mg/kg	2.3	40	18-JAN-17
Nickel (Ni)		33.0	32.4		mg/kg	1.6	30	18-JAN-17
Silver (Ag)		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	18-JAN-17
Sodium (Na)		190	190		mg/kg	3.2	40	18-JAN-17
Strontium (Sr)		52.1	51.2		mg/kg	1.7	40	18-JAN-17
Thallium (Tl)		0.331	0.333		mg/kg	0.8	30	18-JAN-17
Titanium (Ti)		203	175		mg/kg	15	40	18-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-ED	**Soil**							
Batch R3634679								
WG2464670-4 DUP		**L1861968-43**						
Vanadium (V)		46.1	44.3		mg/kg	4.0	30	18-JAN-17
Zinc (Zn)		61.4	60.9		mg/kg	0.9	30	18-JAN-17
Zirconium (Zr)		<5.0	5.2	RPD-NA	mg/kg	N/A	30	18-JAN-17
WG2464670-2 LCS								
Aluminum (Al)			98.9		%		80-120	18-JAN-17
Arsenic (As)			104.5		%		80-120	18-JAN-17
Barium (Ba)			98.8		%		80-120	18-JAN-17
Beryllium (Be)			102.9		%		80-120	18-JAN-17
Cadmium (Cd)			98.6		%		80-120	18-JAN-17
Calcium (Ca)			99.5		%		80-120	18-JAN-17
Chromium (Cr)			98.1		%		80-120	18-JAN-17
Cobalt (Co)			98.3		%		80-120	18-JAN-17
Copper (Cu)			96.3		%		80-120	18-JAN-17
Iron (Fe)			96.0		%		80-120	18-JAN-17
Lead (Pb)			99.8		%		80-120	18-JAN-17
Magnesium (Mg)			104.0		%		80-120	18-JAN-17
Manganese (Mn)			100.7		%		80-120	18-JAN-17
Molybdenum (Mo)			109.8		%		80-120	18-JAN-17
Nickel (Ni)			97.6		%		80-120	18-JAN-17
Silver (Ag)			105.6		%		80-120	18-JAN-17
Sodium (Na)			98.2		%		80-120	18-JAN-17
Strontium (Sr)			103.5		%		80-120	18-JAN-17
Thallium (Tl)			98.1		%		80-120	18-JAN-17
Titanium (Ti)			99.1		%		80-120	18-JAN-17
Vanadium (V)			101.4		%		80-120	18-JAN-17
Zinc (Zn)			94.1		%		80-120	18-JAN-17
Zirconium (Zr)			101.9		%		80-120	18-JAN-17
WG2464670-6 LCS								
Aluminum (Al)			100.8		%		80-120	18-JAN-17
Arsenic (As)			107.2		%		80-120	18-JAN-17
Barium (Ba)			104.3		%		80-120	18-JAN-17
Beryllium (Be)			103.8		%		80-120	18-JAN-17
Cadmium (Cd)			101.3		%		80-120	18-JAN-17
Calcium (Ca)			102.7		%		80-120	18-JAN-17
Chromium (Cr)			101.5		%		80-120	18-JAN-17

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-ED	**Soil**							
Batch R3634679								
WG2464670-6 LCS								
Cobalt (Co)			101.1		%		80-120	18-JAN-17
Copper (Cu)			99.4		%		80-120	18-JAN-17
Iron (Fe)			97.6		%		80-120	18-JAN-17
Lead (Pb)			99.2		%		80-120	18-JAN-17
Magnesium (Mg)			106.8		%		80-120	18-JAN-17
Manganese (Mn)			103.0		%		80-120	18-JAN-17
Molybdenum (Mo)			111.7		%		80-120	18-JAN-17
Nickel (Ni)			100.2		%		80-120	18-JAN-17
Silver (Ag)			108.7		%		80-120	18-JAN-17
Sodium (Na)			104.4		%		80-120	18-JAN-17
Strontium (Sr)			104.2		%		80-120	18-JAN-17
Thallium (Tl)			97.9		%		80-120	18-JAN-17
Titanium (Ti)			102.0		%		80-120	18-JAN-17
Vanadium (V)			104.4		%		80-120	18-JAN-17
Zinc (Zn)			98.3		%		80-120	18-JAN-17
Zirconium (Zr)			104.5		%		80-120	18-JAN-17
WG2464670-1 MB								
Aluminum (Al)			<50		mg/kg		50	18-JAN-17
Arsenic (As)			<0.10		mg/kg		0.1	18-JAN-17
Barium (Ba)			<0.50		mg/kg		0.5	18-JAN-17
Beryllium (Be)			<0.10		mg/kg		0.1	18-JAN-17
Cadmium (Cd)			<0.020		mg/kg		0.02	18-JAN-17
Calcium (Ca)			<50		mg/kg		50	18-JAN-17
Chromium (Cr)			<0.50		mg/kg		0.5	18-JAN-17
Cobalt (Co)			<0.10		mg/kg		0.1	18-JAN-17
Copper (Cu)			<0.50		mg/kg		0.5	18-JAN-17
Iron (Fe)			<50		mg/kg		50	18-JAN-17
Lead (Pb)			<0.50		mg/kg		0.5	18-JAN-17
Magnesium (Mg)			<20		mg/kg		20	18-JAN-17
Manganese (Mn)			<1.0		mg/kg		1	18-JAN-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	18-JAN-17
Nickel (Ni)			<0.50		mg/kg		0.5	18-JAN-17
Silver (Ag)			<0.10		mg/kg		0.1	18-JAN-17
Sodium (Na)			<50		mg/kg		50	18-JAN-17

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-ED	**Soil**							
Batch R3634679								
WG2464670-1 MB								
Strontium (Sr)			<0.50		mg/kg		0.5	18-JAN-17
Thallium (Tl)			<0.050		mg/kg		0.05	18-JAN-17
Titanium (Ti)			<1.0		mg/kg		1	18-JAN-17
Vanadium (V)			<0.20		mg/kg		0.2	18-JAN-17
Zinc (Zn)			<2.0		mg/kg		2	18-JAN-17
Zirconium (Zr)			<1.0		mg/kg		1	18-JAN-17
WG2464670-5 MB								
Aluminum (Al)			<50		mg/kg		50	18-JAN-17
Arsenic (As)			<0.10		mg/kg		0.1	18-JAN-17
Barium (Ba)			<0.50		mg/kg		0.5	18-JAN-17
Beryllium (Be)			<0.10		mg/kg		0.1	18-JAN-17
Cadmium (Cd)			<0.020		mg/kg		0.02	18-JAN-17
Calcium (Ca)			<50		mg/kg		50	18-JAN-17
Chromium (Cr)			<0.50		mg/kg		0.5	18-JAN-17
Cobalt (Co)			<0.10		mg/kg		0.1	18-JAN-17
Copper (Cu)			<0.50		mg/kg		0.5	18-JAN-17
Iron (Fe)			<50		mg/kg		50	18-JAN-17
Lead (Pb)			<0.50		mg/kg		0.5	18-JAN-17
Magnesium (Mg)			<20		mg/kg		20	18-JAN-17
Manganese (Mn)			<1.0		mg/kg		1	18-JAN-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	18-JAN-17
Nickel (Ni)			<0.50		mg/kg		0.5	18-JAN-17
Silver (Ag)			<0.10		mg/kg		0.1	18-JAN-17
Sodium (Na)			<50		mg/kg		50	18-JAN-17
Strontium (Sr)			<0.50		mg/kg		0.5	18-JAN-17
Thallium (Tl)			<0.050		mg/kg		0.05	18-JAN-17
Titanium (Ti)			<1.0		mg/kg		1	18-JAN-17
Vanadium (V)			<0.20		mg/kg		0.2	18-JAN-17
Zinc (Zn)			<2.0		mg/kg		2	18-JAN-17
Zirconium (Zr)			<1.0		mg/kg		1	18-JAN-17
S-200.2-CCMS-ED	**Soil**							
Batch R3634679								
WG2464670-3 CRM		**TILL-1_SOIL**						
Sulfur (S)			113.3		%		50-150	18-JAN-17
WG2464670-7 CRM		**TILL-1_SOIL**						

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
S-200.2-CCMS-ED	**Soil**							
Batch R3634679								
WG2464670-7 CRM		**TILL-1_SOIL**						
Sulfur (S)			94.7		%		50-150	18-JAN-17
WG2464670-4 DUP		**L1861968-43**						
Sulfur (S)		280	370		mg/kg	28	30	18-JAN-17
WG2464670-2 LCS								
Sulfur (S)			100.8		%		80-120	18-JAN-17
WG2464670-6 LCS								
Sulfur (S)			105.6		%		80-120	18-JAN-17
WG2464670-1 MB								
Sulfur (S)			<100		mg/kg		100	18-JAN-17
WG2464670-5 MB								
Sulfur (S)			<100		mg/kg		100	18-JAN-17
AG-DRY-MS-ED	**Tissue**							
Batch R3637440								
WG2464669-4 DUP		**L1861968-34**						
Silver (Ag)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	35	21-JAN-17
WG2464669-8 DUP		**L1861968-49**						
Silver (Ag)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	35	21-JAN-17
WG2464669-2 LCS								
Silver (Ag)-Total			105.5		%		70-130	21-JAN-17
WG2464669-6 LCS								
Silver (Ag)-Total			110.1		%		70-130	21-JAN-17
WG2464669-1 MB								
Silver (Ag)-Total			<0.080		mg/kg		0.08	21-JAN-17
WG2464669-5 MB								
Silver (Ag)-Total			<0.080		mg/kg		0.08	21-JAN-17
CL-DRY-SOL-L-IC-ED	**Tissue**							
Batch R3637697								
WG2465189-2 DUP		**L1861968-34**						
Chloride (Cl)		325	324		mg/kg	0.4	35	19-JAN-17
WG2465189-4 DUP		**L1861968-49**						
Chloride (Cl)		384	385		mg/kg	0.3	35	19-JAN-17
WG2465189-1 MB								
Chloride (Cl)			<10		mg/kg		10	19-JAN-17
WG2465189-3 MB								
Chloride (Cl)			<10		mg/kg		10	19-JAN-17
HG-DRY-CVAA-ED	**Tissue**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-DRY-CVAA-ED	**Tissue**							
Batch R3637780								
WG2464669-3 CRM		**1547_PEACH**						
Mercury (Hg)-Total			96.6		%		70-130	22-JAN-17
WG2464669-7 CRM		**1547_PEACH**						
Mercury (Hg)-Total			100.3		%		70-130	22-JAN-17
WG2464669-4 DUP		**L1861968-34**						
Mercury (Hg)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	22-JAN-17
WG2464669-8 DUP		**L1861968-49**						
Mercury (Hg)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	22-JAN-17
WG2464669-2 LCS								
Mercury (Hg)-Total			119.5		%		80-120	22-JAN-17
WG2464669-6 LCS								
Mercury (Hg)-Total			119.5		%		80-120	22-JAN-17
WG2464669-1 MB								
Mercury (Hg)-Total			<0.010		mg/kg		0.01	22-JAN-17
WG2464669-5 MB								
Mercury (Hg)-Total			<0.010		mg/kg		0.01	22-JAN-17
MET-DRY-CCMS-ED	**Tissue**							
Batch R3637440								
WG2464669-3 CRM		**1547_PEACH**						
Aluminum (Al)-Total			62.6		%		25-85	21-JAN-17
Barium (Ba)-Total			98.5		%		70-130	21-JAN-17
Boron (B)-Total			98.5		%		70-130	21-JAN-17
Calcium (Ca)-Total			99.0		%		70-130	21-JAN-17
Copper (Cu)-Total			95.6		%		70-130	21-JAN-17
Iron (Fe)-Total			87.9		%		70-130	21-JAN-17
Lead (Pb)-Total			94.4		%		70-130	21-JAN-17
Magnesium (Mg)-Total			99.7		%		70-130	21-JAN-17
Manganese (Mn)-Total			97.2		%		70-130	21-JAN-17
Phosphorus (P)-Total			110.6		%		70-130	21-JAN-17
Potassium (K)-Total			103.3		%		70-130	21-JAN-17
Strontium (Sr)-Total			104.8		%		70-130	21-JAN-17
Sulfur (S)-Total			81.5		%		70-130	21-JAN-17
Zinc (Zn)-Total			97.1		%		70-130	21-JAN-17
WG2464669-7 CRM		**1547_PEACH**						
Aluminum (Al)-Total			67.9		%		25-85	21-JAN-17
Barium (Ba)-Total			94.6		%		70-130	21-JAN-17
Boron (B)-Total			103.0		%		70-130	21-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-ED	**Tissue**							
Batch R3637440								
WG2464669-7 CRM		**1547_PEACH**						
Calcium (Ca)-Total			101.2		%		70-130	21-JAN-17
Copper (Cu)-Total			95.6		%		70-130	21-JAN-17
Iron (Fe)-Total			88.8		%		70-130	21-JAN-17
Lead (Pb)-Total			94.0		%		70-130	21-JAN-17
Magnesium (Mg)-Total			93.5		%		70-130	21-JAN-17
Manganese (Mn)-Total			96.1		%		70-130	21-JAN-17
Phosphorus (P)-Total			105.4		%		70-130	21-JAN-17
Potassium (K)-Total			99.9		%		70-130	21-JAN-17
Strontium (Sr)-Total			106.0		%		70-130	21-JAN-17
Sulfur (S)-Total			80.0		%		70-130	21-JAN-17
Zinc (Zn)-Total			98.2		%		70-130	21-JAN-17
WG2464669-4 DUP		**L1861968-34**						
Aluminum (Al)-Total		<10	<10	RPD-NA	mg/kg	N/A	40	21-JAN-17
Arsenic (As)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	21-JAN-17
Barium (Ba)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	21-JAN-17
Beryllium (Be)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	21-JAN-17
Boron (B)-Total		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	21-JAN-17
Cadmium (Cd)-Total		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	21-JAN-17
Calcium (Ca)-Total		45	45		mg/kg	0.8	60	21-JAN-17
Chromium (Cr)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	21-JAN-17
Cobalt (Co)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	21-JAN-17
Copper (Cu)-Total		1.32	1.33		mg/kg	0.8	40	21-JAN-17
Iron (Fe)-Total		19.2	19.3		mg/kg	0.5	40	21-JAN-17
Lead (Pb)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	21-JAN-17
Magnesium (Mg)-Total		1430	1420		mg/kg	1.0	40	21-JAN-17
Manganese (Mn)-Total		6.55	6.54		mg/kg	0.1	40	21-JAN-17
Molybdenum (Mo)-Total		0.44	0.43		mg/kg	3.3	40	21-JAN-17
Nickel (Ni)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	21-JAN-17
Phosphorus (P)-Total		3630	3560		mg/kg	2.0	40	21-JAN-17
Potassium (K)-Total		4230	4010		mg/kg	5.3	40	21-JAN-17
Sodium (Na)-Total		<20	<20	RPD-NA	mg/kg	N/A	40	21-JAN-17
Strontium (Sr)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	60	21-JAN-17
Sulfur (S)-Total		1230	1250		mg/kg	1.0	40	21-JAN-17
Thallium (Tl)-Total		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	21-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-ED	**Tissue**							
Batch R3637440								
WG2464669-4 DUP		**L1861968-34**						
Titanium (Ti)-Total		<0.50	<0.50	RPD-NA	mg/kg	N/A	40	21-JAN-17
Vanadium (V)-Total		<0.50	<0.50	RPD-NA	mg/kg	N/A	40	21-JAN-17
Zinc (Zn)-Total		16.7	16.8		mg/kg	0.3	40	21-JAN-17
Zirconium (Zr)-Total		<5.0	<5.0	RPD-NA	mg/kg	N/A	40	21-JAN-17
WG2464669-8 DUP		**L1861968-49**						
Aluminum (Al)-Total		<10	<10	RPD-NA	mg/kg	N/A	40	21-JAN-17
Arsenic (As)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	21-JAN-17
Barium (Ba)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	21-JAN-17
Beryllium (Be)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	21-JAN-17
Boron (B)-Total		2.4	2.8		mg/kg	15	40	21-JAN-17
Cadmium (Cd)-Total		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	21-JAN-17
Calcium (Ca)-Total		27	28		mg/kg	1.6	60	21-JAN-17
Chromium (Cr)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	21-JAN-17
Cobalt (Co)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	21-JAN-17
Copper (Cu)-Total		1.22	1.31		mg/kg	7.2	40	21-JAN-17
Iron (Fe)-Total		16.0	16.4		mg/kg	2.5	40	21-JAN-17
Lead (Pb)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	21-JAN-17
Magnesium (Mg)-Total		1060	1070		mg/kg	0.6	40	21-JAN-17
Manganese (Mn)-Total		3.42	3.41		mg/kg	0.2	40	21-JAN-17
Molybdenum (Mo)-Total		0.53	0.51		mg/kg	4.7	40	21-JAN-17
Nickel (Ni)-Total		0.28	0.27		mg/kg	5.8	40	21-JAN-17
Phosphorus (P)-Total		2970	3000		mg/kg	1.2	40	21-JAN-17
Potassium (K)-Total		3390	3470		mg/kg	2.5	40	21-JAN-17
Sodium (Na)-Total		<20	<20	RPD-NA	mg/kg	N/A	40	21-JAN-17
Strontium (Sr)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	60	21-JAN-17
Sulfur (S)-Total		980	960		mg/kg	1.8	40	21-JAN-17
Thallium (Tl)-Total		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	21-JAN-17
Titanium (Ti)-Total		<0.50	<0.50	RPD-NA	mg/kg	N/A	40	21-JAN-17
Vanadium (V)-Total		<0.50	<0.50	RPD-NA	mg/kg	N/A	40	21-JAN-17
Zinc (Zn)-Total		14.6	14.2		mg/kg	2.6	40	21-JAN-17
Zirconium (Zr)-Total		<5.0	<5.0	RPD-NA	mg/kg	N/A	40	21-JAN-17
WG2464669-2 LCS								
Aluminum (Al)-Total			101.6		%		70-130	21-JAN-17
Arsenic (As)-Total			107.1		%		70-130	21-JAN-17
Barium (Ba)-Total			102.2		%		70-130	21-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-ED	**Tissue**							
Batch R3637440								
WG2464669-2 LCS								
Beryllium (Be)-Total			109.0		%		70-130	21-JAN-17
Boron (B)-Total			105.6		%		70-130	21-JAN-17
Cadmium (Cd)-Total			103.0		%		70-130	21-JAN-17
Calcium (Ca)-Total			110.4		%		70-130	21-JAN-17
Chromium (Cr)-Total			105.8		%		70-130	21-JAN-17
Cobalt (Co)-Total			103.6		%		70-130	21-JAN-17
Copper (Cu)-Total			104.8		%		70-130	21-JAN-17
Iron (Fe)-Total			107.8		%		70-130	21-JAN-17
Lead (Pb)-Total			103.1		%		70-130	21-JAN-17
Magnesium (Mg)-Total			108.3		%		70-130	21-JAN-17
Manganese (Mn)-Total			105.7		%		70-130	21-JAN-17
Molybdenum (Mo)-Total			112.8		%		70-130	21-JAN-17
Nickel (Ni)-Total			102.9		%		70-130	21-JAN-17
Phosphorus (P)-Total			118.5		%		70-130	21-JAN-17
Potassium (K)-Total			109.8		%		70-130	21-JAN-17
Sodium (Na)-Total			111.4		%		70-130	21-JAN-17
Strontium (Sr)-Total			105.5		%		70-130	21-JAN-17
Sulfur (S)-Total			105.7		%		70-130	21-JAN-17
Thallium (Tl)-Total			99.7		%		70-130	21-JAN-17
Titanium (Ti)-Total			101.1		%		70-130	21-JAN-17
Vanadium (V)-Total			107.3		%		70-130	21-JAN-17
Zinc (Zn)-Total			101.7		%		70-130	21-JAN-17
Zirconium (Zr)-Total			107.4		%		70-130	21-JAN-17
WG2464669-6 LCS								
Aluminum (Al)-Total			106.3		%		70-130	21-JAN-17
Arsenic (As)-Total			110.1		%		70-130	21-JAN-17
Barium (Ba)-Total			104.3		%		70-130	21-JAN-17
Beryllium (Be)-Total			108.7		%		70-130	21-JAN-17
Boron (B)-Total			107.8		%		70-130	21-JAN-17
Cadmium (Cd)-Total			104.4		%		70-130	21-JAN-17
Calcium (Ca)-Total			111.4		%		70-130	21-JAN-17
Chromium (Cr)-Total			108.1		%		70-130	21-JAN-17
Cobalt (Co)-Total			107.8		%		70-130	21-JAN-17
Copper (Cu)-Total			107.3		%		70-130	21-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-ED	**Tissue**							
Batch R3637440								
WG2464669-6 LCS								
Iron (Fe)-Total			112.0		%		70-130	21-JAN-17
Lead (Pb)-Total			106.1		%		70-130	21-JAN-17
Magnesium (Mg)-Total			110.3		%		70-130	21-JAN-17
Manganese (Mn)-Total			110.2		%		70-130	21-JAN-17
Molybdenum (Mo)-Total			112.9		%		70-130	21-JAN-17
Nickel (Ni)-Total			106.4		%		70-130	21-JAN-17
Phosphorus (P)-Total			118.2		%		70-130	21-JAN-17
Potassium (K)-Total			115.5		%		70-130	21-JAN-17
Sodium (Na)-Total			110.1		%		70-130	21-JAN-17
Strontium (Sr)-Total			107.8		%		70-130	21-JAN-17
Sulfur (S)-Total			110.7		%		70-130	21-JAN-17
Thallium (Tl)-Total			105.7		%		70-130	21-JAN-17
Titanium (Ti)-Total			104.6		%		70-130	21-JAN-17
Vanadium (V)-Total			110.6		%		70-130	21-JAN-17
Zinc (Zn)-Total			106.7		%		70-130	21-JAN-17
Zirconium (Zr)-Total			109.7		%		70-130	21-JAN-17
WG2464669-1 MB								
Aluminum (Al)-Total			<10		mg/kg		10	21-JAN-17
Arsenic (As)-Total			<0.050		mg/kg		0.05	21-JAN-17
Barium (Ba)-Total			<0.10		mg/kg		0.1	21-JAN-17
Beryllium (Be)-Total			<0.20		mg/kg		0.2	21-JAN-17
Boron (B)-Total			<2.0		mg/kg		2	21-JAN-17
Cadmium (Cd)-Total			<0.030		mg/kg		0.03	21-JAN-17
Calcium (Ca)-Total			<10		mg/kg		10	21-JAN-17
Chromium (Cr)-Total			<0.20		mg/kg		0.2	21-JAN-17
Cobalt (Co)-Total			<0.080		mg/kg		0.08	21-JAN-17
Copper (Cu)-Total			<0.10		mg/kg		0.1	21-JAN-17
Iron (Fe)-Total			<5.0		mg/kg		5	21-JAN-17
Lead (Pb)-Total			<0.040		mg/kg		0.04	21-JAN-17
Magnesium (Mg)-Total			<10		mg/kg		10	21-JAN-17
Manganese (Mn)-Total			<0.080		mg/kg		0.08	21-JAN-17
Molybdenum (Mo)-Total			<0.10		mg/kg		0.1	21-JAN-17
Nickel (Ni)-Total			<0.20		mg/kg		0.2	21-JAN-17
Phosphorus (P)-Total			<20		mg/kg		20	21-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-ED	**Tissue**							
Batch R3637440								
WG2464669-1 MB								
Potassium (K)-Total			<20		mg/kg		20	21-JAN-17
Sodium (Na)-Total			<20		mg/kg		20	21-JAN-17
Strontium (Sr)-Total			<0.050		mg/kg		0.05	21-JAN-17
Sulfur (S)-Total			<100		mg/kg		100	21-JAN-17
Thallium (Tl)-Total			<0.030		mg/kg		0.03	21-JAN-17
Titanium (Ti)-Total			<0.50		mg/kg		0.5	21-JAN-17
Vanadium (V)-Total			<0.050		mg/kg		0.05	21-JAN-17
Zinc (Zn)-Total			<1.0		mg/kg		1	21-JAN-17
Zirconium (Zr)-Total			<5.0		mg/kg		5	21-JAN-17
WG2464669-5 MB								
Aluminum (Al)-Total			<10		mg/kg		10	21-JAN-17
Arsenic (As)-Total			<0.050		mg/kg		0.05	21-JAN-17
Barium (Ba)-Total			<0.10		mg/kg		0.1	21-JAN-17
Beryllium (Be)-Total			<0.20		mg/kg		0.2	21-JAN-17
Boron (B)-Total			<2.0		mg/kg		2	21-JAN-17
Cadmium (Cd)-Total			<0.030		mg/kg		0.03	21-JAN-17
Calcium (Ca)-Total			<10		mg/kg		10	21-JAN-17
Chromium (Cr)-Total			<0.20		mg/kg		0.2	21-JAN-17
Cobalt (Co)-Total			<0.080		mg/kg		0.08	21-JAN-17
Copper (Cu)-Total			<0.10		mg/kg		0.1	21-JAN-17
Iron (Fe)-Total			<5.0		mg/kg		5	21-JAN-17
Lead (Pb)-Total			<0.040		mg/kg		0.04	21-JAN-17
Magnesium (Mg)-Total			<10		mg/kg		10	21-JAN-17
Manganese (Mn)-Total			<0.080		mg/kg		0.08	21-JAN-17
Molybdenum (Mo)-Total			<0.10		mg/kg		0.1	21-JAN-17
Nickel (Ni)-Total			<0.20		mg/kg		0.2	21-JAN-17
Phosphorus (P)-Total			<20		mg/kg		20	21-JAN-17
Potassium (K)-Total			<20		mg/kg		20	21-JAN-17
Sodium (Na)-Total			<20		mg/kg		20	21-JAN-17
Strontium (Sr)-Total			<0.050		mg/kg		0.05	21-JAN-17
Sulfur (S)-Total			<100		mg/kg		100	21-JAN-17
Thallium (Tl)-Total			<0.030		mg/kg		0.03	21-JAN-17
Titanium (Ti)-Total			<0.50		mg/kg		0.5	21-JAN-17
Vanadium (V)-Total			<0.050		mg/kg		0.05	21-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-ED	**Tissue**							
Batch R3637440								
WG2464669-5 MB								
Zinc (Zn)-Total			<1.0		mg/kg		1	21-JAN-17
Zirconium (Zr)-Total			<5.0		mg/kg		5	21-JAN-17

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Total Metals							
Total Mercury in Water by CVAAS							
	52	18-JUL-16 15:00	23-JAN-17 16:10	28	189	days	EHTR
	53	28-SEP-16 16:00	23-JAN-17 16:10	28	117	days	EHTR
	54	12-OCT-16 16:30	23-JAN-17 16:10	28	103	days	EHTR
	55	18-JUL-16 15:05	23-JAN-17 16:10	28	189	days	EHTR
	56	14-SEP-16 17:00	23-JAN-17 16:10	28	131	days	EHTR
	57	28-SEP-16 09:00	23-JAN-17 16:10	28	117	days	EHTR
	58	11-OCT-16 12:50	23-JAN-17 16:10	28	104	days	EHTR
	59	11-OCT-16	23-JAN-17 16:10	28	104	days	EHTR
	60	11-OCT-16	23-JAN-17 16:10	28	104	days	EHTR

Legend & Qualifier Definitions:

EHTR-FM:	Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR:	Exceeded ALS recommended hold time prior to sample receipt.
EHTL:	Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT:	Exceeded ALS recommended hold time prior to analysis.
Rec. HT:	ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.

Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1861968 were received on 24-NOV-16 11:40.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Report

L1701037

2C7WJT3FRGD

Date received **2017-01-16**
Issued **2017-01-27**

ALS Life Sciences Division
Rachael Stolys

1435 Norjohn Court, Unit 1
L7L 0E6 Burlington
Canada

Project **L1861968-1**

Analysis: M4-CM

Your ID	**L1861968-2** **16-W2-NG-CH-003**				
LabID	U11283638				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**14.7**	%	1	W	JOGR
Si*	**15700**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-3** **16-W2-WW-CH-005**				
LabID	U11283639				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**88.4**	%	1	W	JOGR
Si*	**10200**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-5** **16-W4-NG-CH-009**				
LabID	U11283640				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**27.6**	%	1	W	JOGR
Si*	**6730**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-6** **16-W4-FC-CH-011**				
LabID	U11283641				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**75.4**	%	1	W	JOGR
Si*	**24.0**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-9** **16-N2-NG-CH-019**				
LabID	U11283642				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**24.1**	%	1	W	JOGR
Si*	**10800**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-10** **16-N2-SB-CH-021**				
LabID	U11283643				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**54.4**	%	1	W	JOGR
Si*	**18.9**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-12** **16-N4-NG-CH-025**				
LabID	U11283644				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**32.9**	%	1	W	JOGR
Si*	**6650**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-13** **16-N4-FC-CH-027**				
LabID	U11283645				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**69.7**	%	1	W	JOGR
Si*	**14.5**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-16** **16-N5-NG-CH-035**				
LabID	U11283646				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**34.1**	%	1	W	JOGR
Si*	**5270**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-18** **16-E1-NG-CH-039**				
LabID	U11283647				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**42.0**	%	1	W	JOGR
Si*	**7350**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-19** **16-E1-FC-CH-041**				
LabID	U11283648				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**78.9**	%	1	W	JOGR
Si*	**24.7**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-22** **16-E2-NG-CH-049**				
LabID	U11283649				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**23.8**	%	1	W	JOGR
Si*	**5290**	mg/kg TS	2	S	IDJO

ALS Scandinavia AB
Aurorum 10
977 75 Luleå
Sweden

Web: www.alsglobal.se
Email: info.lu@alsglobal.com
Tel: + 46 920 28 9900
Fax: + 46 920 28 9940

Your ID	**L1861968-24** **16-E5-NG-CH-055**				
LabID	U11283650				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**28.3**	%	1	W	JOGR
Si*	**386**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-25** **16-E5-FC-CH-057**				
LabID	U11283651				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**73.5**	%	1	W	JOGR
Si*	**48.9**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-27** **16-E6-NG-CH-061**				
LabID	U11283652				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**35.2**	%	1	W	JOGR
Si*	**402**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-30** **16-S1-NG-CH-069**				
LabID	U11283653				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**57.8**	%	1	W	JOGR
Si*	**484**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-31** **16-S1-FC-CH-071**				
LabID	U11283654				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**76.3**	%	1	W	JOGR
Si*	**27.6**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-33** **16-S2-NG-CH-075**				
LabID	U11283655				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**68.0**	%	1	W	JOGR
Si*	**445**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-34** **16-S2-FC-CH-077**				
LabID	U11283656				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**71.0**	%	1	W	JOGR
Si*	**18.2**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-37** **16-S4-NG-CH-093**				
LabID	U11283657				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**31.1**	%	1	W	JOGR
Si*	**6260**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-38** **16-S4-SB-CH-095**				
LabID	U11283658				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**81.7**	%	1	W	JOGR
Si*	**17.6**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-40** **16-S5-NG-CH-099**				
LabID	U11283659				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**24.5**	%	1	W	JOGR
Si*	**11000**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-41** **16-S5-FC-CH-101**				
LabID	U11283660				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**69.2**	%	1	W	JOGR
Si*	**19.2**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-44** **16-S7-NG-CH-085**				
LabID	U11283661				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**32.0**	%	1	W	JOGR
Si*	**7490**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-46** **16-D3-NG-CH-105**				
LabID	U11283662				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**23.8**	%	1	W	JOGR
Si*	**11200**	mg/kg TS	2	S	IDJO

ALS Scandinavia AB
Aurorum 10
977 75 Luleå
Sweden

Web: www.alsglobal.se
Email: info.lu@alsglobal.com
Tel: + 46 920 28 9900
Fax: + 46 920 28 9940

Your ID	**L1861968-48** **16-D5-SB-CH-107**				
LabID	U11283663				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**59.5**	%	1	W	JOGR
Si*	**15.5**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-49** **16-D6-FC-CH-108**				
LabID	U11283664				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**73.8**	%	1	W	JOGR
Si*	**20.9**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-50** **16-D7-WW-CH-109**				
LabID	U11283665				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**88.7**	%	1	W	JOGR
Si*	**2120**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-51** **16-D15-NG-CH-200**				
LabID	U11283666				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**17.6**	%	1	W	JOGR
Si*	**14200**	mg/kg TS	2	S	IDJO

Your ID	**L1861968-51** **16-D15-NG-CH-200-Duplicate**				
LabID	U11283667				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
TS*	**19.9**	%	1	W	JOGR
Si*	**14300**	mg/kg TS	2	S	IDJO

Your ID	**Blanc**				
LabID	U11283668				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Si*	**<3**	mg/kg	2	S	IDJO

Your ID	**Spiked**				
LabID	U11283669				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Si*	**0.267**	mg/kg	2	S	IDJO
Si: Expected value: 0,250 mg/kg, recovery 1,07					

ALS Scandinavia AB
Aurorum 10
977 75 Luleå
Sweden

Web: www.alsglobal.se
Email: info.lu@alsglobal.com
Tel: + 46 920 28 9900
Fax: + 46 920 28 9940

	Method specification
1	Analysed according to TS enligt SS 02 81 13-1.
2	An aliquot of the sample was dried at 105°C according to Swedish Standard SS028113 for determination of dry matter. The analytical sample was dried at 50°C and the elemental concentrations were corrected to dry weight (TS) from dry matter content. For description of the digestion method used, please contact the laboratory. The ICP-SFMS analyses were carried out according to SS EN ISO 17294-1, 2 (modified) and US EPA Method 200.8 (modified). The ICP-AES analyses were carried out according to SS EN ISO 11885 (modified) and US EPA Method 200.7 (modified). Note that limits of reporting may be affected if, e.g. additional dilution was required because of matrix effects, or the sample quantity was limited.

	Approver
IDJO	Ida Jonsson
JOGR	Jonna Grundström

	Issuer[1]
S	ICP-SFMS
W	Våtkemi

* indicates unaccredited analysis.

[1] The technical unit within ALS Scandinavia where the analysis was carried out, alternatively the subcontractor for the analysis.

Report

L1701036

2D1GTU44JFC

Date received **2017-01-16**
Issued **2017-02-06**

ALS Life Sciences Division
Rachael Stolys

1435 Norjohn Court, Unit 1
L7L 0E6 Burlington
Canada

Project **L1861968-1**

Analysis: G2

Your ID **L1861968-1**
16-W2-SS-CH-001

LabID U11283613

Analysis	Results	Unit	Method	Issuer	Sign
Malning stålfat*	**ja**	ArbMom	1	I	SIH
TS 105°C*	**87.9**	%	2	W	SYL
Si*	**321000**	mg/kg TS	3	S	IDJO
P*	**504**	mg/kg TS	3	S	IDJO

Your ID **L1861968-4**
16-W4-SS-CH-007

LabID U11283614

Analysis	Results	Unit	Method	Issuer	Sign
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**81.3**	%	2	W	SYL
Si*	**309000**	mg/kg TS	3	S	IDJO
P*	**1110**	mg/kg TS	3	S	IDJO

Your ID **L1861968-7**
16-N2-SS-CH-013

LabID U11283615

Analysis	Results	Unit	Method	Issuer	Sign
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**82.0**	%	2	W	SYL
Si*	**291000**	mg/kg TS	3	S	IDJO
P*	**801**	mg/kg TS	3	S	IDJO

Your ID **L1861968-8**
16-N2-SD-CH-015

LabID U11283616

Analysis	Results	Unit	Method	Issuer	Sign
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**51.5**	%	2	W	SYL
Si*	**204000**	mg/kg TS	3	S	IDJO
P*	**887**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-11** **16-N4-SS-CH-023**				
LabID	U11283617				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**86.7**	%	2	W	SYL
Si*	**255000**	mg/kg TS	3	S	IDJO
P*	**612**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-14** **16-N5-SS-CH-029**				
LabID	U11283618				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**82.6**	%	2	W	SYL
Si*	**261000**	mg/kg TS	3	S	IDJO
P*	**530**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-15** **16-N5-SD-CH-031**				
LabID	U11283619				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**47.0**	%	2	W	SYL
Si*	**193000**	mg/kg TS	3	S	IDJO
P*	**802**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-17** **16-E1-SS-CH-037**				
LabID	U11283620				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**88.1**	%	2	W	SYL
Si*	**347000**	mg/kg TS	3	S	IDJO
P*	**693**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-20** **16-E2-SS-CH-043**				
LabID	U11283621				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**80.2**	%	2	W	SYL
Si*	**254000**	mg/kg TS	3	S	IDJO
P*	**583**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-21** **16-E2-SD-CH-045**				
LabID	U11283622				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**71.8**	%	2	W	SYL
Si*	**174000**	mg/kg TS	3	S	IDJO
P*	**721**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-23** **16-E5-SS-CH-053**				
LabID	U11283623				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**83.7**	%	2	W	SYL
Si*	**288000**	mg/kg TS	3	S	IDJO
P*	**483**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-26** **16-E6-SS-CH-059**				
LabID	U11283624				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**84.6**	%	2	W	SYL
Si*	**293000**	mg/kg TS	3	S	IDJO
P*	**523**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-28** **16-S1-SS-CH-063**				
LabID	U11283625				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**85.2**	%	2	W	SYL
Si*	**302000**	mg/kg TS	3	S	IDJO
P*	**681**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-29** **16-S1-SD-CH-065**				
LabID	U11283626				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**76.2**	%	2	W	SYL
Si*	**207000**	mg/kg TS	3	S	IDJO
P*	**499**	mg/kg TS	3	S	IDJO

ALS Scandinavia AB
Aurorum 10
977 75 Luleå
Sweden

Web: www.alsglobal.se
Email: info.lu@alsglobal.com
Tel: + 46 920 28 9900
Fax: + 46 920 28 9940

Your ID	**L1861968-32** **16-S2-SS-CH-073**				
LabID	U11283627				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**86.1**	%	2	W	SYL
Si*	**311000**	mg/kg TS	3	S	IDJO
P*	**533**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-35** **16-S4-SS-CH-087**				
LabID	U11283628				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**76.9**	%	2	W	SYL
Si*	**274000**	mg/kg TS	3	S	IDJO
P*	**1060**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-36** **16-S4-SD-CH-089**				
LabID	U11283629				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**74.6**	%	2	W	SYL
Si*	**208000**	mg/kg TS	3	S	IDJO
P*	**612**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-39** **16-S5-SS-CH-097**				
LabID	U11283630				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**85.0**	%	2	W	SYL
Si*	**330000**	mg/kg TS	3	S	IDJO
P*	**568**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-42** **16-S7-SS-CH-079**				
LabID	U11283631				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**76.7**	%	2	W	SYL
Si*	**267000**	mg/kg TS	3	S	IDJO
P*	**632**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-43** **16-S7-SD-CH-081**				
LabID	U11283632				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**69.0**	%	2	W	SYL
Si*	**266000**	mg/kg TS	3	S	IDJO
P*	**815**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-45** **16-D1-SS-CH-103**				
LabID	U11283633				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**84.2**	%	2	W	SYL
Si*	**326000**	mg/kg TS	3	S	IDJO
P*	**533**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-47** **16-D4-SD-CH-106**				
LabID	U11283634				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**65.0**	%	2	W	SYL
Si*	**198000**	mg/kg TS	3	S	IDJO
P*	**626**	mg/kg TS	3	S	IDJO

Your ID	**L1861968-47-Duplicate** **16-D4-SD-CH-106**				
LabID	U11283635				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Malning stålfat*	**ja**	ArbMom	1	I	PECA
TS 105°C*	**71.9**	%	2	W	SYL
Si*	**213000**	mg/kg TS	3	S	IDJO
P*	**637**	mg/kg TS	3	S	IDJO

Your ID	**Blanc**				
LabID	U11283636				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Si*	**<400**	mg/kg TS	3	S	IDJO
P*	**<40**	mg/kg TS	3	S	IDJO

Your ID	**Spiked**				
LabID	U11283637				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Si*	**0.280**	mg/kg TS	3	S	IDJO
P*	**0.262**	mg/kg TS	3	S	IDJO
P: Expected value: 0,250 mg/kg ; recovery: 1,048					

ALS Scandinavia AB
Aurorum 10
977 75 Luleå
Sweden

Web: www.alsglobal.se
Email: info.lu@alsglobal.com
Tel: + 46 920 28 9900
Fax: + 46 920 28 9940

The document is approved and digitally signed by

Your ID	**Spiked**				
LabID	U11283637				
Analysis	**Results**	**Unit**	**Method**	**Issuer**	**Sign**
Si: Expected value: 0,250 mg/kg ; recovery: 1,12					

ALS Scandinavia AB
Aurorum 10
977 75 Luleå
Sweden

Web: www.alsglobal.se
Email: info.lu@alsglobal.com
Tel: + 46 920 28 9900
Fax: + 46 920 28 9940

	Method specification
1	Analysed according to provberedning, malning stålfat.
2	Analysed according to SS 028113.
3	The sample was dried in 105˚C according to Swedish Standard SS 028113. 0.1 g dried sample was fused with 0.4 g $LiBO_2$ and dissolved in HNO_3 (digestion according to ASTM D3682 modified). LOI (loss on ignition) is done at 1000°C. The ICP-SFMS analyses were carried out according to SS EN ISO 17294-1, 2 (modified) and US EPA Method 200.8 (modified). Note that limits of reporting may be affected if, e.g. additional dilution was required because of matrix effects, or the sample quantity was limited.

	Approver
IDJO	Ida Jonsson
PECA	Peter Carlsson
SIH	Simon Hällström
SYL	Sylvia Sandlund

	Issuer[1]
I	Man.Inm.
S	ICP-SFMS
W	Våtkemi

* indicates unaccredited analysis.

[1] The technical unit within ALS Scandinavia where the analysis was carried out, alternatively the subcontractor for the analysis.

L1861968

Chain of Custody / Analytical Request Form

1435 Norjohn Court Unit 1, Burlington Ontario, Canada L7L 0E6
Tel +1-905-331-3111 Fax +1-905-331-4567 www.alsglobal.com alsbu.clientservices@alsglobal.com

COC # _____

Report To		Report Format / Distribution	Service Requested
Company:	Stantec	☑ Standard ☐ Other:	☐ Regular Service
Contact:	Katherine Ketis	☑ PDF ☑ Excel ☑ Digital ☐ Fax	☐ Rush Service - surcharge applies
Address:	1-70 Southgate Drive, Guelph, ON N1G 4P5	Email 1: katherine.ketis@stantec.com	☐ Other - Please contact ALS
Phone:	519-780-8198 Fax: 519-836-2943	Email 2:	

Invoice To	Same as Report ? ☐ Yes ☑ No	Client / Project Information	
Company:	Clean Harbors	Job #:	122160003
Contact:	Erica Carabott	Location:	Clean Harbors
Address:		PO:	Q53923
Phone:	519-864-3890 Fax:	Sampled by:	Pascal Tuarze
Lab Work Order #		ALS Contact:	Rachael Stolys

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)		Chloride		OCPs		PCBs (no arochlors)		PCP		PCDD/PCDF	Hazardous? Provide Details	Highly Contaminated?	Number of Containers
1	16-W2-SS-CH-001	18-07-2016	14:00	Soil	X		X		X		X				X			1
2	16-W2-NG-CH-003	29-09-2016	7:45	Plant Tissue	X		X		X		X				X			1
3	16-W2-WW-CH-005	18-07-2016	15:00	Plant Tissue	X		X		X		X		X		X			2
4	16-W4-SS-CH-007	12/10/2016	11:45	Soil	X		X		X		X				X			1
5	16-W4-NG-CH-009	12/10/2016	12:15	Plant Tissue	X		X		X		X				X			1
6	16-W4-FC-CH-011	12/10/2016	11:45	Plant Tissue	X		X		X		X		X		X			2
7	16-N2-SS-CH-013	28-09-2016	16:30	Soil	X		X		X		X				X			1
8	16-N2-SD-CH-015	28-09-2016	17:15	Sediment	X		X		X		X							1
9	16-N2-NG-CH-019	28-09-2016	17:00	Plant Tissue	X		X		X		X				X			1
10	16-N2-SB-CH-021	28-09-2016	16:00	Plant Tissue	X		X		X		X		X		X			1

Special Instructions / Regulations / Hazardous Details

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided by ALS

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
Pascal Tuarze	21-11-2016	17:00		23/11/16	16:00	10.7 °C	AARON BURTON	24-Nov-2016	11:40	

#1 9.4 #2 10.7 #3 7.2 #4 5.6 #5 9.1

4.2°C

Chain of Custody / Analytical Request Form

COC # _____

1435 Norjohn Court Unit 1, Burlington Ontario, Canada L7L 0E6

Tel +1-905-331-3111 Fax +1-905-331-4567 www.alsglobal.com alsbu.clientservices@alsglobal.com

Report To		**Report Format / Distribution**		**Service Requested**
Company:	Stantec	☑ Standard ☐ Other:		☐ Regular Service
Contact:	Katherine Ketis	☑ PDF ☑ Excel ☑ Digital ☐ Fax		☐ Rush Service - surcharge applies
Address:	1-70 Southgate Drive, Guelph, ON N1G 4P5	Email 1:	katherine.ketis@stantec.com	☐ Other - Please contact ALS
Phone:	519-780-8198 Fax: 519-836-2943	Email 2:		
Invoice To	Same as Report ? ☐ Yes ☑ No	**Client / Project Information**		**Analysis Request**
Company:	Clean Harbors	Job #:	122160003	
Contact:	Erica Carabott	Location:	Clean Harbors	
Address:		PO:	Q53923	
Phone:	519-864-3890 Fax:	Sampled by:	Pascal Tuarze	
Lab Work Order #		**ALS Contact:**	Rachael Stolys	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)		Chloride		OCPs		PCBs (no arochlors)		PCP		PCDD/PCDF	Hazardous? Provide Detail	Highly Contaminated?	Number of Containers
11	16-N4-SS-CH-023	11/10/2016	17:15	Soil	X		X		X		X				X			1
12	16-N4-NG-CH-025	28-09-2016	17:30	Plant Tissue	X		X		X		X				X			1
13	16-N4-FC-CH-027	11/10/2016	17:15	Plant Tissue	X		X		X		X		X		X			2
14	16-N5-SS-CH-029	29-09-2016	9:00	Soil	X		X		X		X				X			1
15	16-N5-SD-CH-031	29-09-2016	10:00	Sediment	X		X		X		X							1
16	16-N5-NG-CH-035	29-09-2016	9:00	Plant Tissue	X		X		X		X				X			1
17	16-E1-SS-CH-037	12/10/2016	14:45	Soil	X		X		X		X				X			1
18	16-E1-NG-CH-039	12/10/2016	16:30	Plant Tissue	X		X		X		X				X			1
19	16-E1-FC-CH-041	12/10/2016	14:45	Plant Tissue	X		X		X		X		X		X			2
20	16-E2-SS-CH-043	29-09-2016	13:30	Soil	X		X		X		X				X			1
21	16-E2-SD-CH-045	29-09-2017	14:30	Sediment	X		X		X		X							2

Special Instructions / Regulations / Hazardous Details

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided by ALS

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
	"	"		23/11/16	16:00	10.7 °C	AARON BURTON	24-Nov-2016	11:40	

4.2°C

Chain of Custody / Analytical Request Form

1435 Norjohn Court Unit 1, Burlington Ontario, Canada L7L 0E6

Tel +1-905-331-3111 Fax +1-905-331-4567 www.alsglobal.com alsbu.clientservices@alsglobal.com

COC # _____

Report To		Report Format / Distribution	Service Requested
Company:	Stantec	☑ Standard ☐ Other:	☐ Regular Service
Contact:	Katherine Ketis	☑ PDF ☑ Excel ☑ Digital ☐ Fax	☐ Rush Service - surcharge applies
Address:	1-70 Southgate Drive, Guelph, ON N1G 4P5	Email 1: katherine.ketis@stantec.com	☐ Other - Please contact ALS
Phone:	519-780-8198 Fax: 519-836-2943	Email 2:	
Invoice To	Same as Report ? ☐ Yes ☑ No	**Client / Project Information**	**Analysis Request**
Company:	Clean Harbors	Job #: 122160003	
Contact:	Erica Carabott	Location: Clean Harbors	
Address:		PO: Q53923	
Phone:	519-864-3890 Fax:	Sampled by: Pascal Tuarze	
Lab Work Order #		ALS Contact: Rachael Stolys	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)		Chloride		OCPs		PCBs (no arochlors)		PCP		PCDD/PCDF	Hazardous? Provide Deta	Highly Contaminated?	Number of Containers
22	16-E2-NG-CH-049	29-09-2016	12:45	Plant Tissue	X		X		X		X				X			1
23	16-E5-SS-CH-053	12/10/2016	15:30	Soil	X		X		X		X				X			1
24	16-E5-NG-CH-055	12/10/2016	16:00	Plant Tissue	X		X		X		X				X			1
25	16-E5-FC-CH-057	12/10/2016	15:30	Plant Tissue	X		X		X		X		X		X			2
26	16-E6-SS-CH-059	29-09-2016	11:30	Soil	X		X		X		X				X			1
27	16-E6-NG-CH-061	29-09-2016	11:30	Plant Tissue	X		X		X		X				X			1
28	16-S1-SS-CH-063	11/10/2016	13:50	Soil	X		X		X		X				X			1
29	16-S1-SD-CH-065	11/10/2016	13:10	Sediment	X		X		X		X							1

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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
[signature]	" "	" "	[signature]	23/11/16	16:00	10.7 °C	HARRY BURTON	24-Nov-2016	11:40	

4.2°C

Chain of Custody / Analytical Request Form

COC # _____

1435 Norjohn Court Unit 1, Burlington Ontario, Canada L7L 0E6

Tel +1-905-331-3111 Fax +1-905-331-4567 www.alsglobal.com alsbu.clientservices@alsglobal.com

Report To		Report Format / Distribution	Service Requested
Company:	Stantec	☑ Standard ☐ Other:	☐ Regular Service
Contact:	Katherine Ketis	☑ PDF ☑ Excel ☑ Digital ☐ Fax	☐ Rush Service - surcharge applies
Address:	1-70 Southgate Drive, Guelph, ON N1G 4P5	Email 1: katherine.ketis@stantec.com	☐ Other - Please contact ALS
Phone:	519-780-8198 Fax: 519-836-2943	Email 2:	
Invoice To	Same as Report ? ☐ Yes ☑ No	**Client / Project Information**	**Analysis Request**
Company:	Clean Harbors	Job #: 122160003	
Contact:	Erica Carabott	Location: Clean Harbors	
Address:		PO: Q53923	
Phone:	519-864-3890 Fax:	Sampled by: Pascal Tuarze	
Lab Work Order #		ALS Contact: Rachael Stolys	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)		Chloride		OCPs		PCBs (no arochlors)		PCP		PCDD/PCDF	Hazardous? Provide Deta	Highly Contaminated?	Number of Containers
30	16-S1-NG-CH-069	11/10/2016	13:10	Plant Tissue	X		X		X		X				X			1
31	16-S1-FC-CH-071	11/10/2016	13:50	Plant Tissue	X		X		X		X		X		X			2
32	16-S2-SS-CH-073	11/10/2016	15:00	Soil	X		X		X		X				X			1
33	16-S2-NG-CH-075	11/10/2016	15:15	Plant Tissue	X		X		X		X				X			1
34	16-S2-FC-CH-077	11/10/2016	14:30	Plant Tissue	X		X		X		X		X		X			2
35	16-S4-SS-CH-087	28-09-2016	12:00	Soil	X		X		X		X				X			1
36	16-S4-SD-CH-089	28-09-2016	13:00	Sediment	X		X		X		X							1
37	16-S4-NG-CH-093	28-09-2016	13:30	Plant Tissue	X		X		X		X				X			1
38	16-S4-SB-CH-095	28-09-2016	12:30	Plant Tissue	X		X		X		X		X		X			1

Special Instructions / Regulations / Hazardous Details

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Released by:	Date (dd-mm	Time (hh-m	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations:
[signature]	"	"	[signature]	23/11/16	16:00	10.7 °C	AARON BURTON	24-Nov-2016	11:40	Yes / No ? If Yes add SIF

4.2°C

Chain of Custody / Analytical Request Form

COC #

1435 Norjohn Court Unit 1, Burlington Ontario, Canada L7L 0E6

el +1-905-331-3111 Fax +1-905-331-4567 www.alsglobal.com alsbu.clientservices@alsglobal.co

Report To		**Report Format / Distribution**	**Service Requested**
Company:	Stantec	☑ Standard ☐ Other:	☐ Regular Service
Contact:	Katherine Ketis	☑ PDF ☑ Excel ☑ Digital ☐ Fax	☐ Rush Service - surcharge applies
Address:	1-70 Southgate Drive, Guelph, ON N1G 4R	Email 1: katherine.ketis@stantec.com	☐ Other - Please contact ALS
Phone:	519-780-8198 Fax: 519-836-2943	Email 2:	
Invoice To	Same as Report ? ☐ Yes ☑ No	**Client / Project Information**	**Analysis Request**
Company:	Clean Harbors	Job #: 122160003	
Contact:	Erica Carabott	Location: Clean Harbors	
Address:		PO: Q53923	
Phone:	519-864-3890 Fax:	Sampled by: Pascal Tuarze	
Lab Work Order #		ALS Contact: Rachael Stolys	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)	Chloride	OCPs	PCBs (no arochlors)	PCP	PCDD/PCDF	Hazardous? Provide Det	Highly Contaminated?	Number of Containers
39	16-S5-SS-CH-097	12/10/2016	9:30	Soil	X	X	X	X		X			1
40	16-S5-NG-CH-099	12/10/2016	9:00	Plant Tissue	X	X	X	X		X			1
41	16-S5-FC-CH-101	12/10/2016	9:30	Plant Tissue	X	X	X	X	X	X			2
42	16-S7-SS-CH-079	14-09-2016	16:30	Soil	X	X	X	X		X			1
43	16-S7-SD-CH-081	14-09-2016	17:15	Sediment	X	X	X	X					1
44	16-S7-NG-CH-085	14-09-2016	16:00	Plant Tissue	X	X	X	X		X			1
45	16-D1-SS-CH-103	18-07-2016	14:05	Soil	X	X	X	X		X			1

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Released by:	Date (dd-m	Time (hh-r	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Paul Tuarze	11	12	CJ	23/11/16	16:00	10.7 °C	AARON BURTON	24-Nov-2016	11:40	

4.2°C

Chain of Custody / Analytical Request Form

COC #

1435 Norjohn Court Unit 1, Burlington Ontario, Canada L7L 0E6

Tel +1-905-331-3111 Fax +1-905-331-4567 www.alsglobal.com alsbu.clientservices@alsglobal.com

Report To		Report Format / Distribution	Service Requested
Company:	Stantec	☑ Standard ☐ Other:	☐ Regular Service
Contact:	Katherine Ketis	☑ PDF ☑ Excel ☑ Digital ☐ Fax	☐ Rush Service - surcharge applies
Address:	1-70 Southgate Drive, Guelph, ON N1G 4P5	Email 1: katherine.ketis@stantec.com	☐ Other - Please contact ALS
Phone:	519-780- Fax: 519-836-2943	Email 2:	
Invoice To	Same as Report? ☐ Yes ☑ No	Client / Project Information	Analysis Request
Company:	Clean Harbors	Job #: 122160003	
Contact:	Erica Carabott	Location: Clean Harbors	
Address:		PO: Q53923	
Phone:	519-864- Fax:	Sampled by: Pascal Tuarze	
Lab Work Order #		ALS Contact: Rachael Stolys	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)		Chloride		OCPs		PCBs (no arochlors)		PCP		PCDD/PCDF	Hazardous? Provide Det	Highly Contaminated?	Number of Containers
46	16-D3-NG-CH-105	29-09-2016	9:00	Plant Tissue	X		X		X		X				X			1
47	16-D4-SD-CH-106	29-09-2016	10:15	Sediment	X		X		X		X							1
48	16-D5-SB-CH-107	28-09-2016	16:00	Plant Tissue	X		X		X		X		X		X			1
49	16-D6-FC-CH-108	11/10/2016	17:15	Plant Tissue	X		X		X		X		X		X			2
50	16-D7-WW-CH-109	18-07-2016	15:05	Plant Tissue	X		X		X		X		X		X			2
51	16-D15-NG-CH-200	12/10/2016	16:00	Plant Tissue	X		X		X		X				X			1
52	16-W2-FB-CH-111	18-07-2016	15:00	Water	X		X											1
53	16-N2-FB-CH-112	28-09-2016	16:00	Water	X		X											1
54	16-E1-FB-CH-113	12/10/2016	16:30	Water	X		X											1
55	16-W2-RB-CH-115	18-07-2016	15:05	Water	X		X											1
56	16-S7-RB-CH-116	14-09-2016	17:00	Water	X		X											1
57	16-S4-RB-CH-117	28-09-2016	9:00	Water	X		X											1
58	16-S4-RB-CH-118	11/10/2016	12:50	Water	X		X											1

Special Instructions / Regulations / Hazardous Details

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Released by:	Date (dd-mm	Time (hh-m	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations:
	"	"		23/11/16	16:00	10.7 °C	Aaron Burton	24-Nov-2016	11:40	Yes / No ? If Yes add SIF

4.2°C

Chain of Custody / Analytical Request Form

1435 Norjohn Court Unit 1, Burlington Ontario, Canada L7L 0E6

Tel +1-905-331-3111 Fax +1-905-331-4567 www.alsglobal.com alsbu.clientservices@alsglobal.com

COC # _____

Page 7 of 7

Report To		Report Format / Distribution		Service Requested
Company:	Stantec	☑ Standard ☐ Other:		☐ Regular Service
Contact:	Katherine Ketis	☑ PDF ☑ Excel ☑ Digital ☐ Fax		☐ Rush Service - surcharge applies
Address:	1-70 Southgate Drive, Guelph, ON N1G 4P5	Email 1:	katherine.ketis@stantec.com	☐ Other - Please contact ALS
Phone:	519-780-819E Fax: 519-836-2943	Email 2:		
Invoice Same as Report ?	☐ Yes ☑ No	**Client / Project Information**		**Analysis Request**
Company:	Clean Harbors	Job #:	122160003	
Contact:	Erica Carabott	Location:	Clean Harbors	
Address:		PO:	Q53923	
Phone:	519-864-389C Fax:	Sampled by:	Pascal Tuarze	
Lab Work Order #		ALS Contact:	Rachael Stolys	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)		Chloride		OCPs		PCBs (no arochlors)		PCP		PCDD/PCDF	Hazardous? Provide Detail	Highly Contaminated?	Number of Containers
59	16-S1-RB-CH-119	11/10/2016		Water	X		X											1
60	16-S1-RB-CH-120	11/10/2016		Water	X		X											1

Special Instructions / Regulations / Hazardous Details

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Released by:	Date (dd-mm	Time (hh-r	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations:
Pascal Tuarze	21-11-16	17:00		23/11/16	16:00	10.7°C	AARON BURTON	24-Nov-2016	11:40	Yes / No ? If Yes add SIF

Pascal Tuarze

4.2°C

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-1 16-W2-SS-CH-001							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 14:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	15.6		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.021	[U]	0.021	ng/g	30-JAN-17	09-FEB-17	R3649829
beta-BHC	<0.035	[U]	0.035	ng/g	30-JAN-17	09-FEB-17	R3649829
delta-BHC	<0.026	[U]	0.026	ng/g	30-JAN-17	09-FEB-17	R3649829
gamma-BHC	<0.025	[U]	0.025	ng/g	30-JAN-17	09-FEB-17	R3649829
Heptachlor	<0.0018	[U]	0.0018	ng/g	30-JAN-17	09-FEB-17	R3649829
Aldrin	<0.0035	[U]	0.0035	ng/g	30-JAN-17	09-FEB-17	R3649829
Heptachlor Epoxide	0.0109	M,J	0.0043	ng/g	30-JAN-17	09-FEB-17	R3649829
trans-Chlordane	<0.012	[U]	0.012	ng/g	30-JAN-17	09-FEB-17	R3649829
cis-Chlordane	<0.012	[U]	0.012	ng/g	30-JAN-17	09-FEB-17	R3649829
Dieldrin	0.0196	M,J	0.0083	ng/g	30-JAN-17	09-FEB-17	R3649829
Endrin	<0.011	[U]	0.011	ng/g	30-JAN-17	09-FEB-17	R3649829
Endrin Aldehyde	<0.0048	[U]	0.0048	ng/g	30-JAN-17	09-FEB-17	R3649829
Endosulfan I	<0.015	[U]	0.015	ng/g	30-JAN-17	09-FEB-17	R3649829
Endosulfan II	<0.035	[U]	0.035	ng/g	30-JAN-17	09-FEB-17	R3649829
Endosulfan Sulfate	<0.0065	[U]	0.0065	ng/g	30-JAN-17	09-FEB-17	R3649829
4,4-DDE	0.145		0.0061	ng/g	30-JAN-17	09-FEB-17	R3649829
4,4-DDD	<0.0050	[U]	0.0050	ng/g	30-JAN-17	09-FEB-17	R3649829
4,4-DDT	0.163	M,J	0.025	ng/g	30-JAN-17	09-FEB-17	R3649829
Methoxychlor	<0.0023	[U]	0.0023	ng/g	30-JAN-17	09-FEB-17	R3649829
Mirex	0.0063	J,R	0.0011	ng/g	30-JAN-17	09-FEB-17	R3649829
Parlar 26	<0.037	[U]	0.037	ng/g	30-JAN-17	09-FEB-17	R3649829
Parlar 50	<0.028	[U]	0.028	ng/g	30-JAN-17	09-FEB-17	R3649829
Parlar 62	<0.034	[U]	0.034	ng/g	30-JAN-17	09-FEB-17	R3649829
Surrogate: alpha-BHC, 13C6-	87.0		16-129	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: gamma-BHC-D6	86.0		11-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Heptachlor, 13C10-	82.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Oxychlordane, 13C10-	77.0		23-135	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: trans-Nonachlor, 13C10-	96.0		36-139	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Dieldrin, 13C12-	93.0		40-151	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Endrin, 13C12-	88.0		35-155	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Endosulfan II, 13C9-	85.0		15-148	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: 4,4'-DDE, 13C12-	107.0		47-160	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: 4,4'-DDT, 13C12-	69.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Methoxychlor-D6	76.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Mirex, 13C10-	87.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.190	M,J,R	0.054	pg/g	24-JAN-17	27-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.210	J,R	0.029	pg/g	24-JAN-17	27-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.170	M,J,R	0.070	pg/g	24-JAN-17	27-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.330	M,J,R	0.068	pg/g	24-JAN-17	27-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.432	M,J	0.069	pg/g	24-JAN-17	27-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	5.68		0.090	pg/g	24-JAN-17	27-JAN-17	R3643488
OCDD	32.9		0.16	pg/g	24-JAN-17	27-JAN-17	R3643488
2,3,7,8-TCDF	0.38	M,J	0.10	pg/g	24-JAN-17	27-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.217	M,J,B	0.088	pg/g	24-JAN-17	27-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.575	J,B	0.079	pg/g	24-JAN-17	27-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.371	M,J,B	0.053	pg/g	24-JAN-17	27-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.407	M,J	0.048	pg/g	24-JAN-17	27-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-1 16-W2-SS-CH-001							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 14:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
2,3,4,6,7,8-HxCDF	0.437	M,J,B	0.051	pg/g	24-JAN-17	27-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	0.110	M,J,R	0.071	pg/g	24-JAN-17	27-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	2.07	[J]	0.043	pg/g	24-JAN-17	27-JAN-17	R3643488
1,2,3,4,7,8,9-HpCDF	0.183	[J]	0.061	pg/g	24-JAN-17	27-JAN-17	R3643488
OCDF	2.17	J,B	0.056	pg/g	24-JAN-17	27-JAN-17	R3643488
Total-TCDD	1.07		0.054	pg/g	24-JAN-17	27-JAN-17	R3643488
Total TCDD # Homologues	3				24-JAN-17	27-JAN-17	R3643488
Total-PeCDD	1.62		0.029	pg/g	24-JAN-17	27-JAN-17	R3643488
Total PeCDD # Homologues	3				24-JAN-17	27-JAN-17	R3643488
Total-HxCDD	5.06		0.070	pg/g	24-JAN-17	27-JAN-17	R3643488
Total HxCDD # Homologues	5				24-JAN-17	27-JAN-17	R3643488
Total-HpCDD	11.1		0.090	pg/g	24-JAN-17	27-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	27-JAN-17	R3643488
Total-TCDF	4.80		0.10	pg/g	24-JAN-17	27-JAN-17	R3643488
Total TCDF # Homologues	10				24-JAN-17	27-JAN-17	R3643488
Total-PeCDF	7.18		0.088	pg/g	24-JAN-17	27-JAN-17	R3643488
Total PeCDF # Homologues	9				24-JAN-17	27-JAN-17	R3643488
Total-HxCDF	4.69		0.071	pg/g	24-JAN-17	27-JAN-17	R3643488
Total HxCDF # Homologues	7				24-JAN-17	27-JAN-17	R3643488
Total-HpCDF	3.38		0.061	pg/g	24-JAN-17	27-JAN-17	R3643488
Total HpCDF # Homologues	3				24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	59.0		25-164	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	51.0		25-181	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	58.0		32-141	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	67.0		28-130	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	54.0		23-140	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-OCDD	54.0		17-157	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	60.0		24-169	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	54.0		24-185	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	50.0		21-178	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	54.0		26-152	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	68.0		26-123	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	62.0		29-147	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	55.0		28-136	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	55.0		28-143	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	53.0		26-138	%	24-JAN-17	27-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	51.0		35-197	%	24-JAN-17	27-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	0.472			pg/g	24-JAN-17	27-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	0.933			pg/g	24-JAN-17	27-JAN-17	R3643488
Upper Bound PCDD/F TEQ (WHO 2005)	0.933			pg/g	24-JAN-17	27-JAN-17	R3643488
L1862212-2 16-W2-NG-CH-003							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 07:45							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	85.8		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.12	[U]	0.12	ng/g	08-MAR-17	17-MAR-17	R3686449
beta-BHC	<0.18	[U]	0.18	ng/g	08-MAR-17	17-MAR-17	R3686449
delta-BHC	<0.16	[U]	0.16	ng/g	08-MAR-17	17-MAR-17	R3686449
gamma-BHC	<0.15	[U]	0.15	ng/g	08-MAR-17	17-MAR-17	R3686449

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-2 16-W2-NG-CH-003							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 07:45							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Heptachlor	<0.018	[U]	0.018	ng/g	08-MAR-17	17-MAR-17	R3686449
Aldrin	<0.019	[U]	0.019	ng/g	08-MAR-17	17-MAR-17	R3686449
Heptachlor Epoxide	0.059	M,J,R	0.027	ng/g	08-MAR-17	17-MAR-17	R3686449
trans-Chlordane	<0.12	[U]	0.12	ng/g	08-MAR-17	17-MAR-17	R3686449
cis-Chlordane	<0.11	[U]	0.11	ng/g	08-MAR-17	17-MAR-17	R3686449
Dieldrin	0.266	M,J	0.096	ng/g	08-MAR-17	17-MAR-17	R3686449
Endrin	<0.14	[U]	0.14	ng/g	08-MAR-17	17-MAR-17	R3686449
Endrin Aldehyde	<0.071	[U]	0.071	ng/g	08-MAR-17	17-MAR-17	R3686449
Endosulfan I	<0.24	[U]	0.24	ng/g	08-MAR-17	17-MAR-17	R3686449
Endosulfan II	<0.26	[U]	0.26	ng/g	08-MAR-17	17-MAR-17	R3686449
Endosulfan Sulfate	<0.037	[U]	0.037	ng/g	08-MAR-17	17-MAR-17	R3686449
4,4-DDE	<0.27	[U]	0.27	ng/g	08-MAR-17	17-MAR-17	R3686449
4,4-DDD	<0.56	[U]	0.56	ng/g	08-MAR-17	17-MAR-17	R3686449
4,4-DDT	<1.4	[U]	1.4	ng/g	08-MAR-17	17-MAR-17	R3686449
Methoxychlor	<0.31	[U]	0.31	ng/g	08-MAR-17	17-MAR-17	R3686449
Mirex	0.028	M,J,R	0.019	ng/g	08-MAR-17	17-MAR-17	R3686449
Parlar 26	<1.4	[U]	1.4	ng/g	08-MAR-17	17-MAR-17	R3686449
Parlar 50	<0.68	[U]	0.68	ng/g	08-MAR-17	17-MAR-17	R3686449
Parlar 62	<0.86	[U]	0.86	ng/g	08-MAR-17	17-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	62.0		16-129	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: gamma-BHC-D6	65.0		11-120	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	54.0		5-120	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	56.0		23-135	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	58.0		36-139	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	59.0		40-151	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Endrin, 13C12-	48.0		35-155	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	44.0		15-148	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	50.0		47-160	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	26.0		5-120	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Methoxychlor-D6	15.0		5-120	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Mirex, 13C10-	20.0		5-120	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	33.0		5-150	%	08-MAR-17	17-MAR-17	R3686449
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.26	[U]	0.26	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.16	[U]	0.16	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.23	[U]	0.23	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.23	[U]	0.23	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.24	[U]	0.24	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	0.88	M,J,R	0.47	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
OCDD	4.15	M,J	0.35	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,7,8-TCDF	0.48	M,J,R	0.28	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.19	[U]	0.19	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.16	[U]	0.16	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.27	M,U	0.27	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.28	[U]	0.28	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.25	M,U	0.25	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.34	M,U	0.34	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	<0.23	[U]	0.23	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.32	[U]	0.32	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
OCDF	<0.25	[U]	0.25	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total-TCDD	<0.26	[U]	0.26	pg/g wwt	09-FEB-17	15-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-2 16-W2-NG-CH-003							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 07:45							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total TCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-PeCDD	<0.16	[U]	0.16	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HxCDD	0.56		0.24	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HxCDD # Homologues	1				09-FEB-17	15-MAR-17	R3678009
Total-HpCDD	1.68		0.47	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HpCDD # Homologues	1				09-FEB-17	15-MAR-17	R3678009
Total-TCDF	<0.28	[U]	0.28	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total TCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-PeCDF	<0.19	[U]	0.19	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HxCDF	<0.34	[U]	0.34	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HpCDF	<0.32	[U]	0.32	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	82.0		25-164	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	134.0		25-181	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	79.0		32-141	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	89.0		23-140	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-OCDD	81.0		17-157	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	93.0		24-169	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	117.0		21-192	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	129.0		21-178	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	72.0		26-152	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	65.0		26-123	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	83.0		29-147	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	74.0		28-136	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	82.0		28-143	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	83.0		26-138	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	92.0		31-197	%	09-FEB-17	15-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.00125			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.390			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.721			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
L1862212-3 16-W2-WW-CH-005							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	12.2		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
Chlorophenols as derivatives							
Pentachlorophenol	<0.57	[U]	0.57	ng/g		29-MAR-17	R3686824
Surrogate: 13C6-Pentachlorophenol	70.0		50-150	%		29-MAR-17	R3686824
OC Pesticides by Method 1699							
alpha-BHC	<0.0060	[U]	0.0060	ng/g	08-MAR-17	17-MAR-17	R3686449
beta-BHC	<0.0094	[U]	0.0094	ng/g	08-MAR-17	17-MAR-17	R3686449
delta-BHC	<0.0083	[U]	0.0083	ng/g	08-MAR-17	17-MAR-17	R3686449
gamma-BHC	<0.0078	[U]	0.0078	ng/g	08-MAR-17	17-MAR-17	R3686449
Heptachlor	<0.00070	[U]	0.00070	ng/g	08-MAR-17	17-MAR-17	R3686449
Aldrin	<0.00089	[U]	0.00089	ng/g	08-MAR-17	17-MAR-17	R3686449
Heptachlor Epoxide	0.0035	M,J	0.0013	ng/g	08-MAR-17	17-MAR-17	R3686449

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-3 16-W2-WW-CH-005							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:00							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
trans-Chlordane	<0.0064	[U]	0.0064	ng/g	08-MAR-17	17-MAR-17	R3686449
cis-Chlordane	<0.0060	[U]	0.0060	ng/g	08-MAR-17	17-MAR-17	R3686449
Dieldrin	0.0175	[J]	0.0021	ng/g	08-MAR-17	17-MAR-17	R3686449
Endrin	0.0059	M,J,R	0.0031	ng/g	08-MAR-17	17-MAR-17	R3686449
Endrin Aldehyde	<0.0021	[U]	0.0021	ng/g	08-MAR-17	17-MAR-17	R3686449
Endosulfan I	<0.0048	[U]	0.0048	ng/g	08-MAR-17	17-MAR-17	R3686449
Endosulfan II	<0.0091	[U]	0.0091	ng/g	08-MAR-17	17-MAR-17	R3686449
Endosulfan Sulfate	<0.0023	[U]	0.0023	ng/g	08-MAR-17	17-MAR-17	R3686449
4,4-DDE	<0.0085	[U]	0.0085	ng/g	08-MAR-17	17-MAR-17	R3686449
4,4-DDD	<0.018	[U]	0.018	ng/g	08-MAR-17	17-MAR-17	R3686449
4,4-DDT	<0.044	[U]	0.044	ng/g	08-MAR-17	17-MAR-17	R3686449
Methoxychlor	<0.0056	[U]	0.0056	ng/g	08-MAR-17	17-MAR-17	R3686449
Mirex	0.00058	M,J,R	0.00046	ng/g	08-MAR-17	17-MAR-17	R3686449
Parlar 26	<0.018	[U]	0.018	ng/g	08-MAR-17	17-MAR-17	R3686449
Parlar 50	<0.0096	[U]	0.0096	ng/g	08-MAR-17	17-MAR-17	R3686449
Parlar 62	<0.012	[U]	0.012	ng/g	08-MAR-17	17-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	72.0		16-129	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: gamma-BHC-D6	72.0		11-120	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	67.0		5-120	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	74.0		23-135	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	69.0		36-139	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	72.0		40-151	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Endrin, 13C12-	65.0		35-155	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	73.0		15-148	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	68.0		47-160	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	64.0		5-120	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Methoxychlor-D6	43.0		5-120	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: Mirex, 13C10-	52.0		5-120	%	08-MAR-17	17-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	67.0		5-150	%	08-MAR-17	17-MAR-17	R3686449
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.024	[U]	0.024	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.017	[U]	0.017	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.021	[U]	0.021	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.021	[U]	0.021	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.022	[U]	0.022	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	0.063	M,J	0.022	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
OCDD	0.303	M,J	0.022	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,7,8-TCDF	<0.023	[U]	0.023	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.012	[U]	0.012	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.012	[U]	0.012	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.020	[U]	0.020	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.020	[U]	0.020	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.017	[U]	0.017	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.029	[U]	0.029	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	0.020	M,J,R	0.019	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.026	[U]	0.026	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
OCDF	0.085	[J]	0.021	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total-TCDD	<0.024	[U]	0.024	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-PeCDD	<0.017	[U]	0.017	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-3 16-W2-WW-CH-005							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HxCDD	<0.022	[U]	0.022	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HxCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HpCDD	0.132		0.022	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HpCDD # Homologues	2				09-FEB-17	15-MAR-17	R3678009
Total-TCDF	<0.023	[U]	0.023	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total TCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-PeCDF	<0.012	[U]	0.012	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HxCDF	<0.029	[U]	0.029	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HpCDF	<0.026	[U]	0.026	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	65.0		25-164	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	99.0		25-181	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	68.0		32-141	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	59.0		28-130	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	75.0		23-140	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-OCDD	59.0		17-157	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	77.0		24-169	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	104.0		21-192	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	99.0		21-178	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	54.0		26-152	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	52.0		26-123	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	52.0		28-136	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	60.0		28-143	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	62.0		26-138	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	86.0		31-197	%	09-FEB-17	15-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.000745			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.0322			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.0635			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
L1862212-4 16-W4-SS-CH-007							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 11:45							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	21.1		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.018	[U]	0.018	ng/g	30-JAN-17	09-FEB-17	R3649829
beta-BHC	<0.031	[U]	0.031	ng/g	30-JAN-17	09-FEB-17	R3649829
delta-BHC	<0.026	[U]	0.026	ng/g	30-JAN-17	09-FEB-17	R3649829
gamma-BHC	<0.024	[U]	0.024	ng/g	30-JAN-17	09-FEB-17	R3649829
Heptachlor	<0.0019	[U]	0.0019	ng/g	30-JAN-17	09-FEB-17	R3649829
Aldrin	<0.0025	[U]	0.0025	ng/g	30-JAN-17	09-FEB-17	R3649829
Heptachlor Epoxide	0.0376	[J]	0.0045	ng/g	30-JAN-17	09-FEB-17	R3649829
trans-Chlordane	<0.017	[U]	0.017	ng/g	30-JAN-17	09-FEB-17	R3649829
cis-Chlordane	0.028	M,J,R	0.017	ng/g	30-JAN-17	09-FEB-17	R3649829
Dieldrin	0.121	[J]	0.0080	ng/g	30-JAN-17	09-FEB-17	R3649829
Endrin	<0.011	M,U	0.011	ng/g	30-JAN-17	09-FEB-17	R3649829
Endrin Aldehyde	<0.0094	[U]	0.0094	ng/g	30-JAN-17	09-FEB-17	R3649829
Endosulfan I	<0.017	[U]	0.017	ng/g	30-JAN-17	09-FEB-17	R3649829

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-4 16-W4-SS-CH-007							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 11:45							
Matrix: Soil							
OC Pesticides by Method 1699							
Endosulfan II	<0.025	[U]	0.025	ng/g	30-JAN-17	09-FEB-17	R3649829
Endosulfan Sulfate	<0.010	[U]	0.010	ng/g	30-JAN-17	09-FEB-17	R3649829
4,4-DDE	0.262		0.0049	ng/g	30-JAN-17	09-FEB-17	R3649829
4,4-DDD	0.0190	J,R	0.0084	ng/g	30-JAN-17	09-FEB-17	R3649829
4,4-DDT	0.472	[J]	0.0026	ng/g	30-JAN-17	09-FEB-17	R3649829
Methoxychlor	<0.0028	[U]	0.0028	ng/g	30-JAN-17	09-FEB-17	R3649829
Mirex	0.0052	J,R	0.0012	ng/g	30-JAN-17	09-FEB-17	R3649829
Parlar 26	<0.057	[U]	0.057	ng/g	30-JAN-17	09-FEB-17	R3649829
Parlar 50	<0.039	[U]	0.039	ng/g	30-JAN-17	09-FEB-17	R3649829
Parlar 62	<0.048	[U]	0.048	ng/g	30-JAN-17	09-FEB-17	R3649829
Surrogate: alpha-BHC, 13C6-	81.0		16-129	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: gamma-BHC-D6	82.0		11-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Heptachlor, 13C10-	77.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Oxychlordane, 13C10-	70.0		23-135	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: trans-Nonachlor, 13C10-	86.0		36-139	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Dieldrin, 13C12-	84.0		40-151	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Endrin, 13C12-	78.0		35-155	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Endosulfan II, 13C9-	77.0		15-148	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: 4,4'-DDE, 13C12-	94.0		47-160	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: 4,4'-DDT, 13C12-	61.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Methoxychlor-D6	62.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Mirex, 13C10-	64.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.536	M,J	0.065	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.293	M,J,B	0.039	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.323	M,J,B	0.092	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	1.27	M,J	0.090	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.987	M,J	0.091	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	26.0		0.16	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	112		0.16	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.670	[M]	0.087	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.234	J,B	0.057	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.599	J,B	0.050	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.479	M,J,B	0.069	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.500	M,J	0.071	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.660	J,B	0.072	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	0.149	M,J	0.097	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	7.53		0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8,9-HpCDF	0.474	[J]	0.065	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	12.7		0.049	pg/g	24-JAN-17	28-JAN-17	R3643488
Total-TCDD	2.46		0.065	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	2.63		0.039	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	6				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	10.3		0.092	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	6				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	41.2		0.16	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	9.92		0.087	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	13				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	6.94		0.057	pg/g	24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-4 16-W4-SS-CH-007							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 11:45							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total PeCDF # Homologues	8				24-JAN-17	28-JAN-17	R3643488
Total-HxCDF	9.01		0.097	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	8				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	16.9		0.065	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	60.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	52.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	54.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	67.0		28-130	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	57.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	58.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	57.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	55.0		24-185	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	52.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	58.0		26-152	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	63.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	57.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	57.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	54.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	55.0		26-138	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	51.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	1.90			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	1.90			pg/g	24-JAN-17	28-JAN-17	R3643488
Upper Bound PCDD/F TEQ (WHO 2005)	1.90			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-5 16-W4-NG-CH-009							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 12:15							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	64.8		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.019	[U]	0.019	ng/g	08-MAR-17	22-MAR-17	R3686449
beta-BHC	<0.031	[U]	0.031	ng/g	08-MAR-17	22-MAR-17	R3686449
delta-BHC	<0.027	[U]	0.027	ng/g	08-MAR-17	22-MAR-17	R3686449
gamma-BHC	<0.025	[U]	0.025	ng/g	08-MAR-17	22-MAR-17	R3686449
Heptachlor	0.0060	M,J,R	0.0038	ng/g	08-MAR-17	22-MAR-17	R3686449
Aldrin	<0.0045	[U]	0.0045	ng/g	08-MAR-17	22-MAR-17	R3686449
Heptachlor Epoxide	0.0545	[J]	0.0074	ng/g	08-MAR-17	22-MAR-17	R3686449
trans-Chlordane	0.068	M,J	0.045	ng/g	08-MAR-17	22-MAR-17	R3686449
cis-Chlordane	0.098	M,J,R	0.042	ng/g	08-MAR-17	22-MAR-17	R3686449
Dieldrin	0.260	M,J,R	0.022	ng/g	08-MAR-17	22-MAR-17	R3686449
Endrin	0.065	M,J,R	0.035	ng/g	08-MAR-17	22-MAR-17	R3686449
Endrin Aldehyde	0.036	M,J,R	0.019	ng/g	08-MAR-17	22-MAR-17	R3686449
Endosulfan I	<0.11	[U]	0.11	ng/g	08-MAR-17	22-MAR-17	R3686449
Endosulfan II	<0.12	[U]	0.12	ng/g	08-MAR-17	22-MAR-17	R3686449
Endosulfan Sulfate	0.100	M,J	0.016	ng/g	08-MAR-17	22-MAR-17	R3686449
4,4-DDE	0.345	M,J	0.035	ng/g	08-MAR-17	22-MAR-17	R3686449
4,4-DDD	<0.14	[U]	0.14	ng/g	08-MAR-17	22-MAR-17	R3686449
4,4-DDT	<0.27	[U]	0.27	ng/g	08-MAR-17	22-MAR-17	R3686449
Methoxychlor	<0.068	[U]	0.068	ng/g	08-MAR-17	22-MAR-17	R3686449
Mirex	0.0230	M,J,R	0.0090	ng/g	08-MAR-17	22-MAR-17	R3686449

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-5 16-W4-NG-CH-009							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 12:15							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Parlar 26	<0.24	[U]	0.24	ng/g	08-MAR-17	22-MAR-17	R3686449
Parlar 50	<0.19	[U]	0.19	ng/g	08-MAR-17	22-MAR-17	R3686449
Parlar 62	<0.28	[U]	0.28	ng/g	08-MAR-17	22-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	63.0		16-129	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: gamma-BHC-D6	64.0		11-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	63.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	60.0		23-135	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	67.0		36-139	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	67.0		40-151	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Endrin, 13C12-	56.0		35-155	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	42.0		15-148	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	61.0		47-160	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	24.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Methoxychlor-D6	14.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Mirex, 13C10-	22.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	32.0		5-150	%	08-MAR-17	22-MAR-17	R3686449
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.14	[U]	0.14	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.14	[U]	0.14	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.20	[U]	0.20	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.21	[U]	0.21	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.22	[U]	0.22	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	1.75	[J]	0.18	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
OCDD	5.84	[J]	0.18	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,7,8-TCDF	<0.24	[U]	0.24	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.20	[U]	0.20	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.17	[U]	0.17	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.21	[U]	0.21	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.22	[U]	0.22	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.20	[U]	0.20	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.28	[U]	0.28	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	0.44	J,R	0.15	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.22	[U]	0.22	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
OCDF	0.50	M,J,R	0.19	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total-TCDD	<0.14	[U]	0.14	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-PeCDD	0.59		0.14	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total PeCDD # Homologues	1				09-FEB-17	15-MAR-17	R3678009
Total-HxCDD	<0.22	[U]	0.22	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HxCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HpCDD	1.75		0.18	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HpCDD # Homologues	1				09-FEB-17	15-MAR-17	R3678009
Total-TCDF	<0.24	[U]	0.24	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total TCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-PeCDF	<0.20	[U]	0.20	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HxCDF	<0.28	[U]	0.28	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HpCDF	<0.22	[U]	0.22	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	83.0		25-164	%	09-FEB-17	15-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-5 16-W4-NG-CH-009							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 12:15							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,7,8-PeCDD	134.0		25-181	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	84.0		32-141	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	96.0		23-140	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-OCDD	78.0		17-157	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	90.0		24-169	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	118.0		21-192	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	128.0		21-178	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	74.0		26-152	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	69.0		26-123	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	83.0		29-147	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	75.0		28-136	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	80.0		28-143	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	83.0		26-138	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	94.0		31-197	%	09-FEB-17	15-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.0193			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.282			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.541			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
L1862212-6 16-W4-FC-CH-011							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 11:45							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	25.9		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
Chlorophenols as derivatives							
Pentachlorophenol	<0.97	[U]	0.97	ng/g		29-MAR-17	R3686824
Surrogate: 13C6-Pentachlorophenol	69.0		50-150	%		29-MAR-17	R3686824
OC Pesticides by Method 1699							
alpha-BHC	<0.014	[U]	0.014	ng/g	08-MAR-17	28-MAR-17	R3686449
beta-BHC	<0.023	[U]	0.023	ng/g	08-MAR-17	28-MAR-17	R3686449
delta-BHC	<0.027	[U]	0.027	ng/g	08-MAR-17	28-MAR-17	R3686449
gamma-BHC	<0.027	[U]	0.027	ng/g	08-MAR-17	28-MAR-17	R3686449
Heptachlor	<0.0044	[U]	0.0044	ng/g	08-MAR-17	28-MAR-17	R3686449
Aldrin	0.0210	J,R	0.0058	ng/g	08-MAR-17	28-MAR-17	R3686449
Heptachlor Epoxide	<0.011	[U]	0.011	ng/g	08-MAR-17	28-MAR-17	R3686449
trans-Chlordane	<0.093	[U]	0.093	ng/g	08-MAR-17	28-MAR-17	R3686449
cis-Chlordane	<0.090	[U]	0.090	ng/g	08-MAR-17	28-MAR-17	R3686449
Dieldrin	<0.056	[U]	0.056	ng/g	08-MAR-17	28-MAR-17	R3686449
Endrin	<0.069	[U]	0.069	ng/g	08-MAR-17	28-MAR-17	R3686449
Endrin Aldehyde	<0.038	[U]	0.038	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan I	<0.16	[U]	0.16	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan II	<0.26	[U]	0.26	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan Sulfate	<0.041	[U]	0.041	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDE	<0.064	[U]	0.064	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDD	<0.12	[U]	0.12	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDT	<0.25	[U]	0.25	ng/g	08-MAR-17	28-MAR-17	R3686449
Methoxychlor	<0.075	[U]	0.075	ng/g	08-MAR-17	28-MAR-17	R3686449
Mirex	<0.0089	[U]	0.0089	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 26	<0.48	[U]	0.48	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 50	<0.63	[U]	0.63	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 62	<0.88	[U]	0.88	ng/g	08-MAR-17	28-MAR-17	R3686449

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-6 16-W4-FC-CH-011							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 11:45							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: alpha-BHC, 13C6-	56.0		16-129	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: gamma-BHC-D6	42.0		11-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	179.0	G	5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	94.0		23-135	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	99.0		36-139	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	87.0		40-151	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Endrin, 13C12-	119.0		35-155	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	90.0		15-148	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	79.0		47-160	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	73.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Methoxychlor-D6	64.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Mirex, 13C10-	56.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	67.0		5-150	%	08-MAR-17	28-MAR-17	R3686449
Note: Sample has an elevated recovery for 13C10-Heptachlor. Natives are calculated via isotope dilution and are inherently recovery corrected.							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.017	[U]	0.017	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.0079	[U]	0.0079	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.020	[U]	0.020	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.020	[U]	0.020	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.021	[U]	0.021	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	<0.015	[U]	0.015	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
OCDD	0.043	M,J	0.019	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,7,8-TCDF	<0.017	[U]	0.017	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.0081	[U]	0.0081	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.0073	[U]	0.0073	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.020	[U]	0.020	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.020	[U]	0.020	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.020	[U]	0.020	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.026	M,U	0.026	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	<0.023	[U]	0.023	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.034	[U]	0.034	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
OCDF	<0.020	[U]	0.020	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total-TCDD	<0.017	[U]	0.017	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-PeCDD	<0.0079	[U]	0.0079	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HxCDD	<0.021	[U]	0.021	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HxCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HpCDD	<0.015	[U]	0.015	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HpCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-TCDF	<0.017	[U]	0.017	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total TCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-PeCDF	<0.0081	[U]	0.0081	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HxCDF	<0.026	[U]	0.026	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HpCDF	<0.034	[U]	0.034	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	09-FEB-17	15-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-6 16-W4-FC-CH-011							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 11:45							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,7,8-PeCDD	118.0		25-181	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	72.0		32-141	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	84.0		23-140	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-OCDD	62.0		17-157	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	88.0		24-169	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	113.0		21-192	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	119.0		21-178	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	62.0		26-123	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	69.0		29-147	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	68.0		28-136	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	71.0		28-143	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	73.0		26-138	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		31-197	%	09-FEB-17	15-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.0000130			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.0222			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.0445			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
L1862212-7 16-N2-SS-CH-013							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	20.3		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.017	[U]	0.017	ng/g	30-JAN-17	09-FEB-17	R3649829
beta-BHC	<0.029	[U]	0.029	ng/g	30-JAN-17	09-FEB-17	R3649829
delta-BHC	<0.023	[U]	0.023	ng/g	30-JAN-17	09-FEB-17	R3649829
gamma-BHC	<0.022	[U]	0.022	ng/g	30-JAN-17	09-FEB-17	R3649829
Heptachlor	<0.0037	[U]	0.0037	ng/g	30-JAN-17	09-FEB-17	R3649829
Aldrin	<0.0023	[U]	0.0023	ng/g	30-JAN-17	09-FEB-17	R3649829
Heptachlor Epoxide	0.0147	[J]	0.0042	ng/g	30-JAN-17	09-FEB-17	R3649829
trans-Chlordane	<0.019	[U]	0.019	ng/g	30-JAN-17	09-FEB-17	R3649829
cis-Chlordane	<0.018	[U]	0.018	ng/g	30-JAN-17	09-FEB-17	R3649829
Dieldrin	0.0355	M,J	0.0075	ng/g	30-JAN-17	09-FEB-17	R3649829
Endrin	<0.010	M,U	0.010	ng/g	30-JAN-17	09-FEB-17	R3649829
Endrin Aldehyde	<0.0067	[U]	0.0067	ng/g	30-JAN-17	09-FEB-17	R3649829
Endosulfan I	<0.015	[U]	0.015	ng/g	30-JAN-17	09-FEB-17	R3649829
Endosulfan II	<0.027	[U]	0.027	ng/g	30-JAN-17	09-FEB-17	R3649829
Endosulfan Sulfate	<0.0035	[U]	0.0035	ng/g	30-JAN-17	09-FEB-17	R3649829
4,4-DDE	0.188		0.0092	ng/g	30-JAN-17	09-FEB-17	R3649829
4,4-DDD	<0.010	[U]	0.010	ng/g	30-JAN-17	09-FEB-17	R3649829
4,4-DDT	0.210	J,R	0.036	ng/g	30-JAN-17	09-FEB-17	R3649829
Methoxychlor	<0.0041	[U]	0.0041	ng/g	30-JAN-17	09-FEB-17	R3649829
Mirex	0.0042	M,J,R	0.0029	ng/g	30-JAN-17	09-FEB-17	R3649829
Parlar 26	<0.15	[U]	0.15	ng/g	30-JAN-17	09-FEB-17	R3649829
Parlar 50	<0.065	[U]	0.065	ng/g	30-JAN-17	09-FEB-17	R3649829
Parlar 62	<0.081	[U]	0.081	ng/g	30-JAN-17	09-FEB-17	R3649829
Surrogate: alpha-BHC, 13C6-	91.0		16-129	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: gamma-BHC-D6	93.0		11-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Heptachlor, 13C10-	60.0		5-120	%	30-JAN-17	09-FEB-17	R3649829

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-7 16-N2-SS-CH-013							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:30							
Matrix: Soil							
OC Pesticides by Method 1699							
Surrogate: Oxychlordane, 13C10-	77.0		23-135	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: trans-Nonachlor, 13C10-	74.0	M	36-139	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Dieldrin, 13C12-	89.0		40-151	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Endrin, 13C12-	83.0		35-155	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Endosulfan II, 13C9-	80.0		15-148	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: 4,4'-DDE, 13C12-	65.0		47-160	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: 4,4'-DDT, 13C12-	46.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Methoxychlor-D6	50.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Mirex, 13C10-	27.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.202	M,J	0.059	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.165	M,J,B	0.053	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.140	M,J,R	0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.303	[J]	0.046	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.336	M,J	0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	4.04		0.089	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	21.6		0.10	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.356	[J]	0.088	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.127	M,J,B	0.039	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.325	J,B	0.036	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.291	M,J,B	0.063	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.130	M,J,R	0.060	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.270	M,J,R	0.061	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	0.090	M,J	0.083	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	1.30	[J]	0.049	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8,9-HpCDF	0.151	[J]	0.068	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	1.48	J,B	0.040	pg/g	24-JAN-17	28-JAN-17	R3643488
Total-TCDD	1.00		0.059	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	2.08		0.053	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	4.38		0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	6				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	8.09		0.089	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	6.13		0.088	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	12				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	3.42		0.039	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDF # Homologues	11				24-JAN-17	28-JAN-17	R3643488
Total-HxCDF	2.30		0.083	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	6				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	2.32		0.068	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	60.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	52.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	60.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	59.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	59.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	57.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	54.0		24-185	%	24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-7 16-N2-SS-CH-013							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:30							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,4,7,8-PeCDF	52.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	58.0		26-152	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	67.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	62.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	57.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	56.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	56.0		26-138	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	53.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	0.668			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	0.722			pg/g	24-JAN-17	28-JAN-17	R3643488
Upper Bound PCDD/F TEQ (WHO 2005)	0.722			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-8 16-N2-SD-CH-015							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 17:15							
Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	57.1		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.024	[U]	0.024	ng/g	30-JAN-17	09-FEB-17	R3649829
beta-BHC	<0.040	[U]	0.040	ng/g	30-JAN-17	09-FEB-17	R3649829
delta-BHC	<0.033	[U]	0.033	ng/g	30-JAN-17	09-FEB-17	R3649829
gamma-BHC	<0.031	[U]	0.031	ng/g	30-JAN-17	09-FEB-17	R3649829
Heptachlor	<0.0038	[U]	0.0038	ng/g	30-JAN-17	09-FEB-17	R3649829
Aldrin	<0.0044	[U]	0.0044	ng/g	30-JAN-17	09-FEB-17	R3649829
Heptachlor Epoxide	<0.0071	[U]	0.0071	ng/g	30-JAN-17	09-FEB-17	R3649829
trans-Chlordane	<0.021	[U]	0.021	ng/g	30-JAN-17	09-FEB-17	R3649829
cis-Chlordane	<0.020	[U]	0.020	ng/g	30-JAN-17	09-FEB-17	R3649829
Dieldrin	0.047	J,R	0.010	ng/g	30-JAN-17	09-FEB-17	R3649829
Endrin	<0.016	[U]	0.016	ng/g	30-JAN-17	09-FEB-17	R3649829
Endrin Aldehyde	<0.012	[U]	0.012	ng/g	30-JAN-17	09-FEB-17	R3649829
Endosulfan I	<0.033	[U]	0.033	ng/g	30-JAN-17	09-FEB-17	R3649829
Endosulfan II	<0.061	[U]	0.061	ng/g	30-JAN-17	09-FEB-17	R3649829
Endosulfan Sulfate	<0.0078	[U]	0.0078	ng/g	30-JAN-17	09-FEB-17	R3649829
4,4-DDE	0.246		0.012	ng/g	30-JAN-17	09-FEB-17	R3649829
4,4-DDD	0.069	J,R	0.019	ng/g	30-JAN-17	09-FEB-17	R3649829
4,4-DDT	<0.081	[U]	0.081	ng/g	30-JAN-17	09-FEB-17	R3649829
Methoxychlor	<0.017	[U]	0.017	ng/g	30-JAN-17	09-FEB-17	R3649829
Mirex	0.0077	M,J,R	0.0047	ng/g	30-JAN-17	09-FEB-17	R3649829
Parlar 26	<0.25	[U]	0.25	ng/g	30-JAN-17	09-FEB-17	R3649829
Parlar 50	<0.14	[U]	0.14	ng/g	30-JAN-17	09-FEB-17	R3649829
Parlar 62	<0.17	[U]	0.17	ng/g	30-JAN-17	09-FEB-17	R3649829
Surrogate: alpha-BHC, 13C6-	88.0		16-129	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: gamma-BHC-D6	87.0		11-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Heptachlor, 13C10-	72.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Oxychlordane, 13C10-	66.0		23-135	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: trans-Nonachlor, 13C10-	76.0		36-139	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Dieldrin, 13C12-	84.0		40-151	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Endrin, 13C12-	73.0		35-155	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Endosulfan II, 13C9-	69.0		15-148	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: 4,4'-DDE, 13C12-	83.0		47-160	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: 4,4'-DDT, 13C12-	35.0		5-120	%	30-JAN-17	09-FEB-17	R3649829

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-8 16-N2-SD-CH-015							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 17:15							
Matrix: Sediment							
OC Pesticides by Method 1699							
Surrogate: Methoxychlor-D6	29.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
Surrogate: Mirex, 13C10-	24.0		5-120	%	30-JAN-17	09-FEB-17	R3649829
L1862212-9 16-N2-NG-CH-019							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 17:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	75.1		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.020	[U]	0.020	ng/g	08-MAR-17	22-MAR-17	R3686449
beta-BHC	<0.032	[U]	0.032	ng/g	08-MAR-17	22-MAR-17	R3686449
delta-BHC	<0.028	[U]	0.028	ng/g	08-MAR-17	22-MAR-17	R3686449
gamma-BHC	<0.026	[U]	0.026	ng/g	08-MAR-17	22-MAR-17	R3686449
Heptachlor	0.0110	M,J,R	0.0035	ng/g	08-MAR-17	22-MAR-17	R3686449
Aldrin	<0.0072	[U]	0.0072	ng/g	08-MAR-17	22-MAR-17	R3686449
Heptachlor Epoxide	0.0482	[J]	0.0079	ng/g	08-MAR-17	22-MAR-17	R3686449
trans-Chlordane	<0.037	M,U	0.037	ng/g	08-MAR-17	22-MAR-17	R3686449
cis-Chlordane	0.056	M,J,R	0.035	ng/g	08-MAR-17	22-MAR-17	R3686449
Dieldrin	0.133	[J]	0.017	ng/g	08-MAR-17	22-MAR-17	R3686449
Endrin	<0.028	[U]	0.028	ng/g	08-MAR-17	22-MAR-17	R3686449
Endrin Aldehyde	<0.020	[U]	0.020	ng/g	08-MAR-17	22-MAR-17	R3686449
Endosulfan I	<0.054	[U]	0.054	ng/g	08-MAR-17	22-MAR-17	R3686449
Endosulfan II	<0.12	[U]	0.12	ng/g	08-MAR-17	22-MAR-17	R3686449
Endosulfan Sulfate	0.038	M,J,R	0.030	ng/g	08-MAR-17	22-MAR-17	R3686449
4,4-DDE	0.153	M,J	0.054	ng/g	08-MAR-17	22-MAR-17	R3686449
4,4-DDD	<0.23	[U]	0.23	ng/g	08-MAR-17	22-MAR-17	R3686449
4,4-DDT	<0.29	[U]	0.29	ng/g	08-MAR-17	22-MAR-17	R3686449
Methoxychlor	<0.086	[U]	0.086	ng/g	08-MAR-17	22-MAR-17	R3686449
Mirex	0.0200	M,J,R	0.0071	ng/g	08-MAR-17	22-MAR-17	R3686449
Parlar 26	<0.21	[U]	0.21	ng/g	08-MAR-17	22-MAR-17	R3686449
Parlar 50	<0.22	[U]	0.22	ng/g	08-MAR-17	22-MAR-17	R3686449
Parlar 62	<0.32	[U]	0.32	ng/g	08-MAR-17	22-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	56.0		16-129	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: gamma-BHC-D6	54.0		11-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	57.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	51.0		23-135	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	61.0		36-139	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	61.0		40-151	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Endrin, 13C12-	51.0		35-155	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	40.0		15-148	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	56.0		47-160	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	23.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Methoxychlor-D6	14.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Mirex, 13C10-	23.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	30.0		5-150	%	08-MAR-17	22-MAR-17	R3686449
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.17	[U]	0.17	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.13	[U]	0.13	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.18	[U]	0.18	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.19	M,U	0.19	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.19	M,U	0.19	pg/g wwt	09-FEB-17	15-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-9 16-N2-NG-CH-019							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 17:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,4,6,7,8-HpCDD	0.49	[J]	0.14	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
OCDD	1.96	M,J	0.19	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,7,8-TCDF	<0.18	M,U	0.18	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.093	[U]	0.093	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.077	[U]	0.077	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.14	[U]	0.14	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.14	[U]	0.14	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.14	[U]	0.14	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.18	[U]	0.18	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	<0.15	M,U	0.15	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.22	[U]	0.22	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
OCDF	<0.14	[U]	0.14	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total-TCDD	<0.17	[U]	0.17	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-PeCDD	<0.13	[U]	0.13	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HxCDD	<0.19	[U]	0.19	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HxCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HpCDD	0.49		0.14	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HpCDD # Homologues	1				09-FEB-17	15-MAR-17	R3678009
Total-TCDF	0.31		0.18	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total TCDF # Homologues	1				09-FEB-17	15-MAR-17	R3678009
Total-PeCDF	<0.093	[U]	0.093	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HxCDF	<0.18	[U]	0.18	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HpCDF	<0.22	[U]	0.22	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	77.0		25-164	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	137.0		25-181	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	72.0		32-141	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	78.0		23-140	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-OCDD	58.0		17-157	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	85.0		24-169	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	119.0		21-192	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	133.0		21-178	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	59.0		26-123	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	68.0		29-147	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	66.0		28-136	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	67.0		28-143	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	70.0		26-138	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	88.0		31-197	%	09-FEB-17	15-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.00545			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.237			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.469			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
L1862212-10 16-N2-SB-CH-021							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-10 16-N2-SB-CH-021							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:00							
Matrix: Plant Tissue							
% Moisture	48.3		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
Chlorophenols as derivatives							
Pentachlorophenol	<2.4	[U]	2.4	ng/g		29-MAR-17	R3686824
Surrogate: 13C6-Pentachlorophenol	50.0		50-150	%		29-MAR-17	R3686824
OC Pesticides by Method 1699							
alpha-BHC	<0.015	[U]	0.015	ng/g	08-MAR-17	28-MAR-17	R3686449
beta-BHC	<0.023	[U]	0.023	ng/g	08-MAR-17	28-MAR-17	R3686449
delta-BHC	<0.020	[U]	0.020	ng/g	08-MAR-17	28-MAR-17	R3686449
gamma-BHC	<0.020	[U]	0.020	ng/g	08-MAR-17	28-MAR-17	R3686449
Heptachlor	<0.0031	[U]	0.0031	ng/g	08-MAR-17	28-MAR-17	R3686449
Aldrin	<0.0030	[U]	0.0030	ng/g	08-MAR-17	28-MAR-17	R3686449
Heptachlor Epoxide	0.0333	[J]	0.0049	ng/g	08-MAR-17	28-MAR-17	R3686449
trans-Chlordane	<0.030	[U]	0.030	ng/g	08-MAR-17	28-MAR-17	R3686449
cis-Chlordane	<0.030	[U]	0.030	ng/g	08-MAR-17	28-MAR-17	R3686449
Dieldrin	0.080	[J]	0.013	ng/g	08-MAR-17	28-MAR-17	R3686449
Endrin	<0.026	[U]	0.026	ng/g	08-MAR-17	28-MAR-17	R3686449
Endrin Aldehyde	<0.0094	[U]	0.0094	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan I	<0.044	[U]	0.044	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan II	<0.057	[U]	0.057	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan Sulfate	<0.018	[U]	0.018	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDE	<0.025	[U]	0.025	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDD	<0.054	[U]	0.054	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDT	<0.22	[U]	0.22	ng/g	08-MAR-17	28-MAR-17	R3686449
Methoxychlor	<0.031	[U]	0.031	ng/g	08-MAR-17	28-MAR-17	R3686449
Mirex	0.0046	M,J,R	0.0023	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 26	<0.18	[U]	0.18	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 50	<0.15	[U]	0.15	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 62	<0.21	[U]	0.21	ng/g	08-MAR-17	28-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	40.0		16-129	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: gamma-BHC-D6	41.0		11-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	38.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	34.0		23-135	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	39.0		36-139	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	38.0	G	40-151	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Endrin, 13C12-	32.0	G	35-155	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	33.0		15-148	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	39.0	G	47-160	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	17.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Methoxychlor-D6	10.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Mirex, 13C10-	21.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	21.0		5-150	%	08-MAR-17	28-MAR-17	R3686449
Note: Sample has a few low recoveries for surrogates. Natives are calculated via isotope dilution and are inherently recovery corrected.							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.041	[U]	0.041	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.012	[U]	0.012	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.019	[U]	0.019	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.018	[U]	0.018	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.019	[U]	0.019	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	<0.017	[U]	0.017	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
OCDD	0.045	M,J,R	0.027	pg/g wwt	09-FEB-17	15-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-10 16-N2-SB-CH-021							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDF	0.082	M,J,R	0.033	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.0091	[U]	0.0091	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.0084	[U]	0.0084	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.025	[U]	0.025	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.028	[U]	0.028	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.027	[U]	0.027	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.036	M,U	0.036	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	<0.019	[U]	0.019	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.029	[U]	0.029	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
OCDF	<0.020	[U]	0.020	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total-TCDD	<0.041	[U]	0.041	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-PeCDD	<0.012	[U]	0.012	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HxCDD	<0.019	[U]	0.019	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HxCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HpCDD	<0.017	[U]	0.017	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HpCDD # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-TCDF	<0.033	[U]	0.033	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total TCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-PeCDF	<0.0091	[U]	0.0091	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HxCDF	<0.036	[U]	0.036	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Total-HpCDF	<0.029	[U]	0.029	pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	44.0		25-164	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	101.0		25-181	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	71.0		32-141	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	60.0		28-130	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	75.0		23-140	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-OCDD	55.0		17-157	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	38.0		24-169	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	95.0		21-192	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	94.0		21-178	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	62.0		26-152	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	55.0		26-123	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	62.0		29-147	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	61.0		28-136	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	66.0		28-143	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	67.0		26-138	%	09-FEB-17	15-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	44.0		31-197	%	09-FEB-17	15-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.00			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.0450			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.0819			pg/g wwt	09-FEB-17	15-MAR-17	R3678009
L1862212-11 16-N4-SS-CH-023							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	16.2		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-11 16-N4-SS-CH-023							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Soil							
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	30-JAN-17	10-FEB-17	R3649829
beta-BHC	<0.019	[U]	0.019	ng/g	30-JAN-17	10-FEB-17	R3649829
delta-BHC	<0.015	[U]	0.015	ng/g	30-JAN-17	10-FEB-17	R3649829
gamma-BHC	<0.014	[U]	0.014	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor	<0.0022	[U]	0.0022	ng/g	30-JAN-17	10-FEB-17	R3649829
Aldrin	<0.0018	[U]	0.0018	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor Epoxide	0.0321	[J]	0.0033	ng/g	30-JAN-17	10-FEB-17	R3649829
trans-Chlordane	0.026	M,J	0.022	ng/g	30-JAN-17	10-FEB-17	R3649829
cis-Chlordane	0.024	M,J,R	0.021	ng/g	30-JAN-17	10-FEB-17	R3649829
Dieldrin	0.0655	[J]	0.0051	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin	<0.0081	M,U	0.0081	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin Aldehyde	<0.0077	[U]	0.0077	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan I	<0.014	[U]	0.014	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan II	<0.030	[U]	0.030	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan Sulfate	<0.0073	[U]	0.0073	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDE	0.353		0.0047	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDD	0.038	[J]	0.010	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDT	0.353	M,J	0.028	ng/g	30-JAN-17	10-FEB-17	R3649829
Methoxychlor	<0.012	[U]	0.012	ng/g	30-JAN-17	10-FEB-17	R3649829
Mirex	<0.0059	M,U	0.0059	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 26	<0.16	[U]	0.16	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 50	<0.095	[U]	0.095	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 62	<0.12	[U]	0.12	ng/g	30-JAN-17	10-FEB-17	R3649829
Surrogate: alpha-BHC, 13C6-	91.0		16-129	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: gamma-BHC-D6	89.0		11-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Heptachlor, 13C10-	63.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Oxychlordane, 13C10-	72.0		23-135	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: trans-Nonachlor, 13C10-	84.0		36-139	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Dieldrin, 13C12-	90.0		40-151	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endrin, 13C12-	75.0		35-155	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endosulfan II, 13C9-	71.0		15-148	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDE, 13C12-	80.0		47-160	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDT, 13C12-	32.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Methoxychlor-D6	19.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Mirex, 13C10-	20.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.680		0.054	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.160	M,J,R	0.034	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.120	J,R	0.044	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.250	J,R	0.043	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.316	[J]	0.043	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	3.56		0.061	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	18.7		0.062	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.329	M,J	0.055	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.130	M,J,B	0.053	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.327	M,J,B	0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.274	M,J,B	0.035	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.140	J,R	0.036	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.222	J,B	0.035	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	0.060	M,J	0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	1.20	[J]	0.030	pg/g	24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-11 16-N4-SS-CH-023							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8,9-HpCDF	0.063	M,J,R	0.044	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	1.42	M,J,B	0.023	pg/g	24-JAN-17	28-JAN-17	R3643488
Total-TCDD	4.17		0.054	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	9				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	4.67		0.034	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	6				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	4.11		0.044	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	7.33		0.061	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	6.08		0.055	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	12				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	3.17		0.053	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDF # Homologues	7				24-JAN-17	28-JAN-17	R3643488
Total-HxCDF	2.25		0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	7				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	1.31		0.044	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	69.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	59.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	67.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	80.0		28-130	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	66.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	63.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	66.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	61.0		24-185	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	59.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	64.0		26-152	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	75.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	69.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	65.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	64.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	61.0		26-138	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	60.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	0.956			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	1.17			pg/g	24-JAN-17	28-JAN-17	R3643488
Upper Bound PCDD/F TEQ (WHO 2005)	1.17			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-12 16-N4-NG-CH-025							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 17:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	71.0		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.0031	[U]	0.0031	ng/g	08-MAR-17	22-MAR-17	R3686449
beta-BHC	<0.0050	[U]	0.0050	ng/g	08-MAR-17	22-MAR-17	R3686449
delta-BHC	<0.0044	[U]	0.0044	ng/g	08-MAR-17	22-MAR-17	R3686449
gamma-BHC	<0.0041	[U]	0.0041	ng/g	08-MAR-17	22-MAR-17	R3686449
Heptachlor	0.00110	M,J,R	0.00057	ng/g	08-MAR-17	22-MAR-17	R3686449
Aldrin	<0.00078	[U]	0.00078	ng/g	08-MAR-17	22-MAR-17	R3686449
Heptachlor Epoxide	0.0045	M,J	0.0010	ng/g	08-MAR-17	22-MAR-17	R3686449

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-12 16-N4-NG-CH-025							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 17:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
trans-Chlordane	<0.0045	[U]	0.0045	ng/g	08-MAR-17	22-MAR-17	R3686449
cis-Chlordane	0.0073	M,J	0.0042	ng/g	08-MAR-17	22-MAR-17	R3686449
Dieldrin	0.0129	M,J	0.0029	ng/g	08-MAR-17	22-MAR-17	R3686449
Endrin	<0.0050	M,U	0.0050	ng/g	08-MAR-17	22-MAR-17	R3686449
Endrin Aldehyde	0.0046	M,J,R	0.0034	ng/g	08-MAR-17	22-MAR-17	R3686449
Endosulfan I	<0.011	[U]	0.011	ng/g	08-MAR-17	22-MAR-17	R3686449
Endosulfan II	<0.013	[U]	0.013	ng/g	08-MAR-17	22-MAR-17	R3686449
Endosulfan Sulfate	<0.0048	[U]	0.0048	ng/g	08-MAR-17	22-MAR-17	R3686449
4,4-DDE	0.0152	[J]	0.0069	ng/g	08-MAR-17	22-MAR-17	R3686449
4,4-DDD	<0.026	[U]	0.026	ng/g	08-MAR-17	22-MAR-17	R3686449
4,4-DDT	<0.079	[U]	0.079	ng/g	08-MAR-17	22-MAR-17	R3686449
Methoxychlor	<0.011	[U]	0.011	ng/g	08-MAR-17	22-MAR-17	R3686449
Mirex	0.0038	M,J,R	0.0010	ng/g	08-MAR-17	22-MAR-17	R3686449
Parlar 26	<0.039	[U]	0.039	ng/g	08-MAR-17	22-MAR-17	R3686449
Parlar 50	<0.026	[U]	0.026	ng/g	08-MAR-17	22-MAR-17	R3686449
Parlar 62	<0.037	[U]	0.037	ng/g	08-MAR-17	22-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	57.0		16-129	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: gamma-BHC-D6	55.0		11-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	56.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	51.0		23-135	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	59.0		36-139	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	60.0		40-151	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Endrin, 13C12-	50.0		35-155	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	39.0		15-148	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	54.0		47-160	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	20.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Methoxychlor-D6	12.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Mirex, 13C10-	20.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	29.0		5-150	%	08-MAR-17	22-MAR-17	R3686449
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.28	[U]	0.28	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.24	[U]	0.24	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.15	[U]	0.15	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.15	[U]	0.15	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.16	[U]	0.16	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	<0.25	[U]	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDD	1.60	M,J,R	0.33	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,7,8-TCDF	3.03	[M]	0.28	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.095	[U]	0.095	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.078	[U]	0.078	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.19	[U]	0.19	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.20	[U]	0.20	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.19	[U]	0.19	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.25	M,U	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	<0.22	M,U	0.22	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.34	[U]	0.34	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDF	<0.22	[U]	0.22	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total-TCDD	<0.28	[U]	0.28	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDD	<0.24	[U]	0.24	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-12 16-N4-NG-CH-025							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 17:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HxCDD	<0.16	[U]	0.16	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDD	<0.25	[U]	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-TCDF	3.03		0.28	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDF # Homologues	1				09-FEB-17	16-MAR-17	R3678009
Total-PeCDF	<0.095	[U]	0.095	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDF	<0.25	[U]	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDF	<0.34	[U]	0.34	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	84.0		25-164	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	143.0		25-181	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	79.0		32-141	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	84.0		23-140	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-OCDD	63.0		17-157	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	92.0		24-169	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	121.0		21-192	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	134.0		21-178	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	69.0		26-152	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	65.0		26-123	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	70.0		28-136	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	72.0		28-143	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	73.0		26-138	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	88.0		31-197	%	09-FEB-17	16-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.303			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.645			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.987			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
L1862212-13 16-N4-FC-CH-027							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	33.6		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
Chlorophenols as derivatives							
Pentachlorophenol	<1.2	[U]	1.2	ng/g		29-MAR-17	R3686824
Surrogate: 13C6-Pentachlorophenol	62.0		50-150	%		29-MAR-17	R3686824
OC Pesticides by Method 1699							
alpha-BHC	<0.017	[U]	0.017	ng/g	08-MAR-17	28-MAR-17	R3686449
beta-BHC	<0.026	[U]	0.026	ng/g	08-MAR-17	28-MAR-17	R3686449
delta-BHC	<0.029	[U]	0.029	ng/g	08-MAR-17	28-MAR-17	R3686449
gamma-BHC	<0.029	[U]	0.029	ng/g	08-MAR-17	28-MAR-17	R3686449
Heptachlor	<0.0054	[U]	0.0054	ng/g	08-MAR-17	28-MAR-17	R3686449
Aldrin	<0.0076	[U]	0.0076	ng/g	08-MAR-17	28-MAR-17	R3686449
Heptachlor Epoxide	<0.012	[U]	0.012	ng/g	08-MAR-17	28-MAR-17	R3686449
trans-Chlordane	<0.27	[U]	0.27	ng/g	08-MAR-17	28-MAR-17	R3686449
cis-Chlordane	<0.26	[U]	0.26	ng/g	08-MAR-17	28-MAR-17	R3686449
Dieldrin	<0.072	[U]	0.072	ng/g	08-MAR-17	28-MAR-17	R3686449

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-13 16-N4-FC-CH-027							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Endrin	<0.094	[U]	0.094	ng/g	08-MAR-17	28-MAR-17	R3686449
Endrin Aldehyde	<0.054	[U]	0.054	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan I	<0.12	[U]	0.12	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan II	<0.30	[U]	0.30	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan Sulfate	<0.043	[U]	0.043	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDE	<0.073	[U]	0.073	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDD	<0.11	[U]	0.11	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDT	<0.41	[U]	0.41	ng/g	08-MAR-17	28-MAR-17	R3686449
Methoxychlor	<0.085	[U]	0.085	ng/g	08-MAR-17	28-MAR-17	R3686449
Mirex	<0.010	[U]	0.010	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 26	<0.69	[U]	0.69	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 50	<0.82	[U]	0.82	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 62	<1.1	[U]	1.1	ng/g	08-MAR-17	28-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	42.0		16-129	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: gamma-BHC-D6	33.0		11-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	119.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	71.0		23-135	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	34.0	G	36-139	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	66.0		40-151	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Endrin, 13C12-	96.0		35-155	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	66.0		15-148	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	61.0		47-160	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	52.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Methoxychlor-D6	44.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Mirex, 13C10-	37.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	49.0		5-150	%	08-MAR-17	28-MAR-17	R3686449
Note: Sample has a low recovery for 13C10-Nonachlor. Natives are calculated via isotope dilution and are inherently recovery corrected							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.024	[U]	0.024	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.012	[U]	0.012	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.023	M,U	0.023	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.023	M,U	0.023	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.024	M,U	0.024	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	0.018	M,J,R	0.014	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDD	0.111	M,J	0.019	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,7,8-TCDF	<0.048	[U]	0.048	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.0088	[U]	0.0088	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.0075	[U]	0.0075	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.022	[U]	0.022	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.021	[U]	0.021	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.021	[U]	0.021	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.027	M,U	0.027	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	<0.016	[U]	0.016	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.022	[U]	0.022	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDF	0.028	M,J	0.013	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total-TCDD	<0.024	[U]	0.024	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDD	<0.012	[U]	0.012	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDD	<0.024	[U]	0.024	pg/g wwt	09-FEB-17	16-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-13 16-N4-FC-CH-027							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total HxCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDD	<0.014	[U]	0.014	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-TCDF	<0.048	[U]	0.048	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDF	<0.0088	[U]	0.0088	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDF	<0.027	[U]	0.027	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDF	<0.022	[U]	0.022	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	53.0		25-164	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	126.0		25-181	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	75.0		32-141	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	69.0		28-130	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	88.0		23-140	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-OCDD	58.0		17-157	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	41.0		24-169	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	115.0		21-192	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	121.0		21-178	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	61.0		26-152	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	58.0		26-123	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	64.0		29-147	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	73.0		28-143	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	61.0		31-197	%	09-FEB-17	16-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.0000418			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.0301			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.0600			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
L1862212-14 16-N5-SS-CH-029							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	19.9		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	0.040	[J]	0.010	ng/g	30-JAN-17	10-FEB-17	R3649829
beta-BHC	<0.017	[U]	0.017	ng/g	30-JAN-17	10-FEB-17	R3649829
delta-BHC	<0.014	[U]	0.014	ng/g	30-JAN-17	10-FEB-17	R3649829
gamma-BHC	0.109	[J]	0.013	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor	0.0042	M,J,R	0.0018	ng/g	30-JAN-17	10-FEB-17	R3649829
Aldrin	0.0100	J,R	0.0024	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor Epoxide	0.0179	[J]	0.0034	ng/g	30-JAN-17	10-FEB-17	R3649829
trans-Chlordane	0.051	[J]	0.012	ng/g	30-JAN-17	10-FEB-17	R3649829
cis-Chlordane	0.051	M,J	0.011	ng/g	30-JAN-17	10-FEB-17	R3649829
Dieldrin	0.0549	M,J	0.0088	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin	<0.013	M,U	0.013	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin Aldehyde	<0.0072	[U]	0.0072	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan I	<0.016	[U]	0.016	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan II	<0.037	[U]	0.037	ng/g	30-JAN-17	10-FEB-17	R3649829

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-14 16-N5-SS-CH-029							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Soil							
OC Pesticides by Method 1699							
Endosulfan Sulfate	<0.0099	[U]	0.0099	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDE	0.555		0.0053	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDD	0.122	[J]	0.0097	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDT	1.07		0.057	ng/g	30-JAN-17	10-FEB-17	R3649829
Methoxychlor	<0.016	[U]	0.016	ng/g	30-JAN-17	10-FEB-17	R3649829
Mirex	0.0087	M,J,R	0.0027	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 26	<0.13	[U]	0.13	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 50	<0.066	[U]	0.066	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 62	<0.083	[U]	0.083	ng/g	30-JAN-17	10-FEB-17	R3649829
Surrogate: alpha-BHC, 13C6-	86.0		16-129	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: gamma-BHC-D6	83.0		11-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Heptachlor, 13C10-	70.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Oxychlordane, 13C10-	67.0		23-135	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: trans-Nonachlor, 13C10-	82.0		36-139	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Dieldrin, 13C12-	85.0		40-151	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endrin, 13C12-	74.0		35-155	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endosulfan II, 13C9-	62.0		15-148	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDE, 13C12-	94.0		47-160	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDT, 13C12-	26.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Methoxychlor-D6	13.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Mirex, 13C10-	26.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.229	[J]	0.078	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.188	M,J,B	0.037	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.110	J,R	0.066	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.508	[J]	0.063	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.426	M,J	0.065	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	11.0		0.14	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	98.2		0.13	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.269	M,J	0.080	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.206	J,B	0.055	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.354	J,B	0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.959	J,B	0.066	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.445	[J]	0.060	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.545	J,B	0.061	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	0.110	M,J,R	0.083	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	8.98		0.048	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8,9-HpCDF	0.368	[J]	0.069	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	17.4		0.073	pg/g	24-JAN-17	28-JAN-17	R3643488
Total-TCDD	2.78		0.078	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	7				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	3.39		0.037	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	7				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	3.03		0.066	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	3				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	23.6		0.14	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	4.61		0.080	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	13				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	4.19		0.055	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDF # Homologues	8				24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-14 16-N5-SS-CH-029							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total-HxCDF	5.83		0.083	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	7				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	14.2		0.069	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	63.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	56.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	59.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	57.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	57.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	59.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	56.0		24-185	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	54.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	57.0		26-152	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	61.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	59.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	55.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	54.0		26-138	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	54.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	1.08			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	1.10			pg/g	24-JAN-17	28-JAN-17	R3643488
Upper Bound PCDD/F TEQ (WHO 2005)	1.10			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-15 16-N5-SD-CH-031							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 10:00							
Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	58.2		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.027	[U]	0.027	ng/g	30-JAN-17	10-FEB-17	R3649829
beta-BHC	<0.045	[U]	0.045	ng/g	30-JAN-17	10-FEB-17	R3649829
delta-BHC	<0.035	[U]	0.035	ng/g	30-JAN-17	10-FEB-17	R3649829
gamma-BHC	0.063	M,J	0.033	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor	<0.0060	[U]	0.0060	ng/g	30-JAN-17	10-FEB-17	R3649829
Aldrin	<0.0048	[U]	0.0048	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor Epoxide	<0.0093	[U]	0.0093	ng/g	30-JAN-17	10-FEB-17	R3649829
trans-Chlordane	0.076	M,J,R	0.041	ng/g	30-JAN-17	10-FEB-17	R3649829
cis-Chlordane	0.082	M,J,R	0.039	ng/g	30-JAN-17	10-FEB-17	R3649829
Dieldrin	0.025	M,J,R	0.010	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin	0.033	M,J,R	0.020	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin Aldehyde	<0.020	[U]	0.020	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan I	<0.034	[U]	0.034	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan II	<0.087	[U]	0.087	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan Sulfate	<0.0097	[U]	0.0097	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDE	0.493		0.015	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDD	0.591		0.020	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDT	<0.11	[U]	0.11	ng/g	30-JAN-17	10-FEB-17	R3649829
Methoxychlor	<0.035	[U]	0.035	ng/g	30-JAN-17	10-FEB-17	R3649829
Mirex	0.029	M,J,R	0.016	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 26	<0.58	[U]	0.58	ng/g	30-JAN-17	10-FEB-17	R3649829

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-15 16-N5-SD-CH-031							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 10:00							
Matrix: Sediment							
OC Pesticides by Method 1699							
Parlar 50	<0.48	[U]	0.48	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 62	<0.60	[U]	0.60	ng/g	30-JAN-17	10-FEB-17	R3649829
Surrogate: alpha-BHC, 13C6-	91.0		16-129	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: gamma-BHC-D6	88.0		11-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Heptachlor, 13C10-	49.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Oxychlordane, 13C10-	55.0		23-135	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: trans-Nonachlor, 13C10-	66.0		36-139	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Dieldrin, 13C12-	83.0		40-151	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endrin, 13C12-	55.0		35-155	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endosulfan II, 13C9-	53.0		15-148	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDE, 13C12-	64.0		47-160	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDT, 13C12-	15.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Methoxychlor-D6	8.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Mirex, 13C10-	9.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
L1862212-16 16-N5-NG-CH-035							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	68.5		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	0.0220	M,J,R	0.0098	ng/g	08-MAR-17	22-MAR-17	R3686449
beta-BHC	<0.016	[U]	0.016	ng/g	08-MAR-17	22-MAR-17	R3686449
delta-BHC	<0.014	[U]	0.014	ng/g	08-MAR-17	22-MAR-17	R3686449
gamma-BHC	0.020	M,J	0.013	ng/g	08-MAR-17	22-MAR-17	R3686449
Heptachlor	0.0069	M,J,R	0.0020	ng/g	08-MAR-17	22-MAR-17	R3686449
Aldrin	<0.0025	[U]	0.0025	ng/g	08-MAR-17	22-MAR-17	R3686449
Heptachlor Epoxide	0.0259	M,J	0.0044	ng/g	08-MAR-17	22-MAR-17	R3686449
trans-Chlordane	<0.026	[U]	0.026	ng/g	08-MAR-17	22-MAR-17	R3686449
cis-Chlordane	0.032	M,J,R	0.024	ng/g	08-MAR-17	22-MAR-17	R3686449
Dieldrin	0.095	[J]	0.018	ng/g	08-MAR-17	22-MAR-17	R3686449
Endrin	<0.027	M,U	0.027	ng/g	08-MAR-17	22-MAR-17	R3686449
Endrin Aldehyde	<0.011	[U]	0.011	ng/g	08-MAR-17	22-MAR-17	R3686449
Endosulfan I	<0.023	[U]	0.023	ng/g	08-MAR-17	22-MAR-17	R3686449
Endosulfan II	0.055	M,J,R	0.030	ng/g	08-MAR-17	22-MAR-17	R3686449
Endosulfan Sulfate	0.0403	M,J	0.0087	ng/g	08-MAR-17	22-MAR-17	R3686449
4,4-DDE	0.167	M,J	0.016	ng/g	08-MAR-17	22-MAR-17	R3686449
4,4-DDD	<0.027	[U]	0.027	ng/g	08-MAR-17	22-MAR-17	R3686449
4,4-DDT	<0.091	[U]	0.091	ng/g	08-MAR-17	22-MAR-17	R3686449
Methoxychlor	<0.014	[U]	0.014	ng/g	08-MAR-17	22-MAR-17	R3686449
Mirex	0.0064	M,J,R	0.0019	ng/g	08-MAR-17	22-MAR-17	R3686449
Parlar 26	<0.053	[U]	0.053	ng/g	08-MAR-17	22-MAR-17	R3686449
Parlar 50	<0.052	[U]	0.052	ng/g	08-MAR-17	22-MAR-17	R3686449
Parlar 62	<0.076	[U]	0.076	ng/g	08-MAR-17	22-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	73.0		16-129	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: gamma-BHC-D6	71.0		11-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	70.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	68.0		23-135	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	79.0		36-139	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	77.0		40-151	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Endrin, 13C12-	74.0		35-155	%	08-MAR-17	22-MAR-17	R3686449

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-16 16-N5-NG-CH-035							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: Endosulfan II, 13C9-	69.0		15-148	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	81.0		47-160	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	50.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Methoxychlor-D6	40.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: Mirex, 13C10-	56.0		5-120	%	08-MAR-17	22-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	67.0		5-150	%	08-MAR-17	22-MAR-17	R3686449
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.22	[U]	0.22	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.13	[U]	0.13	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.11	[U]	0.11	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	0.17	M,J,R	0.11	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.11	M,U	0.11	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	1.35	M,J	0.18	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDD	8.61	[J]	0.19	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,7,8-TCDF	0.62	M,J,R	0.17	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.12	[U]	0.12	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.093	[U]	0.093	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.16	[U]	0.16	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.16	[U]	0.16	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.14	M,U	0.14	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.19	[U]	0.19	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	0.41	M,J,R	0.11	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.15	[U]	0.15	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDF	1.03	[J]	0.080	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total-TCDD	<0.22	[U]	0.22	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDD	<0.13	[U]	0.13	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDD	1.17		0.11	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDD # Homologues	2				09-FEB-17	16-MAR-17	R3678009
Total-HpCDD	2.77		0.18	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDD # Homologues	2				09-FEB-17	16-MAR-17	R3678009
Total-TCDF	<0.17	[U]	0.17	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDF	<0.12	[U]	0.12	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDF	<0.19	[U]	0.19	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDF	<0.15	[U]	0.15	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	136.0		25-181	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	75.0		32-141	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	66.0		28-130	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	89.0		23-140	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-OCDD	73.0		17-157	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	84.0		24-169	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	123.0		21-192	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	136.0		21-178	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	62.0		26-152	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	57.0		26-123	%	09-FEB-17	16-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-16 16-N5-NG-CH-035							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	75.0		29-147	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	65.0		28-136	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	73.0		28-143	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	81.0		26-138	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	88.0		31-197	%	09-FEB-17	16-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.0164			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.334			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.569			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
L1862212-17 16-E1-SS-CH-037							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 14:45							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	12.6		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	30-JAN-17	10-FEB-17	R3649829
beta-BHC	<0.018	[U]	0.018	ng/g	30-JAN-17	10-FEB-17	R3649829
delta-BHC	<0.016	[U]	0.016	ng/g	30-JAN-17	10-FEB-17	R3649829
gamma-BHC	<0.015	[U]	0.015	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor	<0.0022	[U]	0.0022	ng/g	30-JAN-17	10-FEB-17	R3649829
Aldrin	<0.0032	[U]	0.0032	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor Epoxide	0.0123	M,J	0.0040	ng/g	30-JAN-17	10-FEB-17	R3649829
trans-Chlordane	<0.010	[U]	0.010	ng/g	30-JAN-17	10-FEB-17	R3649829
cis-Chlordane	<0.0095	M,U	0.0095	ng/g	30-JAN-17	10-FEB-17	R3649829
Dieldrin	0.0190	M,J	0.0054	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin	<0.0090	[U]	0.0090	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin Aldehyde	<0.0050	[U]	0.0050	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan I	<0.014	[U]	0.014	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan II	<0.031	[U]	0.031	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan Sulfate	<0.0082	[U]	0.0082	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDE	0.215		0.0051	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDD	<0.015	[U]	0.015	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDT	0.256	M,J	0.038	ng/g	30-JAN-17	10-FEB-17	R3649829
Methoxychlor	<0.011	[U]	0.011	ng/g	30-JAN-17	10-FEB-17	R3649829
Mirex	0.0032	M,J,R	0.0028	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 26	<0.14	[U]	0.14	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 50	<0.10	[U]	0.10	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 62	<0.13	[U]	0.13	ng/g	30-JAN-17	10-FEB-17	R3649829
Surrogate: alpha-BHC, 13C6-	92.0		16-129	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: gamma-BHC-D6	89.0		11-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Heptachlor, 13C10-	62.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Oxychlordane, 13C10-	70.0		23-135	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: trans-Nonachlor, 13C10-	94.0		36-139	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Dieldrin, 13C12-	92.0		40-151	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endrin, 13C12-	70.0		35-155	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endosulfan II, 13C9-	64.0		15-148	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDE, 13C12-	96.0		47-160	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDT, 13C12-	24.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Methoxychlor-D6	12.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Mirex, 13C10-	25.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Dioxins and Furans HR 1613B							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-17 16-E1-SS-CH-037							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 14:45							
Matrix: Soil							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.151	M,J	0.066	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.068	M,J,R	0.040	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.145	M,J,B	0.094	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.250	M,J,R	0.090	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.328	M,J	0.092	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	4.85		0.084	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	35.0		0.14	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.39	M,J	0.13	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.19	J,B	0.12	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.32	J,B	0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.484	M,J,B	0.089	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	<0.086	M,U	0.086	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.310	M,J,R	0.085	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	<0.13	[U]	0.13	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	2.89		0.038	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8,9-HpCDF	0.120	J,R	0.057	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	3.22	[J]	0.059	pg/g	24-JAN-17	28-JAN-17	R3643488
Total-TCDD	0.816		0.066	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	1.48		0.040	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	3.04		0.094	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	10.2		0.084	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	3.59		0.13	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	9				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	2.70		0.12	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDF # Homologues	8				24-JAN-17	28-JAN-17	R3643488
Total-HxCDF	2.32		0.13	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	3.98		0.057	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	3				24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	57.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	51.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	54.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	61.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	59.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	55.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	53.0		24-185	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	51.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	55.0		26-152	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	70.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	64.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	57.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	58.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	55.0		26-138	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	53.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	0.474			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	0.610			pg/g	24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-17 16-E1-SS-CH-037							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 14:45							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Upper Bound PCDD/F TEQ (WHO 2005)	0.621			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-18 16-E1-NG-CH-039							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	65.6		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	0.028	J,R	0.025	ng/g	08-MAR-17	23-MAR-17	R3686449
beta-BHC	<0.040	[U]	0.040	ng/g	08-MAR-17	23-MAR-17	R3686449
delta-BHC	<0.034	[U]	0.034	ng/g	08-MAR-17	23-MAR-17	R3686449
gamma-BHC	<0.032	M,U	0.032	ng/g	08-MAR-17	23-MAR-17	R3686449
Heptachlor	0.0059	M,J,R	0.0054	ng/g	08-MAR-17	23-MAR-17	R3686449
Aldrin	<0.0051	[U]	0.0051	ng/g	08-MAR-17	23-MAR-17	R3686449
Heptachlor Epoxide	0.0636	[J]	0.0085	ng/g	08-MAR-17	23-MAR-17	R3686449
trans-Chlordane	0.093	M,J	0.037	ng/g	08-MAR-17	23-MAR-17	R3686449
cis-Chlordane	0.139	M,J	0.035	ng/g	08-MAR-17	23-MAR-17	R3686449
Dieldrin	0.277	[J]	0.063	ng/g	08-MAR-17	23-MAR-17	R3686449
Endrin	<0.10	M,U	0.10	ng/g	08-MAR-17	23-MAR-17	R3686449
Endrin Aldehyde	<0.033	[U]	0.033	ng/g	08-MAR-17	23-MAR-17	R3686449
Endosulfan I	<0.064	[U]	0.064	ng/g	08-MAR-17	23-MAR-17	R3686449
Endosulfan II	<0.12	[U]	0.12	ng/g	08-MAR-17	23-MAR-17	R3686449
Endosulfan Sulfate	0.110	M,J	0.053	ng/g	08-MAR-17	23-MAR-17	R3686449
4,4-DDE	0.335	M,J	0.069	ng/g	08-MAR-17	23-MAR-17	R3686449
4,4-DDD	<0.21	[U]	0.21	ng/g	08-MAR-17	23-MAR-17	R3686449
4,4-DDT	<0.53	[U]	0.53	ng/g	08-MAR-17	23-MAR-17	R3686449
Methoxychlor	<0.10	[U]	0.10	ng/g	08-MAR-17	23-MAR-17	R3686449
Mirex	0.032	M,J,R	0.011	ng/g	08-MAR-17	23-MAR-17	R3686449
Parlar 26	<0.25	[U]	0.25	ng/g	08-MAR-17	23-MAR-17	R3686449
Parlar 50	<0.20	[U]	0.20	ng/g	08-MAR-17	23-MAR-17	R3686449
Parlar 62	<0.29	[U]	0.29	ng/g	08-MAR-17	23-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	68.0		16-129	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: gamma-BHC-D6	67.0		11-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	66.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	63.0		23-135	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	76.0		36-139	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	73.0		40-151	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Endrin, 13C12-	64.0		35-155	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	51.0		15-148	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	68.0		47-160	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	28.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Methoxychlor-D6	18.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Mirex, 13C10-	26.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	39.0		5-150	%	08-MAR-17	23-MAR-17	R3686449
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.35	[U]	0.35	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.25	[U]	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.33	[U]	0.33	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.35	[U]	0.35	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.35	[U]	0.35	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	0.58	M,J,R	0.31	pg/g wwt	09-FEB-17	16-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-18 16-E1-NG-CH-039							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
OCDD	3.40	M,J,R	0.31	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,7,8-TCDF	1.46	M,J	0.58	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.24	[U]	0.24	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.20	[U]	0.20	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.27	[U]	0.27	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.29	[U]	0.29	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.27	[U]	0.27	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.37	[U]	0.37	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	0.33	M,J,R	0.22	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.32	[U]	0.32	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDF	0.49	M,J	0.22	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total-TCDD	<0.35	[U]	0.35	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDD	<0.25	[U]	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDD	<0.35	[U]	0.35	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDD	1.53		0.31	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDD # Homologues	1				09-FEB-17	16-MAR-17	R3678009
Total-TCDF	1.46		0.58	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDF # Homologues	1				09-FEB-17	16-MAR-17	R3678009
Total-PeCDF	<0.24	[U]	0.24	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDF	<0.37	[U]	0.37	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDF	<0.32	[U]	0.32	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	137.0		25-181	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	80.0		32-141	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	95.0		23-140	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-OCDD	76.0		17-157	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	118.0		21-192	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	135.0		21-178	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	71.0		26-152	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	63.0		26-123	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	77.0		29-147	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	71.0		28-136	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	78.0		28-143	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	84.0		26-138	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		31-197	%	09-FEB-17	16-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.146			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.603			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	1.05			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
L1862212-19 16-E1-FC-CH-041							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 14:45							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	22.2		0.10	%	06-JAN-17	10-JAN-17	R3630957

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-19 16-E1-FC-CH-041							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 14:45							
Matrix: Plant Tissue							
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
Chlorophenols as derivatives							
Pentachlorophenol	<0.87	[U]	0.87	ng/g		29-MAR-17	R3686824
Surrogate: 13C6-Pentachlorophenol	76.0		50-150	%		29-MAR-17	R3686824
OC Pesticides by Method 1699							
alpha-BHC	<0.0058	[U]	0.0058	ng/g	08-MAR-17	28-MAR-17	R3686449
beta-BHC	<0.0091	[U]	0.0091	ng/g	08-MAR-17	28-MAR-17	R3686449
delta-BHC	<0.011	[U]	0.011	ng/g	08-MAR-17	28-MAR-17	R3686449
gamma-BHC	<0.011	[U]	0.011	ng/g	08-MAR-17	28-MAR-17	R3686449
Heptachlor	<0.0016	[U]	0.0016	ng/g	08-MAR-17	28-MAR-17	R3686449
Aldrin	<0.0026	[U]	0.0026	ng/g	08-MAR-17	28-MAR-17	R3686449
Heptachlor Epoxide	<0.0039	[U]	0.0039	ng/g	08-MAR-17	28-MAR-17	R3686449
trans-Chlordane	<0.031	[U]	0.031	ng/g	08-MAR-17	28-MAR-17	R3686449
cis-Chlordane	<0.030	[U]	0.030	ng/g	08-MAR-17	28-MAR-17	R3686449
Dieldrin	<0.021	[U]	0.021	ng/g	08-MAR-17	28-MAR-17	R3686449
Endrin	<0.033	[U]	0.033	ng/g	08-MAR-17	28-MAR-17	R3686449
Endrin Aldehyde	<0.016	[U]	0.016	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan I	<0.051	[U]	0.051	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan II	<0.10	[U]	0.10	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan Sulfate	<0.022	[U]	0.022	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDE	<0.028	[U]	0.028	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDD	<0.083	[U]	0.083	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDT	<0.28	[U]	0.28	ng/g	08-MAR-17	28-MAR-17	R3686449
Methoxychlor	<0.024	[U]	0.024	ng/g	08-MAR-17	28-MAR-17	R3686449
Mirex	<0.0061	[U]	0.0061	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 26	<0.30	[U]	0.30	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 50	<0.27	[U]	0.27	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 62	<0.38	[U]	0.38	ng/g	08-MAR-17	28-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	48.0		16-129	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: gamma-BHC-D6	37.0		11-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	97.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	60.0		23-135	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	79.0		36-139	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	70.0		40-151	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Endrin, 13C12-	77.0		35-155	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	56.0		15-148	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	60.0		47-160	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	38.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Methoxychlor-D6	30.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Mirex, 13C10-	32.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	38.0		5-150	%	08-MAR-17	28-MAR-17	R3686449
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.030	[U]	0.030	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.018	[U]	0.018	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.011	[U]	0.011	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.012	[U]	0.012	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.012	[U]	0.012	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	<0.024	M,U	0.024	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDD	0.038	M,J	0.024	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,7,8-TCDF	0.124	M,J	0.032	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.014	[U]	0.014	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.012	[U]	0.012	pg/g wwt	09-FEB-17	16-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-19 16-E1-FC-CH-041							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 14:45							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8-HxCDF	<0.028	[U]	0.028	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.028	[U]	0.028	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.026	[U]	0.026	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.034	[U]	0.034	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	<0.020	[U]	0.020	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.030	[U]	0.030	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDF	<0.017	[U]	0.017	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total-TCDD	<0.030	[U]	0.030	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDD	<0.018	[U]	0.018	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDD	<0.012	[U]	0.012	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDD	<0.024	[U]	0.024	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-TCDF	0.124		0.032	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDF # Homologues	1				09-FEB-17	16-MAR-17	R3678009
Total-PeCDF	<0.014	[U]	0.014	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDF	<0.034	[U]	0.034	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDF	<0.030	[U]	0.030	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	75.0		25-164	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	129.0		25-181	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	77.0		32-141	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	71.0		28-130	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	95.0		23-140	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-OCDD	60.0		17-157	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	80.0		24-169	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	119.0		21-192	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	127.0		21-178	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	59.0		26-152	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	60.0		26-123	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	68.0		28-136	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	81.0		28-143	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	82.0		26-138	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	78.0		31-197	%	09-FEB-17	16-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.0124			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.0463			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.0803			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
L1862212-20 16-E2-SS-CH-043							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 13:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	19.8		0.10	%	06-JAN-17	10-JAN-17	R3630957
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	30-JAN-17	10-FEB-17	R3649829
beta-BHC	<0.019	[U]	0.019	ng/g	30-JAN-17	10-FEB-17	R3649829

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-20 16-E2-SS-CH-043							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 13:30							
Matrix: Soil							
OC Pesticides by Method 1699							
delta-BHC	<0.014	[U]	0.014	ng/g	30-JAN-17	10-FEB-17	R3649829
gamma-BHC	<0.013	[U]	0.013	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor	<0.0020	[U]	0.0020	ng/g	30-JAN-17	10-FEB-17	R3649829
Aldrin	<0.0019	[U]	0.0019	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor Epoxide	0.0140	J,R	0.0034	ng/g	30-JAN-17	10-FEB-17	R3649829
trans-Chlordane	0.017	M,J	0.010	ng/g	30-JAN-17	10-FEB-17	R3649829
cis-Chlordane	0.0100	M,J,R	0.0099	ng/g	30-JAN-17	10-FEB-17	R3649829
Dieldrin	0.0294	M,J	0.0072	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin	<0.013	[U]	0.013	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin Aldehyde	<0.0093	[U]	0.0093	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan I	<0.022	[U]	0.022	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan II	<0.039	[U]	0.039	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan Sulfate	<0.0035	[U]	0.0035	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDE	0.221		0.0045	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDD	0.0098	M,J	0.0090	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDT	0.150	M,J,R	0.044	ng/g	30-JAN-17	10-FEB-17	R3649829
Methoxychlor	<0.015	[U]	0.015	ng/g	30-JAN-17	10-FEB-17	R3649829
Mirex	0.0042	M,J,R	0.0022	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 26	<0.087	[U]	0.087	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 50	<0.070	[U]	0.070	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 62	<0.087	[U]	0.087	ng/g	30-JAN-17	10-FEB-17	R3649829
Surrogate: alpha-BHC, 13C6-	88.0		16-129	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: gamma-BHC-D6	88.0		11-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Heptachlor, 13C10-	65.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Oxychlordane, 13C10-	69.0		23-135	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: trans-Nonachlor, 13C10-	93.0		36-139	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Dieldrin, 13C12-	90.0		40-151	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endrin, 13C12-	71.0		35-155	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endosulfan II, 13C9-	63.0		15-148	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDE, 13C12-	98.0		47-160	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDT, 13C12-	24.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Methoxychlor-D6	13.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Mirex, 13C10-	28.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.389	M,J	0.051	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.190	M,J,R	0.036	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.160	M,J,R	0.061	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.343	M,J	0.057	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.417	M,J	0.059	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	5.50		0.086	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	29.1		0.068	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.408	M,J	0.065	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.182	J,B	0.052	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.325	J,B	0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.282	J,B	0.064	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.120	J,R	0.064	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.289	J,B	0.060	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	<0.082	[U]	0.082	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	1.35	[J]	0.030	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8,9-HpCDF	0.130	J,R	0.042	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	1.41	J,B	0.043	pg/g	24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-20 16-E2-SS-CH-043							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 13:30							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total-TCDD	3.19		0.051	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	11				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	3.39		0.036	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	4.58		0.061	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	10.6		0.086	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	4.21		0.065	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	11				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	4.20		0.052	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDF # Homologues	9				24-JAN-17	28-JAN-17	R3643488
Total-HxCDF	2.16		0.082	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	1.94		0.042	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	65.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	53.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	61.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	62.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	62.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	62.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	56.0		24-185	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	53.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	58.0		26-152	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	70.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	64.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	62.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	60.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	60.0		26-138	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	59.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	0.744			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	0.967			pg/g	24-JAN-17	28-JAN-17	R3643488
Upper Bound PCDD/F TEQ (WHO 2005)	0.971			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-21 16-E2-SD-CH-045							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 14:30							
Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	32.1		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.014	[U]	0.014	ng/g	30-JAN-17	10-FEB-17	R3649829
beta-BHC	<0.024	[U]	0.024	ng/g	30-JAN-17	10-FEB-17	R3649829
delta-BHC	<0.019	[U]	0.019	ng/g	30-JAN-17	10-FEB-17	R3649829
gamma-BHC	<0.018	[U]	0.018	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor	<0.0027	[U]	0.0027	ng/g	30-JAN-17	10-FEB-17	R3649829
Aldrin	<0.0037	[U]	0.0037	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor Epoxide	<0.0046	[U]	0.0046	ng/g	30-JAN-17	10-FEB-17	R3649829
trans-Chlordane	<0.024	[U]	0.024	ng/g	30-JAN-17	10-FEB-17	R3649829
cis-Chlordane	<0.023	[U]	0.023	ng/g	30-JAN-17	10-FEB-17	R3649829

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-21 16-E2-SD-CH-045							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 14:30							
Matrix: Sediment							
OC Pesticides by Method 1699							
Dieldrin	<0.0099	M,U	0.0099	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin	<0.022	M,U	0.022	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin Aldehyde	<0.014	[U]	0.014	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan I	<0.026	[U]	0.026	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan II	<0.050	[U]	0.050	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan Sulfate	<0.011	[U]	0.011	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDE	0.0575	[J]	0.0056	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDD	0.020	J,R	0.011	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDT	<0.089	[U]	0.089	ng/g	30-JAN-17	10-FEB-17	R3649829
Methoxychlor	<0.051	[U]	0.051	ng/g	30-JAN-17	10-FEB-17	R3649829
Mirex	0.0040	M,J,R	0.0039	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 26	<0.25	[U]	0.25	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 50	<0.12	[U]	0.12	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 62	<0.15	[U]	0.15	ng/g	30-JAN-17	10-FEB-17	R3649829
Surrogate: alpha-BHC, 13C6-	90.0		16-129	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: gamma-BHC-D6	86.0		11-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Heptachlor, 13C10-	58.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Oxychlordane, 13C10-	60.0		23-135	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: trans-Nonachlor, 13C10-	74.0		36-139	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Dieldrin, 13C12-	83.0		40-151	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endrin, 13C12-	49.0		35-155	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endosulfan II, 13C9-	48.0		15-148	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDE, 13C12-	93.0		47-160	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDT, 13C12-	13.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Methoxychlor-D6	6.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Mirex, 13C10-	17.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
L1862212-22 16-E2-NG-CH-049							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 12:45							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	79.7		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.028	[U]	0.028	ng/g	23-MAR-17	28-MAR-17	R3686747
beta-BHC	<0.047	[U]	0.047	ng/g	23-MAR-17	28-MAR-17	R3686747
delta-BHC	<0.041	[U]	0.041	ng/g	23-MAR-17	28-MAR-17	R3686747
gamma-BHC	<0.039	[U]	0.039	ng/g	23-MAR-17	28-MAR-17	R3686747
Heptachlor	<0.0068	M,U	0.0068	ng/g	23-MAR-17	28-MAR-17	R3686747
Aldrin	<0.0073	[U]	0.0073	ng/g	23-MAR-17	28-MAR-17	R3686747
Heptachlor Epoxide	<0.015	[U]	0.015	ng/g	23-MAR-17	28-MAR-17	R3686747
trans-Chlordane	<0.083	[U]	0.083	ng/g	23-MAR-17	28-MAR-17	R3686747
cis-Chlordane	<0.081	[U]	0.081	ng/g	23-MAR-17	28-MAR-17	R3686747
Dieldrin	<0.072	[U]	0.072	ng/g	23-MAR-17	28-MAR-17	R3686747
Endrin	<0.15	[U]	0.15	ng/g	23-MAR-17	28-MAR-17	R3686747
Endrin Aldehyde	0.37	M,J	0.10	ng/g	23-MAR-17	28-MAR-17	R3686747
Endosulfan I	<0.24	[U]	0.24	ng/g	23-MAR-17	28-MAR-17	R3686747
Endosulfan II	<0.63	[U]	0.63	ng/g	23-MAR-17	28-MAR-17	R3686747
Endosulfan Sulfate	<0.072	[U]	0.072	ng/g	23-MAR-17	28-MAR-17	R3686747
4,4-DDE	<0.086	[U]	0.086	ng/g	23-MAR-17	28-MAR-17	R3686747
4,4-DDD	<0.34	[U]	0.34	ng/g	23-MAR-17	28-MAR-17	R3686747
4,4-DDT	<0.76	[U]	0.76	ng/g	23-MAR-17	28-MAR-17	R3686747

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-22 16-E2-NG-CH-049							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 12:45							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Methoxychlor	<0.13	[U]	0.13	ng/g	23-MAR-17	28-MAR-17	R3686747
Mirex	<0.024	M,U	0.024	ng/g	23-MAR-17	28-MAR-17	R3686747
Parlar 26	<1.4	[U]	1.4	ng/g	23-MAR-17	28-MAR-17	R3686747
Parlar 50	<1.1	[U]	1.1	ng/g	23-MAR-17	28-MAR-17	R3686747
Parlar 62	<1.5	[U]	1.5	ng/g	23-MAR-17	28-MAR-17	R3686747
Surrogate: alpha-BHC, 13C6-	39.0		16-129	%	23-MAR-17	28-MAR-17	R3686747
Surrogate: gamma-BHC-D6	36.0		11-120	%	23-MAR-17	28-MAR-17	R3686747
Surrogate: Heptachlor, 13C10-	49.0		5-120	%	23-MAR-17	28-MAR-17	R3686747
Surrogate: Oxychlordane, 13C10-	33.0		23-135	%	23-MAR-17	28-MAR-17	R3686747
Surrogate: trans-Nonachlor, 13C10-	46.0		36-139	%	23-MAR-17	28-MAR-17	R3686747
Surrogate: Dieldrin, 13C12-	45.0		40-151	%	23-MAR-17	28-MAR-17	R3686747
Surrogate: Endrin, 13C12-	38.0		35-155	%	23-MAR-17	28-MAR-17	R3686747
Surrogate: Endosulfan II, 13C9-	21.0		15-148	%	23-MAR-17	28-MAR-17	R3686747
Surrogate: 4,4'-DDE, 13C12-	35.0	G	47-160	%	23-MAR-17	28-MAR-17	R3686747
Surrogate: 4,4'-DDT, 13C12-	12.0		5-120	%	23-MAR-17	28-MAR-17	R3686747
Surrogate: Methoxychlor-D6	7.0		5-120	%	23-MAR-17	28-MAR-17	R3686747
Surrogate: Mirex, 13C10-	10.0		5-120	%	23-MAR-17	28-MAR-17	R3686747
Surrogate: 4,4'-DDD, 13C12-	16.0		5-150	%	23-MAR-17	28-MAR-17	R3686747
Note: Sample has a low recovery for 13C12-44'-DDE. Natives are calculated via isotope dilution and are inherently recovery corrected.							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.26	[U]	0.26	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.11	[U]	0.11	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.15	[U]	0.15	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.15	[U]	0.15	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.16	[U]	0.16	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	0.56	M,J	0.20	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDD	1.33	M,J	0.45	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,7,8-TCDF	1.50	M,J,R	0.37	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.18	[U]	0.18	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.15	[U]	0.15	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.22	[U]	0.22	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.23	[U]	0.23	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.19	[U]	0.19	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.25	[U]	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	0.25	M,J	0.14	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.18	[U]	0.18	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDF	<0.22	[U]	0.22	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total-TCDD	<0.26	[U]	0.26	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDD	<0.11	[U]	0.11	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDD	<0.16	[U]	0.16	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDD	0.56		0.20	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDD # Homologues	1				09-FEB-17	16-MAR-17	R3678009
Total-TCDF	<0.37	[U]	0.37	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDF	<0.18	[U]	0.18	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDF	<0.25	[U]	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-22 16-E2-NG-CH-049							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 12:45							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total HxCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDF	0.25		0.18	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDF # Homologues	1				09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	65.0		25-164	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	141.0		25-181	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	77.0		32-141	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	69.0		28-130	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	77.0		23-140	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-OCDD	40.0		17-157	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	126.0		21-192	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	146.0		21-178	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	59.0		26-152	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	56.0		26-123	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	59.0		28-143	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	70.0		26-138	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	74.0		31-197	%	09-FEB-17	16-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.00847			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.437			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.716			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
L1862212-23 16-E5-SS-CH-053							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 15:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	17.5		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	30-JAN-17	10-FEB-17	R3649829
beta-BHC	<0.019	[U]	0.019	ng/g	30-JAN-17	10-FEB-17	R3649829
delta-BHC	<0.016	[U]	0.016	ng/g	30-JAN-17	10-FEB-17	R3649829
gamma-BHC	<0.015	[U]	0.015	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor	<0.0023	[U]	0.0023	ng/g	30-JAN-17	10-FEB-17	R3649829
Aldrin	<0.0024	[U]	0.0024	ng/g	30-JAN-17	10-FEB-17	R3649829
Heptachlor Epoxide	0.0114	M,J	0.0044	ng/g	30-JAN-17	10-FEB-17	R3649829
trans-Chlordane	<0.013	[U]	0.013	ng/g	30-JAN-17	10-FEB-17	R3649829
cis-Chlordane	<0.012	[U]	0.012	ng/g	30-JAN-17	10-FEB-17	R3649829
Dieldrin	0.0228	M,J	0.0075	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin	<0.014	[U]	0.014	ng/g	30-JAN-17	10-FEB-17	R3649829
Endrin Aldehyde	<0.0077	[U]	0.0077	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan I	<0.017	[U]	0.017	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan II	<0.025	[U]	0.025	ng/g	30-JAN-17	10-FEB-17	R3649829
Endosulfan Sulfate	<0.0061	[U]	0.0061	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDE	0.106	[J]	0.0044	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDD	<0.013	[U]	0.013	ng/g	30-JAN-17	10-FEB-17	R3649829
4,4-DDT	0.121	M,J	0.042	ng/g	30-JAN-17	10-FEB-17	R3649829
Methoxychlor	<0.018	[U]	0.018	ng/g	30-JAN-17	10-FEB-17	R3649829
Mirex	0.0057	M,J,R	0.0024	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 26	<0.11	[U]	0.11	ng/g	30-JAN-17	10-FEB-17	R3649829
Parlar 50	<0.079	[U]	0.079	ng/g	30-JAN-17	10-FEB-17	R3649829

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-23 16-E5-SS-CH-053							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 15:30							
Matrix: Soil							
OC Pesticides by Method 1699							
Parlar 62	<0.099	[U]	0.099	ng/g	30-JAN-17	10-FEB-17	R3649829
Surrogate: alpha-BHC, 13C6-	85.0		16-129	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: gamma-BHC-D6	80.0		11-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Heptachlor, 13C10-	54.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Oxychlordane, 13C10-	64.0		23-135	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: trans-Nonachlor, 13C10-	87.0		36-139	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Dieldrin, 13C12-	88.0		40-151	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endrin, 13C12-	59.0		35-155	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Endosulfan II, 13C9-	57.0		15-148	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDE, 13C12-	98.0		47-160	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: 4,4'-DDT, 13C12-	20.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Methoxychlor-D6	11.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Surrogate: Mirex, 13C10-	28.0		5-120	%	30-JAN-17	10-FEB-17	R3649829
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.194	M,J	0.043	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.220	J,R	0.037	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.110	M,J,R	0.063	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.267	[J]	0.060	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.325	[J]	0.062	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	4.08		0.088	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	26.1		0.093	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.284	[J]	0.059	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.162	J,B	0.051	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.301	J,B	0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.230	J,B	0.035	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.195	[J]	0.035	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.246	J,B	0.035	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	0.077	M,J	0.049	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	1.41	[J]	0.023	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8,9-HpCDF	0.107	M,J	0.034	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	1.49	J,B	0.030	pg/g	24-JAN-17	28-JAN-17	R3643488
Total-TCDD	1.15		0.043	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	6				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	2.03		0.037	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	4.42		0.063	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	7				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	8.47		0.088	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	3.82		0.059	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	10				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	4.02		0.051	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDF # Homologues	10				24-JAN-17	28-JAN-17	R3643488
Total-HxCDF	2.46		0.049	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	8				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	2.16		0.034	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	3				24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	63.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	51.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	64.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-23 16-E5-SS-CH-053							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 15:30							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	58.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	54.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	60.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	53.0		24-185	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	51.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	63.0		26-152	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	74.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	62.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	59.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	56.0		26-138	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	55.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	0.516			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	0.747			pg/g	24-JAN-17	28-JAN-17	R3643488
Upper Bound PCDD/F TEQ (WHO 2005)	0.747			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-24 16-E5-NG-CH-055							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	77.4		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.018	[U]	0.018	ng/g	08-MAR-17	23-MAR-17	R3686449
beta-BHC	<0.028	[U]	0.028	ng/g	08-MAR-17	23-MAR-17	R3686449
delta-BHC	<0.024	[U]	0.024	ng/g	08-MAR-17	23-MAR-17	R3686449
gamma-BHC	<0.022	[U]	0.022	ng/g	08-MAR-17	23-MAR-17	R3686449
Heptachlor	0.0061	M,J,R	0.0035	ng/g	08-MAR-17	23-MAR-17	R3686449
Aldrin	<0.0044	[U]	0.0044	ng/g	08-MAR-17	23-MAR-17	R3686449
Heptachlor Epoxide	0.0374	M,J	0.0080	ng/g	08-MAR-17	23-MAR-17	R3686449
trans-Chlordane	<0.047	[U]	0.047	ng/g	08-MAR-17	23-MAR-17	R3686449
cis-Chlordane	<0.044	[U]	0.044	ng/g	08-MAR-17	23-MAR-17	R3686449
Dieldrin	0.133	[J]	0.023	ng/g	08-MAR-17	23-MAR-17	R3686449
Endrin	0.063	M,J,R	0.040	ng/g	08-MAR-17	23-MAR-17	R3686449
Endrin Aldehyde	<0.037	M,U	0.037	ng/g	08-MAR-17	23-MAR-17	R3686449
Endosulfan I	<0.11	[U]	0.11	ng/g	08-MAR-17	23-MAR-17	R3686449
Endosulfan II	<0.22	[U]	0.22	ng/g	08-MAR-17	23-MAR-17	R3686449
Endosulfan Sulfate	<0.040	M,U	0.040	ng/g	08-MAR-17	23-MAR-17	R3686449
4,4-DDE	0.180	[J]	0.050	ng/g	08-MAR-17	23-MAR-17	R3686449
4,4-DDD	<0.29	[U]	0.29	ng/g	08-MAR-17	23-MAR-17	R3686449
4,4-DDT	<0.40	[U]	0.40	ng/g	08-MAR-17	23-MAR-17	R3686449
Methoxychlor	<0.14	[U]	0.14	ng/g	08-MAR-17	23-MAR-17	R3686449
Mirex	0.028	M,J,R	0.014	ng/g	08-MAR-17	23-MAR-17	R3686449
Parlar 26	<0.31	[U]	0.31	ng/g	08-MAR-17	23-MAR-17	R3686449
Parlar 50	<0.33	[U]	0.33	ng/g	08-MAR-17	23-MAR-17	R3686449
Parlar 62	<0.47	[U]	0.47	ng/g	08-MAR-17	23-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	67.0		16-129	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: gamma-BHC-D6	67.0		11-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	67.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	56.0		23-135	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	73.0		36-139	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	68.0		40-151	%	08-MAR-17	23-MAR-17	R3686449

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-24 16-E5-NG-CH-055							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:00							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: Endrin, 13C12-	55.0		35-155	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	36.0		15-148	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	56.0		47-160	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	17.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Methoxychlor-D6	9.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Mirex, 13C10-	16.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	24.0		5-150	%	08-MAR-17	23-MAR-17	R3686449
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.19	[U]	0.19	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.19	[U]	0.19	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.19	[U]	0.19	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.19	M,U	0.19	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.20	[U]	0.20	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	0.80	M,J,R	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDD	3.10	M,J,R	0.18	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,7,8-TCDF	0.70	M,J	0.24	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.13	[U]	0.13	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.091	[U]	0.091	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.20	[U]	0.20	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.20	[U]	0.20	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.16	[U]	0.16	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.26	[U]	0.26	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	<0.15	[U]	0.15	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.21	[U]	0.21	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDF	<0.079	[U]	0.079	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total-TCDD	<0.19	[U]	0.19	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDD	0.40		0.19	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDD # Homologues	1				09-FEB-17	16-MAR-17	R3678009
Total-HxCDD	1.18		0.20	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDD # Homologues	3				09-FEB-17	16-MAR-17	R3678009
Total-HpCDD	1.22		0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDD # Homologues	1				09-FEB-17	16-MAR-17	R3678009
Total-TCDF	0.70		0.24	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDF # Homologues	1				09-FEB-17	16-MAR-17	R3678009
Total-PeCDF	<0.13	[U]	0.13	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDF	<0.26	[U]	0.26	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDF	<0.21	[U]	0.21	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	71.0		25-164	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	146.0		25-181	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	81.0		32-141	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	80.0		28-130	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	101.0		23-140	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-OCDD	80.0		17-157	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	80.0		24-169	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	125.0		21-192	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	153.0		21-178	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	09-FEB-17	16-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-24 16-E5-NG-CH-055							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	63.0		26-123	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	89.0		29-147	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	74.0		28-136	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	81.0		28-143	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	88.0		26-138	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	82.0		31-197	%	09-FEB-17	16-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.0704			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.357			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.634			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
L1862212-25 16-E5-FC-CH-057							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 15:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	28.6		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
Chlorophenols as derivatives							
Pentachlorophenol	<0.44	[U]	0.44	ng/g		29-MAR-17	R3686824
Surrogate: 13C6-Pentachlorophenol	71.0		50-150	%		29-MAR-17	R3686824
OC Pesticides by Method 1699							
alpha-BHC	<0.025	[U]	0.025	ng/g	08-MAR-17	28-MAR-17	R3686449
beta-BHC	<0.039	[U]	0.039	ng/g	08-MAR-17	28-MAR-17	R3686449
delta-BHC	<0.049	[U]	0.049	ng/g	08-MAR-17	28-MAR-17	R3686449
gamma-BHC	<0.049	[U]	0.049	ng/g	08-MAR-17	28-MAR-17	R3686449
Heptachlor	<0.0074	[U]	0.0074	ng/g	08-MAR-17	28-MAR-17	R3686449
Aldrin	<0.013	[U]	0.013	ng/g	08-MAR-17	28-MAR-17	R3686449
Heptachlor Epoxide	<0.017	[U]	0.017	ng/g	08-MAR-17	28-MAR-17	R3686449
trans-Chlordane	<0.46	[U]	0.46	ng/g	08-MAR-17	28-MAR-17	R3686449
cis-Chlordane	<0.45	[U]	0.45	ng/g	08-MAR-17	28-MAR-17	R3686449
Dieldrin	<0.11	[U]	0.11	ng/g	08-MAR-17	28-MAR-17	R3686449
Endrin	<0.11	[U]	0.11	ng/g	08-MAR-17	28-MAR-17	R3686449
Endrin Aldehyde	<0.038	[U]	0.038	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan I	<0.20	[U]	0.20	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan II	<0.32	[U]	0.32	ng/g	08-MAR-17	28-MAR-17	R3686449
Endosulfan Sulfate	<0.089	[U]	0.089	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDE	<0.072	[U]	0.072	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDD	<0.089	[U]	0.089	ng/g	08-MAR-17	28-MAR-17	R3686449
4,4-DDT	<0.24	[U]	0.24	ng/g	08-MAR-17	28-MAR-17	R3686449
Methoxychlor	<0.066	[U]	0.066	ng/g	08-MAR-17	28-MAR-17	R3686449
Mirex	<0.011	[U]	0.011	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 26	<0.49	[U]	0.49	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 50	<0.57	[U]	0.57	ng/g	08-MAR-17	28-MAR-17	R3686449
Parlar 62	<0.80	[U]	0.80	ng/g	08-MAR-17	28-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	50.0		16-129	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: gamma-BHC-D6	36.0		11-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	190.0	G	5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	101.0		23-135	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	30.0	G	36-139	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	90.0		40-151	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Endrin, 13C12-	160.0	G	35-155	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	111.0	M	15-148	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	94.0		47-160	%	08-MAR-17	28-MAR-17	R3686449

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-25 16-E5-FC-CH-057							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 15:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: 4,4'-DDT, 13C12-	130.0	G	5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Methoxychlor-D6	133.0	G	5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: Mirex, 13C10-	92.0		5-120	%	08-MAR-17	28-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	110.0		5-150	%	08-MAR-17	28-MAR-17	R3686449
Note: Sample has a few surrogate recoveries outside of method limits. Natives are calculated via isotope dilution and are inherently recovery corrected							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.023	[U]	0.023	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.0093	[U]	0.0093	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.024	[U]	0.024	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.024	[U]	0.024	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.025	[U]	0.025	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	<0.0094	[U]	0.0094	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDD	0.039	M,J,R	0.013	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,7,8-TCDF	0.058	M,J,R	0.023	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.015	[U]	0.015	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.012	[U]	0.012	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.025	[U]	0.025	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.024	[U]	0.024	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.023	[U]	0.023	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.032	M,U	0.032	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	<0.018	[U]	0.018	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.024	[U]	0.024	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDF	<0.013	[U]	0.013	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total-TCDD	0.068		0.023	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDD # Homologues	1				09-FEB-17	16-MAR-17	R3678009
Total-PeCDD	<0.0093	[U]	0.0093	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDD	<0.025	[U]	0.025	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDD	<0.0094	[U]	0.0094	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-TCDF	<0.023	[U]	0.023	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDF	<0.015	[U]	0.015	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDF	<0.032	[U]	0.032	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDF	<0.024	[U]	0.024	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	154.0		25-181	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	73.0		32-141	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	86.0		23-140	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-OCDD	51.0		17-157	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	86.0		24-169	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	141.0		21-192	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	154.0		21-178	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	58.0		26-152	%	09-FEB-17	16-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-25 16-E5-FC-CH-057							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 15:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	58.0		26-123	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	66.0		29-147	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	68.0		28-136	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	73.0		28-143	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	95.0		31-197	%	09-FEB-17	16-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.00			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.0331			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.0604			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
L1862212-26 16-E6-SS-CH-059							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 11:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	17.4		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	0.0099	J,R	0.0023	ng/g	02-FEB-17	08-MAR-17	R3676514
beta-BHC	<0.0041	[U]	0.0041	ng/g	02-FEB-17	08-MAR-17	R3676514
delta-BHC	<0.0031	[U]	0.0031	ng/g	02-FEB-17	08-MAR-17	R3676514
gamma-BHC	0.0732	[J]	0.0029	ng/g	02-FEB-17	08-MAR-17	R3676514
Heptachlor	0.00260	M,J,R	0.00059	ng/g	02-FEB-17	08-MAR-17	R3676514
Aldrin	0.00100	J,R	0.00032	ng/g	02-FEB-17	08-MAR-17	R3676514
Heptachlor Epoxide	0.0192	[J]	0.00075	ng/g	02-FEB-17	08-MAR-17	R3676514
trans-Chlordane	0.0174	M,J	0.0025	ng/g	02-FEB-17	08-MAR-17	R3676514
cis-Chlordane	0.0130	M,J,R	0.0024	ng/g	02-FEB-17	08-MAR-17	R3676514
Dieldrin	0.0246	[J]	0.0010	ng/g	02-FEB-17	08-MAR-17	R3676514
Endrin	0.0095	M,J,R	0.0019	ng/g	02-FEB-17	08-MAR-17	R3676514
Endrin Aldehyde	<0.0013	[U]	0.0013	ng/g	02-FEB-17	08-MAR-17	R3676514
Endosulfan I	<0.0039	[U]	0.0039	ng/g	02-FEB-17	08-MAR-17	R3676514
Endosulfan II	0.0138	M,J	0.0074	ng/g	02-FEB-17	08-MAR-17	R3676514
Endosulfan Sulfate	<0.0015	[U]	0.0015	ng/g	02-FEB-17	08-MAR-17	R3676514
4,4-DDE	0.265		0.0030	ng/g	02-FEB-17	08-MAR-17	R3676514
4,4-DDD	0.0414	M,J	0.0073	ng/g	02-FEB-17	08-MAR-17	R3676514
4,4-DDT	0.310		0.017	ng/g	02-FEB-17	08-MAR-17	R3676514
Methoxychlor	<0.0037	[U]	0.0037	ng/g	02-FEB-17	08-MAR-17	R3676514
Mirex	0.0130	J,R	0.0015	ng/g	02-FEB-17	08-MAR-17	R3676514
Parlar 26	0.102	M,J	0.070	ng/g	02-FEB-17	08-MAR-17	R3676514
Parlar 50	<0.041	[U]	0.041	ng/g	02-FEB-17	08-MAR-17	R3676514
Parlar 62	<0.066	[U]	0.066	ng/g	02-FEB-17	08-MAR-17	R3676514
Surrogate: alpha-BHC, 13C6-	83.0		16-129	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: gamma-BHC-D6	89.0		11-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Heptachlor, 13C10-	85.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Oxychlordane, 13C10-	107.0		23-135	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: trans-Nonachlor, 13C10-	74.0		36-139	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Dieldrin, 13C12-	93.0		40-151	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Endrin, 13C12-	140.0		35-155	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Endosulfan II, 13C9-	99.0		15-148	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: 4,4'-DDE, 13C12-	48.0		47-160	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: 4,4'-DDT, 13C12-	77.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Methoxychlor-D6	69.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Mirex, 13C10-	17.0		5-120	%	02-FEB-17	08-MAR-17	R3676514

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-26 16-E6-SS-CH-059							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 11:30							
Matrix: Soil							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.169	M,J	0.055	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.140	J,R	0.031	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.120	J,R	0.084	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.366	M,J	0.080	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.370	J,R	0.082	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	5.93		0.090	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	41.5		0.13	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.228	M,J	0.082	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.120	J,B	0.044	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.258	J,B	0.040	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.446	J,B	0.059	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.319	[J]	0.057	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.231	J,B	0.055	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	<0.079	M,U	0.079	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	2.18	[J]	0.022	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8,9-HpCDF	0.180	M,J,R	0.033	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	3.24	[J]	0.038	pg/g	24-JAN-17	28-JAN-17	R3643488
Total-TCDD	1.12		0.055	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	6				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	1.93		0.031	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	4.10		0.084	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	11.7		0.090	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	3.89		0.082	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	13				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	3.09		0.044	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDF # Homologues	10				24-JAN-17	28-JAN-17	R3643488
Total-HxCDF	2.56		0.079	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	7				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	3.27		0.033	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	60.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	48.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	56.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	61.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	57.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	56.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	48.0		24-185	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	46.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	57.0		26-152	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	64.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	61.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	56.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	56.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	54.0		26-138	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	53.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	0.504			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	0.698			pg/g	24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-26 16-E6-SS-CH-059							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 11:30							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Upper Bound PCDD/F TEQ (WHO 2005)	0.702			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-27 16-E6-NG-CH-061							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 11:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	75.0		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	0.038	J,R	0.013	ng/g	08-MAR-17	23-MAR-17	R3686449
beta-BHC	0.026	M,J,R	0.021	ng/g	08-MAR-17	23-MAR-17	R3686449
delta-BHC	<0.019	[U]	0.019	ng/g	08-MAR-17	23-MAR-17	R3686449
gamma-BHC	0.019	M,J,R	0.017	ng/g	08-MAR-17	23-MAR-17	R3686449
Heptachlor	0.0130	M,J,R	0.0029	ng/g	08-MAR-17	23-MAR-17	R3686449
Aldrin	0.0166	[J]	0.0039	ng/g	08-MAR-17	23-MAR-17	R3686449
Heptachlor Epoxide	0.0664	[J]	0.0055	ng/g	08-MAR-17	23-MAR-17	R3686449
trans-Chlordane	0.110	M,J,R	0.032	ng/g	08-MAR-17	23-MAR-17	R3686449
cis-Chlordane	0.084	M,J,R	0.030	ng/g	08-MAR-17	23-MAR-17	R3686449
Dieldrin	0.269	[J]	0.017	ng/g	08-MAR-17	23-MAR-17	R3686449
Endrin	0.085	M,J,R	0.031	ng/g	08-MAR-17	23-MAR-17	R3686449
Endrin Aldehyde	0.023	M,J,R	0.018	ng/g	08-MAR-17	23-MAR-17	R3686449
Endosulfan I	<0.11	[U]	0.11	ng/g	08-MAR-17	23-MAR-17	R3686449
Endosulfan II	<0.10	[U]	0.10	ng/g	08-MAR-17	23-MAR-17	R3686449
Endosulfan Sulfate	0.100	M,J,R	0.040	ng/g	08-MAR-17	23-MAR-17	R3686449
4,4-DDE	0.262	[J]	0.056	ng/g	08-MAR-17	23-MAR-17	R3686449
4,4-DDD	<0.16	[U]	0.16	ng/g	08-MAR-17	23-MAR-17	R3686449
4,4-DDT	<0.60	[U]	0.60	ng/g	08-MAR-17	23-MAR-17	R3686449
Methoxychlor	<0.11	[U]	0.11	ng/g	08-MAR-17	23-MAR-17	R3686449
Mirex	0.0200	M,J,R	0.0095	ng/g	08-MAR-17	23-MAR-17	R3686449
Parlar 26	<0.33	[U]	0.33	ng/g	08-MAR-17	23-MAR-17	R3686449
Parlar 50	<0.42	[U]	0.42	ng/g	08-MAR-17	23-MAR-17	R3686449
Parlar 62	<0.61	[U]	0.61	ng/g	08-MAR-17	23-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	61.0		16-129	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: gamma-BHC-D6	59.0		11-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	63.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	50.0		23-135	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	72.0		36-139	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	65.0		40-151	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Endrin, 13C12-	50.0		35-155	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	36.0		15-148	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	54.0		47-160	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	16.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Methoxychlor-D6	10.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Mirex, 13C10-	17.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	24.0		5-150	%	08-MAR-17	23-MAR-17	R3686449
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.33	[U]	0.33	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.37	[U]	0.37	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.46	[U]	0.46	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.49	[U]	0.49	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.50	[U]	0.50	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	1.43	M,J	0.48	pg/g wwt	09-FEB-17	16-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-27 16-E6-NG-CH-061							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 11:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
OCDD	10.8	M,J	0.39	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,7,8-TCDF	0.71	J,R	0.60	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.15	[U]	0.15	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.12	[U]	0.12	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.33	[U]	0.33	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.33	[U]	0.33	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.26	[U]	0.26	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.43	[U]	0.43	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	0.87	M,J,R	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.39	[U]	0.39	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDF	1.29	M,J	0.42	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total-TCDD	<0.33	[U]	0.33	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDD	<0.37	[U]	0.37	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDD	1.48		0.50	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDD # Homologues	1				09-FEB-17	16-MAR-17	R3678009
Total-HpCDD	1.43		0.48	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDD # Homologues	1				09-FEB-17	16-MAR-17	R3678009
Total-TCDF	<0.60	[U]	0.60	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDF	<0.15	[U]	0.15	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDF	<0.43	[U]	0.43	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDF	<0.39	[U]	0.39	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	54.0		25-164	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	109.0		25-181	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	53.0		32-141	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	45.0		28-130	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	61.0		23-140	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-OCDD	62.0		17-157	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	58.0		24-169	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	94.0		21-192	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	113.0		21-178	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	42.0		26-152	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	40.0		26-123	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	52.0		29-147	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	45.0		28-136	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	55.0		28-143	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	53.0		26-138	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	53.0		31-197	%	09-FEB-17	16-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.0179			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.610			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	1.12			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
L1862212-28 16-S1-SS-CH-063							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:50							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	16.5		0.10	%	06-JAN-17	09-JAN-17	R3630333

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-28 16-S1-SS-CH-063							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:50							
Matrix: Soil							
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.0019	M,U	0.0019	ng/g	02-FEB-17	08-MAR-17	R3676514
beta-BHC	<0.0034	[U]	0.0034	ng/g	02-FEB-17	08-MAR-17	R3676514
delta-BHC	<0.0024	[U]	0.0024	ng/g	02-FEB-17	08-MAR-17	R3676514
gamma-BHC	0.0106	[J]	0.0023	ng/g	02-FEB-17	08-MAR-17	R3676514
Heptachlor	0.00190	M,J,R	0.00034	ng/g	02-FEB-17	08-MAR-17	R3676514
Aldrin	<0.00023	[U]	0.00023	ng/g	02-FEB-17	08-MAR-17	R3676514
Heptachlor Epoxide	0.0176	[J]	0.00071	ng/g	02-FEB-17	08-MAR-17	R3676514
trans-Chlordane	0.0147	[J]	0.0020	ng/g	02-FEB-17	08-MAR-17	R3676514
cis-Chlordane	0.0147	[J]	0.0019	ng/g	02-FEB-17	08-MAR-17	R3676514
Dieldrin	0.0388	[J]	0.0010	ng/g	02-FEB-17	08-MAR-17	R3676514
Endrin	0.0095	M,J,R	0.0018	ng/g	02-FEB-17	08-MAR-17	R3676514
Endrin Aldehyde	<0.0020	[U]	0.0020	ng/g	02-FEB-17	08-MAR-17	R3676514
Endosulfan I	<0.0039	[U]	0.0039	ng/g	02-FEB-17	08-MAR-17	R3676514
Endosulfan II	0.0050	M,J,R	0.0048	ng/g	02-FEB-17	08-MAR-17	R3676514
Endosulfan Sulfate	<0.0013	[U]	0.0013	ng/g	02-FEB-17	08-MAR-17	R3676514
4,4-DDE	0.387		0.0022	ng/g	02-FEB-17	08-MAR-17	R3676514
4,4-DDD	0.0150	J,R	0.0059	ng/g	02-FEB-17	08-MAR-17	R3676514
4,4-DDT	0.269		0.010	ng/g	02-FEB-17	08-MAR-17	R3676514
Methoxychlor	<0.0026	[U]	0.0026	ng/g	02-FEB-17	08-MAR-17	R3676514
Mirex	0.00550	J,R	0.00046	ng/g	02-FEB-17	08-MAR-17	R3676514
Parlar 26	0.054	M,J	0.021	ng/g	02-FEB-17	08-MAR-17	R3676514
Parlar 50	<0.026	[U]	0.026	ng/g	02-FEB-17	08-MAR-17	R3676514
Parlar 62	<0.042	[U]	0.042	ng/g	02-FEB-17	08-MAR-17	R3676514
Surrogate: alpha-BHC, 13C6-	81.0		16-129	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: gamma-BHC-D6	88.0		11-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Heptachlor, 13C10-	112.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Oxychlordane, 13C10-	109.0		23-135	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: trans-Nonachlor, 13C10-	90.0		36-139	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Dieldrin, 13C12-	91.0		40-151	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Endrin, 13C12-	132.0		35-155	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Endosulfan II, 13C9-	100.0		15-148	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: 4,4'-DDE, 13C12-	65.0		47-160	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: 4,4'-DDT, 13C12-	110.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Methoxychlor-D6	108.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Mirex, 13C10-	36.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.401	M,J	0.066	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.250	M,J,B	0.039	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.160	M,J,R	0.071	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.342	M,J	0.069	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.380	M,J	0.070	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	6.23		0.063	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	34.9		0.086	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.347	M,J	0.055	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.155	M,J,B	0.040	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.383	J,B	0.036	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.346	J,B	0.053	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.256	M,J	0.051	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.260	M,J,R	0.054	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	<0.071	[U]	0.071	pg/g	24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-28 16-S1-SS-CH-063							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:50							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,6,7,8-HpCDF	1.73	[J]	0.032	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8,9-HpCDF	0.164	[J]	0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	1.97	J,B	0.033	pg/g	24-JAN-17	28-JAN-17	R3643488
Total-TCDD	1.42		0.066	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	3				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	2.87		0.039	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	4.57		0.071	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	11.8		0.063	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	5.40		0.055	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	10				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	4.57		0.040	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDF # Homologues	9				24-JAN-17	28-JAN-17	R3643488
Total-HxCDF	2.83		0.071	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	7				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	3.08		0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	3				24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	59.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	50.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	54.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	71.0		28-130	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	57.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	55.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	58.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	51.0		24-185	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	49.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	57.0		26-152	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	60.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	56.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	54.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	53.0		26-138	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	55.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	1.03			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	1.08			pg/g	24-JAN-17	28-JAN-17	R3643488
Upper Bound PCDD/F TEQ (WHO 2005)	1.08			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-29 16-S1-SD-CH-065							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:10							
Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	27.4		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	0.0028	J,R	0.0020	ng/g	02-FEB-17	08-MAR-17	R3676514
beta-BHC	<0.0037	[U]	0.0037	ng/g	02-FEB-17	08-MAR-17	R3676514
delta-BHC	<0.0029	[U]	0.0029	ng/g	02-FEB-17	08-MAR-17	R3676514
gamma-BHC	0.0109	[J]	0.0027	ng/g	02-FEB-17	08-MAR-17	R3676514
Heptachlor	0.00140	M,J,R	0.00047	ng/g	02-FEB-17	08-MAR-17	R3676514
Aldrin	0.00052	M,J,R	0.00025	ng/g	02-FEB-17	08-MAR-17	R3676514

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-29 16-S1-SD-CH-065							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:10							
Matrix: Sediment							
OC Pesticides by Method 1699							
Heptachlor Epoxide	0.00958	M,J	0.00070	ng/g	02-FEB-17	08-MAR-17	R3676514
trans-Chlordane	0.0109	M,J	0.0042	ng/g	02-FEB-17	08-MAR-17	R3676514
cis-Chlordane	0.0076	M,J,R	0.0041	ng/g	02-FEB-17	08-MAR-17	R3676514
Dieldrin	0.0260	[J]	0.0017	ng/g	02-FEB-17	08-MAR-17	R3676514
Endrin	0.0077	M,J,R	0.0034	ng/g	02-FEB-17	08-MAR-17	R3676514
Endrin Aldehyde	<0.0026	[U]	0.0026	ng/g	02-FEB-17	08-MAR-17	R3676514
Endosulfan I	<0.0036	[U]	0.0036	ng/g	02-FEB-17	08-MAR-17	R3676514
Endosulfan II	<0.0067	[U]	0.0067	ng/g	02-FEB-17	08-MAR-17	R3676514
Endosulfan Sulfate	0.0041	M,J	0.0022	ng/g	02-FEB-17	08-MAR-17	R3676514
4,4-DDE	0.189		0.0026	ng/g	02-FEB-17	08-MAR-17	R3676514
4,4-DDD	0.0732	[J]	0.0067	ng/g	02-FEB-17	08-MAR-17	R3676514
4,4-DDT	0.077	M,J,R	0.016	ng/g	02-FEB-17	08-MAR-17	R3676514
Methoxychlor	<0.0073	[U]	0.0073	ng/g	02-FEB-17	08-MAR-17	R3676514
Mirex	0.00600	J,R	0.00089	ng/g	02-FEB-17	08-MAR-17	R3676514
Parlar 26	<0.033	M,U	0.033	ng/g	02-FEB-17	08-MAR-17	R3676514
Parlar 50	<0.033	[U]	0.033	ng/g	02-FEB-17	08-MAR-17	R3676514
Parlar 62	<0.052	[U]	0.052	ng/g	02-FEB-17	08-MAR-17	R3676514
Surrogate: alpha-BHC, 13C6-	82.0		16-129	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: gamma-BHC-D6	87.0		11-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Heptachlor, 13C10-	116.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Oxychlordane, 13C10-	107.0		23-135	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: trans-Nonachlor, 13C10-	80.0		36-139	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Dieldrin, 13C12-	87.0		40-151	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Endrin, 13C12-	126.0		35-155	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Endosulfan II, 13C9-	95.0		15-148	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: 4,4'-DDE, 13C12-	62.0		47-160	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: 4,4'-DDT, 13C12-	74.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Methoxychlor-D6	63.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Mirex, 13C10-	24.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
L1862212-30 16-S1-NG-CH-069							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:10							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	57.5		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.024	[U]	0.024	ng/g	08-MAR-17	23-MAR-17	R3686449
beta-BHC	<0.038	[U]	0.038	ng/g	08-MAR-17	23-MAR-17	R3686449
delta-BHC	<0.034	[U]	0.034	ng/g	08-MAR-17	23-MAR-17	R3686449
gamma-BHC	0.032	M,J	0.031	ng/g	08-MAR-17	23-MAR-17	R3686449
Heptachlor	0.0150	M,J,R	0.0051	ng/g	08-MAR-17	23-MAR-17	R3686449
Aldrin	<0.0062	[U]	0.0062	ng/g	08-MAR-17	23-MAR-17	R3686449
Heptachlor Epoxide	0.0737	[J]	0.0099	ng/g	08-MAR-17	23-MAR-17	R3686449
trans-Chlordane	0.083	M,J	0.041	ng/g	08-MAR-17	23-MAR-17	R3686449
cis-Chlordane	0.096	M,J,R	0.039	ng/g	08-MAR-17	23-MAR-17	R3686449
Dieldrin	0.295	[J]	0.032	ng/g	08-MAR-17	23-MAR-17	R3686449
Endrin	0.075	M,J,R	0.055	ng/g	08-MAR-17	23-MAR-17	R3686449
Endrin Aldehyde	<0.028	[U]	0.028	ng/g	08-MAR-17	23-MAR-17	R3686449
Endosulfan I	<0.12	[U]	0.12	ng/g	08-MAR-17	23-MAR-17	R3686449
Endosulfan II	<0.18	[U]	0.18	ng/g	08-MAR-17	23-MAR-17	R3686449
Endosulfan Sulfate	<0.078	[U]	0.078	ng/g	08-MAR-17	23-MAR-17	R3686449

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-30 16-S1-NG-CH-069							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:10							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
4,4-DDE	0.304	M,J	0.065	ng/g	08-MAR-17	23-MAR-17	R3686449
4,4-DDD	<0.29	[U]	0.29	ng/g	08-MAR-17	23-MAR-17	R3686449
4,4-DDT	<0.80	[U]	0.80	ng/g	08-MAR-17	23-MAR-17	R3686449
Methoxychlor	<0.17	[U]	0.17	ng/g	08-MAR-17	23-MAR-17	R3686449
Mirex	0.019	M,J,R	0.011	ng/g	08-MAR-17	23-MAR-17	R3686449
Parlar 26	<0.37	[U]	0.37	ng/g	08-MAR-17	23-MAR-17	R3686449
Parlar 50	<0.39	[U]	0.39	ng/g	08-MAR-17	23-MAR-17	R3686449
Parlar 62	<0.56	[U]	0.56	ng/g	08-MAR-17	23-MAR-17	R3686449
Surrogate: alpha-BHC, 13C6-	57.0		16-129	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: gamma-BHC-D6	56.0		11-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Heptachlor, 13C10-	57.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Oxychlordane, 13C10-	49.0		23-135	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: trans-Nonachlor, 13C10-	68.0		36-139	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Dieldrin, 13C12-	64.0		40-151	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Endrin, 13C12-	50.0		35-155	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Endosulfan II, 13C9-	36.0		15-148	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: 4,4'-DDE, 13C12-	53.0		47-160	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: 4,4'-DDT, 13C12-	17.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Methoxychlor-D6	9.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: Mirex, 13C10-	16.0		5-120	%	08-MAR-17	23-MAR-17	R3686449
Surrogate: 4,4'-DDD, 13C12-	24.0		5-150	%	08-MAR-17	23-MAR-17	R3686449
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.25	[U]	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDD	<0.18	[U]	0.18	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDD	<0.19	[U]	0.19	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDD	<0.21	[U]	0.21	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDD	<0.21	[U]	0.21	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDD	0.82	M,J,R	0.23	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDD	3.85	[J]	0.20	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,7,8-TCDF	0.51	M,J,R	0.41	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8-PeCDF	<0.15	[U]	0.15	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,7,8-PeCDF	<0.12	[U]	0.12	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8-HxCDF	<0.22	[U]	0.22	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,6,7,8-HxCDF	<0.23	[U]	0.23	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
2,3,4,6,7,8-HxCDF	<0.17	[U]	0.17	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,7,8,9-HxCDF	<0.27	[U]	0.27	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,6,7,8-HpCDF	0.28	M,J,R	0.17	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
1,2,3,4,7,8,9-HpCDF	<0.25	[U]	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
OCDF	0.210	M,J,R	0.086	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total-TCDD	<0.25	[U]	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDD	<0.18	[U]	0.18	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HxCDD	<0.21	[U]	0.21	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDD # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDD	1.56		0.23	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDD # Homologues	1				09-FEB-17	16-MAR-17	R3678009
Total-TCDF	<0.41	[U]	0.41	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total TCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-PeCDF	0.18		0.15	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total PeCDF # Homologues	1				09-FEB-17	16-MAR-17	R3678009

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-30 16-S1-NG-CH-069							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:10							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HxCDF	<0.27	[U]	0.27	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HxCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Total-HpCDF	<0.25	[U]	0.25	pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Total HpCDF # Homologues	0				09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDD	71.0		25-164	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDD	169.0		25-181	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	83.0		32-141	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	104.0		23-140	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-OCDD	95.0		17-157	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,7,8-TCDF	71.0		24-169	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8-PeCDF	142.0		21-192	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,7,8-PeCDF	164.0		21-178	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	69.0		26-152	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	63.0		26-123	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	89.0		29-147	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	76.0		28-136	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	82.0		28-143	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	94.0		26-138	%	09-FEB-17	16-MAR-17	R3678009
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	84.0		31-197	%	09-FEB-17	16-MAR-17	R3678009
Lower Bound PCDD/F TEQ (WHO 2005)	0.00116			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Mid Point PCDD/F TEQ (WHO 2005)	0.375			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
Upper Bound PCDD/F TEQ (WHO 2005)	0.686			pg/g wwt	09-FEB-17	16-MAR-17	R3678009
L1862212-31 16-S1-FC-CH-071							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:50							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	26.8		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
Chlorophenols as derivatives							
Pentachlorophenol	<0.91	[U]	0.91	ng/g		29-MAR-17	R3686824
Surrogate: 13C6-Pentachlorophenol	75.0		50-150	%		29-MAR-17	R3686824
OC Pesticides by Method 1699							
alpha-BHC	<0.0059	[U]	0.0059	ng/g	09-MAR-17	22-MAR-17	R3686339
beta-BHC	<0.010	[U]	0.010	ng/g	09-MAR-17	22-MAR-17	R3686339
delta-BHC	<0.0095	[U]	0.0095	ng/g	09-MAR-17	22-MAR-17	R3686339
gamma-BHC	<0.0084	[U]	0.0084	ng/g	09-MAR-17	22-MAR-17	R3686339
Heptachlor	0.00130	M,J,R	0.00090	ng/g	09-MAR-17	22-MAR-17	R3686339
Aldrin	<0.0020	[U]	0.0020	ng/g	09-MAR-17	22-MAR-17	R3686339
Heptachlor Epoxide	<0.0030	[U]	0.0030	ng/g	09-MAR-17	22-MAR-17	R3686339
trans-Chlordane	<0.024	[U]	0.024	ng/g	09-MAR-17	22-MAR-17	R3686339
cis-Chlordane	<0.022	[U]	0.022	ng/g	09-MAR-17	22-MAR-17	R3686339
Dieldrin	<0.012	[U]	0.012	ng/g	09-MAR-17	22-MAR-17	R3686339
Endrin	<0.018	[U]	0.018	ng/g	09-MAR-17	22-MAR-17	R3686339
Endrin Aldehyde	<0.0074	[U]	0.0074	ng/g	09-MAR-17	22-MAR-17	R3686339
Endosulfan I	<0.042	[U]	0.042	ng/g	09-MAR-17	22-MAR-17	R3686339
Endosulfan II	<0.067	[U]	0.067	ng/g	09-MAR-17	22-MAR-17	R3686339
Endosulfan Sulfate	<0.019	[U]	0.019	ng/g	09-MAR-17	22-MAR-17	R3686339
4,4-DDE	<0.024	[U]	0.024	ng/g	09-MAR-17	22-MAR-17	R3686339
4,4-DDD	<0.065	[U]	0.065	ng/g	09-MAR-17	22-MAR-17	R3686339
4,4-DDT	<0.24	[U]	0.24	ng/g	09-MAR-17	22-MAR-17	R3686339

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-31 16-S1-FC-CH-071							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:50							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Methoxychlor	<0.019	[U]	0.019	ng/g	09-MAR-17	22-MAR-17	R3686339
Mirex	0.0160	M,J,R	0.0052	ng/g	09-MAR-17	22-MAR-17	R3686339
Parlar 26	<0.22	[U]	0.22	ng/g	09-MAR-17	22-MAR-17	R3686339
Parlar 50	<0.19	[U]	0.19	ng/g	09-MAR-17	22-MAR-17	R3686339
Parlar 62	<0.39	[U]	0.39	ng/g	09-MAR-17	22-MAR-17	R3686339
Surrogate: alpha-BHC, 13C6-	62.0		16-129	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: gamma-BHC-D6	58.0		11-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Heptachlor, 13C10-	121.0	G	5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Oxychlordane, 13C10-	64.0		23-135	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: trans-Nonachlor, 13C10-	67.0		36-139	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Dieldrin, 13C12-	62.0		40-151	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Endrin, 13C12-	67.0		35-155	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Endosulfan II, 13C9-	32.0		15-148	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: 4,4'-DDE, 13C12-	50.0		47-160	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: 4,4'-DDT, 13C12-	23.0		5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Methoxychlor-D6	21.0		5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Mirex, 13C10-	17.0		5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: 4,4'-DDD, 13C12-	33.0		5-150	%	09-MAR-17	22-MAR-17	R3686339
Note: Sample has an elevated recovery for 13C10-Heptachlor. Natives are calculated via isotope dilution and are inherently recovery corrected.							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.054	[U]	0.054	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,7,8-PeCDD	<0.027	[U]	0.027	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,4,7,8-HxCDD	<0.048	[U]	0.048	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,6,7,8-HxCDD	<0.049	[U]	0.049	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,7,8,9-HxCDD	<0.051	[U]	0.051	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDD	0.069	M,J,R	0.050	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
OCDD	0.200	M,J,R	0.064	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
2,3,7,8-TCDF	<0.039	[U]	0.039	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,7,8-PeCDF	<0.042	[U]	0.042	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
2,3,4,7,8-PeCDF	<0.038	[U]	0.038	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,4,7,8-HxCDF	0.046	M,J,R	0.037	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,6,7,8-HxCDF	<0.036	M,U	0.036	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
2,3,4,6,7,8-HxCDF	<0.031	M,U	0.031	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,7,8,9-HxCDF	<0.048	[U]	0.048	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDF	<0.059	[U]	0.059	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,4,7,8,9-HpCDF	<0.080	[U]	0.080	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
OCDF	0.194	M,J	0.036	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total-TCDD	<0.054	[U]	0.054	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total TCDD # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Total-PeCDD	<0.027	[U]	0.027	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total PeCDD # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Total-HxCDD	<0.051	[U]	0.051	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total HxCDD # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Total-HpCDD	<0.050	[U]	0.050	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total HpCDD # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Total-TCDF	<0.039	[U]	0.039	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total TCDF # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Total-PeCDF	<0.042	[U]	0.042	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total PeCDF # Homologues	0				06-MAR-17	21-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-31 16-S1-FC-CH-071							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 13:50							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HxCDF	<0.048	[U]	0.048	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total HxCDF # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Total-HpCDF	<0.080	[U]	0.080	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total HpCDF # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDD	81.0		25-164	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDD	80.0		25-181	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	74.0		32-141	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	89.0		28-130	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	83.0		23-140	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-OCDD	63.0		17-157	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDF	80.0		24-169	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		21-192	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-2,3,4,7,8-PeCDF	80.0		21-178	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	67.0		26-152	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	80.0		26-123	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	86.0		29-147	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	76.0		28-136	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	84.0		28-143	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	80.0		26-138	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	78.0		31-197	%	06-MAR-17	21-MAR-17	R3681434
Lower Bound PCDD/F TEQ (WHO 2005)	0.0000582			pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Mid Point PCDD/F TEQ (WHO 2005)	0.0680			pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Upper Bound PCDD/F TEQ (WHO 2005)	0.131			pg/g wwt	06-MAR-17	21-MAR-17	R3681434
L1862212-32 16-S2-SS-CH-073							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 15:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	14.6		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	0.0040	J,R	0.0017	ng/g	02-FEB-17	08-MAR-17	R3676514
beta-BHC	<0.0031	[U]	0.0031	ng/g	02-FEB-17	08-MAR-17	R3676514
delta-BHC	<0.0022	[U]	0.0022	ng/g	02-FEB-17	08-MAR-17	R3676514
gamma-BHC	0.0161	[J]	0.0021	ng/g	02-FEB-17	08-MAR-17	R3676514
Heptachlor	0.00150	M,J,R	0.00035	ng/g	02-FEB-17	08-MAR-17	R3676514
Aldrin	0.00115	[J]	0.00020	ng/g	02-FEB-17	08-MAR-17	R3676514
Heptachlor Epoxide	0.0253	[J]	0.00069	ng/g	02-FEB-17	08-MAR-17	R3676514
trans-Chlordane	0.0092	M,J	0.0018	ng/g	02-FEB-17	08-MAR-17	R3676514
cis-Chlordane	0.0144	M,J	0.0018	ng/g	02-FEB-17	08-MAR-17	R3676514
Dieldrin	0.0362	[J]	0.0011	ng/g	02-FEB-17	08-MAR-17	R3676514
Endrin	0.0086	M,J,R	0.0022	ng/g	02-FEB-17	08-MAR-17	R3676514
Endrin Aldehyde	<0.0014	[U]	0.0014	ng/g	02-FEB-17	08-MAR-17	R3676514
Endosulfan I	<0.0029	M,U	0.0029	ng/g	02-FEB-17	08-MAR-17	R3676514
Endosulfan II	0.0086	M,J	0.0049	ng/g	02-FEB-17	08-MAR-17	R3676514
Endosulfan Sulfate	0.0040	M,J	0.0026	ng/g	02-FEB-17	08-MAR-17	R3676514
4,4-DDE	0.507		0.0016	ng/g	02-FEB-17	08-MAR-17	R3676514
4,4-DDD	0.0149	[J]	0.0027	ng/g	02-FEB-17	08-MAR-17	R3676514
4,4-DDT	0.577		0.011	ng/g	02-FEB-17	08-MAR-17	R3676514
Methoxychlor	<0.0037	[U]	0.0037	ng/g	02-FEB-17	08-MAR-17	R3676514
Mirex	0.00560	J,R	0.00033	ng/g	02-FEB-17	08-MAR-17	R3676514
Parlar 26	0.022	M,J,R	0.015	ng/g	02-FEB-17	08-MAR-17	R3676514

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-32 16-S2-SS-CH-073							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 15:00							
Matrix: Soil							
OC Pesticides by Method 1699							
Parlar 50	<0.016	[U]	0.016	ng/g	02-FEB-17	08-MAR-17	R3676514
Parlar 62	<0.026	[U]	0.026	ng/g	02-FEB-17	08-MAR-17	R3676514
Surrogate: alpha-BHC, 13C6-	84.0		16-129	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: gamma-BHC-D6	88.0		11-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Heptachlor, 13C10-	127.0	G	5-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Oxychlordane, 13C10-	108.0		23-135	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: trans-Nonachlor, 13C10-	98.0		36-139	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Dieldrin, 13C12-	90.0		40-151	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Endrin, 13C12-	125.0		35-155	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Endosulfan II, 13C9-	97.0		15-148	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: 4,4'-DDE, 13C12-	81.0		47-160	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: 4,4'-DDT, 13C12-	92.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Methoxychlor-D6	76.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
Surrogate: Mirex, 13C10-	50.0		5-120	%	02-FEB-17	08-MAR-17	R3676514
Note: Sample has an elevated recovery for 13C10-Heptachlor. Natives are calculated via isotope dilution and are inherently recovery corrected.							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.39	M,J	0.10	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.160	M,J,R	0.083	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	<0.11	M,U	0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.38	M,J	0.10	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.35	M,J,R	0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	4.33		0.083	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	20.4		0.16	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.40	M,J	0.12	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.24	J,B	0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.46	J,B	0.10	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.300	M,J,R	0.084	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.367	M,J	0.083	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.270	J,B	0.085	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	<0.13	M,U	0.13	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	1.50	[J]	0.060	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8,9-HpCDF	0.101	M,J	0.090	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	1.35	M,J,B	0.071	pg/g	24-JAN-17	28-JAN-17	R3643488
Total-TCDD	2.21		0.10	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	6				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	2.78		0.083	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	6				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	1.97		0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	8.57		0.083	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	5.73		0.12	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	11				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	6.05		0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDF # Homologues	13				24-JAN-17	28-JAN-17	R3643488
Total-HxCDF	2.89		0.13	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	6				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	1.60		0.090	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	2				24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-32 16-S2-SS-CH-073							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 15:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,7,8-TCDD	63.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	54.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	62.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	92.0		28-130	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	70.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	76.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	61.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	56.0		24-185	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	53.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	84.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	75.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	63.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	68.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	66.0		26-138	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	55.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	0.737			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	0.974			pg/g	24-JAN-17	28-JAN-17	R3643488
Upper Bound PCDD/F TEQ (WHO 2005)	0.986			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-33 16-S2-NG-CH-075							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 15:15							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	47.6		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.14	[U]	0.14	ng/g	09-MAR-17	21-MAR-17	R3686339
beta-BHC	<0.24	[U]	0.24	ng/g	09-MAR-17	21-MAR-17	R3686339
delta-BHC	<0.21	[U]	0.21	ng/g	09-MAR-17	21-MAR-17	R3686339
gamma-BHC	<0.18	[U]	0.18	ng/g	09-MAR-17	21-MAR-17	R3686339
Heptachlor	0.027	M,J,R	0.015	ng/g	09-MAR-17	21-MAR-17	R3686339
Aldrin	0.028	M,J,R	0.021	ng/g	09-MAR-17	21-MAR-17	R3686339
Heptachlor Epoxide	<0.033	[U]	0.033	ng/g	09-MAR-17	21-MAR-17	R3686339
trans-Chlordane	0.18	M,J	0.15	ng/g	09-MAR-17	21-MAR-17	R3686339
cis-Chlordane	<0.14	[U]	0.14	ng/g	09-MAR-17	21-MAR-17	R3686339
Dieldrin	0.230	M,J,R	0.077	ng/g	09-MAR-17	21-MAR-17	R3686339
Endrin	0.17	M,J,R	0.11	ng/g	09-MAR-17	21-MAR-17	R3686339
Endrin Aldehyde	0.341	M,J	0.081	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan I	<0.22	[U]	0.22	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan II	<0.30	[U]	0.30	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan Sulfate	0.341	M,J	0.069	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDE	<0.19	[U]	0.19	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDD	<0.32	[U]	0.32	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDT	<0.54	[U]	0.54	ng/g	09-MAR-17	21-MAR-17	R3686339
Methoxychlor	<0.043	[U]	0.043	ng/g	09-MAR-17	21-MAR-17	R3686339
Mirex	0.210	J,R	0.016	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 26	<0.49	[U]	0.49	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 50	<0.45	[U]	0.45	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 62	<0.94	[U]	0.94	ng/g	09-MAR-17	21-MAR-17	R3686339
Surrogate: alpha-BHC, 13C6-	66.0		16-129	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: gamma-BHC-D6	67.0		11-120	%	09-MAR-17	21-MAR-17	R3686339

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-33 16-S2-NG-CH-075							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 15:15							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: Heptachlor, 13C10-	91.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Oxychlordane, 13C10-	67.0		23-135	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: trans-Nonachlor, 13C10-	67.0		36-139	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Dieldrin, 13C12-	68.0		40-151	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Endrin, 13C12-	76.0		35-155	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Endosulfan II, 13C9-	58.0		15-148	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDE, 13C12-	69.0		47-160	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDT, 13C12-	78.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Methoxychlor-D6	75.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Mirex, 13C10-	50.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDD, 13C12-	66.0		5-150	%	09-MAR-17	21-MAR-17	R3686339
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.43	[U]	0.43	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,7,8-PeCDD	<0.19	[U]	0.19	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,4,7,8-HxCDD	<0.43	[U]	0.43	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,6,7,8-HxCDD	<0.41	[U]	0.41	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,7,8,9-HxCDD	<0.43	M,U	0.43	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDD	1.11	M,J	0.70	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
OCDD	3.19	M,J	0.56	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
2,3,7,8-TCDF	<0.49	[U]	0.49	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,7,8-PeCDF	<0.31	[U]	0.31	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
2,3,4,7,8-PeCDF	<0.23	[U]	0.23	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,4,7,8-HxCDF	<0.47	[U]	0.47	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,6,7,8-HxCDF	<0.45	[U]	0.45	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
2,3,4,6,7,8-HxCDF	<0.41	[U]	0.41	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,7,8,9-HxCDF	<0.57	M,U	0.57	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDF	0.44	M,J,R	0.27	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
1,2,3,4,7,8,9-HpCDF	<0.37	[U]	0.37	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
OCDF	1.32	M,J	0.37	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total-TCDD	<0.43	[U]	0.43	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total TCDD # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Total-PeCDD	<0.19	[U]	0.19	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total PeCDD # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Total-HxCDD	<0.43	[U]	0.43	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total HxCDD # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Total-HpCDD	1.11		0.70	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total HpCDD # Homologues	1				06-MAR-17	21-MAR-17	R3681434
Total-TCDF	<0.49	[U]	0.49	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total TCDF # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Total-PeCDF	<0.31	[U]	0.31	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total PeCDF # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Total-HxCDF	<0.57	[U]	0.57	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total HxCDF # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Total-HpCDF	<0.37	[U]	0.37	pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Total HpCDF # Homologues	0				06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDD	68.0		25-164	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDD	80.0		25-181	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	62.0		32-141	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	78.0		23-140	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-OCDD	73.0		17-157	%	06-MAR-17	21-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-33 16-S2-NG-CH-075							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 15:15							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,7,8-TCDF	68.0		24-169	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDF	70.0		21-192	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-2,3,4,7,8-PeCDF	79.0		21-178	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	59.0		26-152	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	67.0		26-123	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	75.0		29-147	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	70.0		28-136	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	75.0		28-143	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	78.0		26-138	%	06-MAR-17	21-MAR-17	R3681434
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	65.0		31-197	%	06-MAR-17	21-MAR-17	R3681434
Lower Bound PCDD/F TEQ (WHO 2005)	0.0125			pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Mid Point PCDD/F TEQ (WHO 2005)	0.551			pg/g wwt	06-MAR-17	21-MAR-17	R3681434
Upper Bound PCDD/F TEQ (WHO 2005)	1.08			pg/g wwt	06-MAR-17	21-MAR-17	R3681434
L1862212-34 16-S2-FC-CH-077							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 14:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	31.8		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
Chlorophenols as derivatives							
Pentachlorophenol	<1.4	[U]	1.4	ng/g		29-MAR-17	R3686824
Surrogate: 13C6-Pentachlorophenol	69.0		50-150	%		29-MAR-17	R3686824
OC Pesticides by Method 1699							
alpha-BHC	<0.0055	[U]	0.0055	ng/g	09-MAR-17	22-MAR-17	R3686339
beta-BHC	<0.0095	[U]	0.0095	ng/g	09-MAR-17	22-MAR-17	R3686339
delta-BHC	<0.0093	[U]	0.0093	ng/g	09-MAR-17	22-MAR-17	R3686339
gamma-BHC	<0.0082	[U]	0.0082	ng/g	09-MAR-17	22-MAR-17	R3686339
Heptachlor	0.00150	M,J,R	0.00086	ng/g	09-MAR-17	22-MAR-17	R3686339
Aldrin	<0.0023	[U]	0.0023	ng/g	09-MAR-17	22-MAR-17	R3686339
Heptachlor Epoxide	<0.0027	[U]	0.0027	ng/g	09-MAR-17	22-MAR-17	R3686339
trans-Chlordane	<0.046	[U]	0.046	ng/g	09-MAR-17	22-MAR-17	R3686339
cis-Chlordane	<0.043	[U]	0.043	ng/g	09-MAR-17	22-MAR-17	R3686339
Dieldrin	<0.024	[U]	0.024	ng/g	09-MAR-17	22-MAR-17	R3686339
Endrin	<0.033	[U]	0.033	ng/g	09-MAR-17	22-MAR-17	R3686339
Endrin Aldehyde	<0.0084	[U]	0.0084	ng/g	09-MAR-17	22-MAR-17	R3686339
Endosulfan I	<0.065	[U]	0.065	ng/g	09-MAR-17	22-MAR-17	R3686339
Endosulfan II	<0.098	[U]	0.098	ng/g	09-MAR-17	22-MAR-17	R3686339
Endosulfan Sulfate	<0.028	[U]	0.028	ng/g	09-MAR-17	22-MAR-17	R3686339
4,4-DDE	<0.039	[U]	0.039	ng/g	09-MAR-17	22-MAR-17	R3686339
4,4-DDD	<0.11	[U]	0.11	ng/g	09-MAR-17	22-MAR-17	R3686339
4,4-DDT	<0.33	[U]	0.33	ng/g	09-MAR-17	22-MAR-17	R3686339
Methoxychlor	<0.027	[U]	0.027	ng/g	09-MAR-17	22-MAR-17	R3686339
Mirex	0.0097	M,J,R	0.0057	ng/g	09-MAR-17	22-MAR-17	R3686339
Parlar 26	<0.23	[U]	0.23	ng/g	09-MAR-17	22-MAR-17	R3686339
Parlar 50	<0.23	[U]	0.23	ng/g	09-MAR-17	22-MAR-17	R3686339
Parlar 62	<0.48	[U]	0.48	ng/g	09-MAR-17	22-MAR-17	R3686339
Surrogate: alpha-BHC, 13C6-	61.0		16-129	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: gamma-BHC-D6	53.0		11-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Heptachlor, 13C10-	162.0	G	5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Oxychlordane, 13C10-	69.0		23-135	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: trans-Nonachlor, 13C10-	72.0		36-139	%	09-MAR-17	22-MAR-17	R3686339

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-34 16-S2-FC-CH-077							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 14:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: Dieldrin, 13C12-	69.0		40-151	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Endrin, 13C12-	78.0		35-155	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Endosulfan II, 13C9-	41.0		15-148	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: 4,4'-DDE, 13C12-	57.0		47-160	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: 4,4'-DDT, 13C12-	34.0		5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Methoxychlor-D6	35.0		5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Mirex, 13C10-	26.0		5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: 4,4'-DDD, 13C12-	44.0		5-150	%	09-MAR-17	22-MAR-17	R3686339
Note: Sample has an elevated recovery for 13C10-Heptachlor. Natives are calculated via isotope dilution and are inherently recovery corrected							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.015	[U]	0.015	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDD	<0.0086	[U]	0.0086	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDD	<0.029	[U]	0.029	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDD	<0.028	[U]	0.028	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDD	<0.029	[U]	0.029	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDD	<0.033	[U]	0.033	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDD	0.029	M,J,R	0.025	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,7,8-TCDF	<0.019	[U]	0.019	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDF	<0.013	[U]	0.013	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,7,8-PeCDF	<0.011	[U]	0.011	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDF	<0.023	[U]	0.023	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDF	<0.021	[U]	0.021	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,6,7,8-HxCDF	<0.024	[U]	0.024	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDF	<0.044	[U]	0.044	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDF	<0.024	[U]	0.024	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8,9-HpCDF	<0.028	[U]	0.028	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDF	0.049	M,J	0.044	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total-TCDD	<0.015	[U]	0.015	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDD	<0.0086	[U]	0.0086	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDD	<0.029	[U]	0.029	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDD	<0.033	[U]	0.033	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-TCDF	<0.019	[U]	0.019	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDF	<0.013	[U]	0.013	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDF	<0.044	[U]	0.044	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDF	<0.028	[U]	0.028	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDD	81.0		25-181	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	72.0		32-141	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	81.0		28-130	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	43.0		23-140	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-OCDD	58.0		17-157	%	06-MAR-17	22-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-34 16-S2-FC-CH-077							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 14:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		21-192	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,7,8-PeCDF	78.0		21-178	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	76.0		26-152	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	83.0		26-123	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	79.0		29-147	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	60.0		28-136	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	45.0		28-143	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	54.0		26-138	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		31-197	%	06-MAR-17	22-MAR-17	R3681434
Lower Bound PCDD/F TEQ (WHO 2005)	0.0000147			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Mid Point PCDD/F TEQ (WHO 2005)	0.0249			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Upper Bound PCDD/F TEQ (WHO 2005)	0.0499			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
L1862212-35 16-S4-SS-CH-087							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 12:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	23.4		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.0023	[U]	0.0023	ng/g	02-FEB-17	09-MAR-17	R3676514
beta-BHC	<0.0042	[U]	0.0042	ng/g	02-FEB-17	09-MAR-17	R3676514
delta-BHC	<0.0028	[U]	0.0028	ng/g	02-FEB-17	09-MAR-17	R3676514
gamma-BHC	<0.0027	[U]	0.0027	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor	0.00140	M,J,R	0.00042	ng/g	02-FEB-17	09-MAR-17	R3676514
Aldrin	<0.00028	[U]	0.00028	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor Epoxide	0.0205	[J]	0.00054	ng/g	02-FEB-17	09-MAR-17	R3676514
trans-Chlordane	0.0096	M,J	0.0026	ng/g	02-FEB-17	09-MAR-17	R3676514
cis-Chlordane	0.0231	[J]	0.0025	ng/g	02-FEB-17	09-MAR-17	R3676514
Dieldrin	0.0366	[J]	0.0013	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin	0.0082	M,J,R	0.0024	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin Aldehyde	<0.0019	[U]	0.0019	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan I	<0.0026	[U]	0.0026	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan II	<0.010	M,U	0.010	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan Sulfate	0.00270	M,J,R	0.00078	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDE	0.419		0.0017	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDD	0.0263	[J]	0.0091	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDT	0.354		0.013	ng/g	02-FEB-17	09-MAR-17	R3676514
Methoxychlor	<0.0032	[U]	0.0032	ng/g	02-FEB-17	09-MAR-17	R3676514
Mirex	0.00390	J,R	0.00037	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 26	0.035	[J]	0.025	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 50	<0.017	[U]	0.017	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 62	<0.028	[U]	0.028	ng/g	02-FEB-17	09-MAR-17	R3676514
Surrogate: alpha-BHC, 13C6-	78.0		16-129	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: gamma-BHC-D6	86.0		11-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Heptachlor, 13C10-	130.0	G	5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Oxychlordane, 13C10-	108.0		23-135	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: trans-Nonachlor, 13C10-	95.0		36-139	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Dieldrin, 13C12-	88.0		40-151	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endrin, 13C12-	127.0		35-155	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endosulfan II, 13C9-	96.0		15-148	%	02-FEB-17	09-MAR-17	R3676514

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-35 16-S4-SS-CH-087							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 12:00							
Matrix: Soil							
OC Pesticides by Method 1699							
Surrogate: 4,4'-DDE, 13C12-	80.0		47-160	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: 4,4'-DDT, 13C12-	100.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Methoxychlor-D6	88.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Mirex, 13C10-	54.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Note: Sample has an elevated recovery for 13C10-Heptachlor. Natives are calculated via isotope dilution and are inherently recovery corrected.							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.141	M,J	0.061	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.216	J,B	0.097	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.120	M,J,R	0.087	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.336	M,J	0.083	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.300	M,J,R	0.085	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	5.60		0.097	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	31.1		0.10	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.340	M,J,R	0.093	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.183	M,J,B	0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.410	M,J,B	0.044	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.314	J,B	0.091	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.200	M,J,R	0.085	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.359	J,B	0.089	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	<0.12	[U]	0.12	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	1.59	[J]	0.037	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8,9-HpCDF	0.099	J,R	0.056	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	2.02	M,J,B	0.042	pg/g	24-JAN-17	28-JAN-17	R3643488
Total-TCDD	1.43		0.061	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	6				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	1.51		0.097	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	3				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	3.52		0.087	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	10.6		0.097	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	4.59		0.093	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	10				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	5.08		0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDF # Homologues	11				24-JAN-17	28-JAN-17	R3643488
Total-HxCDF	2.92		0.12	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	6				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	2.71		0.056	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	71.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	55.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	69.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	84.0		28-130	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	65.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	65.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	68.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	57.0		24-185	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	53.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	69.0		26-152	%	24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-35 16-S4-SS-CH-087							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 12:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	71.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	68.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	66.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	62.0		26-138	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	62.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	0.668			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	0.771			pg/g	24-JAN-17	28-JAN-17	R3643488
Upper Bound PCDD/F TEQ (WHO 2005)	0.777			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-36 16-S4-SD-CH-089							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 13:00							
Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	31.5		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.0025	[U]	0.0025	ng/g	02-FEB-17	09-MAR-17	R3676514
beta-BHC	<0.0045	[U]	0.0045	ng/g	02-FEB-17	09-MAR-17	R3676514
delta-BHC	<0.0032	[U]	0.0032	ng/g	02-FEB-17	09-MAR-17	R3676514
gamma-BHC	0.0047	M,J,R	0.0031	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor	0.00110	M,J,R	0.00062	ng/g	02-FEB-17	09-MAR-17	R3676514
Aldrin	<0.00028	[U]	0.00028	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor Epoxide	0.00438	[J]	0.00083	ng/g	02-FEB-17	09-MAR-17	R3676514
trans-Chlordane	0.0051	M,J,R	0.0029	ng/g	02-FEB-17	09-MAR-17	R3676514
cis-Chlordane	0.0095	M,J,R	0.0028	ng/g	02-FEB-17	09-MAR-17	R3676514
Dieldrin	0.0212	[J]	0.0016	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin	0.0085	M,J,R	0.0032	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin Aldehyde	<0.0026	[U]	0.0026	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan I	<0.0050	[U]	0.0050	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan II	0.0168	M,J	0.0091	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan Sulfate	<0.0021	[U]	0.0021	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDE	0.158		0.0031	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDD	0.0380	J,R	0.0070	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDT	0.080	M,J	0.019	ng/g	02-FEB-17	09-MAR-17	R3676514
Methoxychlor	<0.012	[U]	0.012	ng/g	02-FEB-17	09-MAR-17	R3676514
Mirex	0.0051	J,R	0.0010	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 26	<0.062	[U]	0.062	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 50	<0.053	[U]	0.053	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 62	<0.084	[U]	0.084	ng/g	02-FEB-17	09-MAR-17	R3676514
Surrogate: alpha-BHC, 13C6-	82.0		16-129	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: gamma-BHC-D6	90.0		11-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Heptachlor, 13C10-	127.0	G	5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Oxychlordane, 13C10-	112.0		23-135	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: trans-Nonachlor, 13C10-	85.0		36-139	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Dieldrin, 13C12-	86.0		40-151	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endrin, 13C12-	125.0		35-155	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endosulfan II, 13C9-	91.0		15-148	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: 4,4'-DDE, 13C12-	64.0		47-160	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: 4,4'-DDT, 13C12-	66.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Methoxychlor-D6	49.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Mirex, 13C10-	20.0		5-120	%	02-FEB-17	09-MAR-17	R3676514

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-36 16-S4-SD-CH-089							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 13:00							
Matrix: Sediment							
Note: Sample has an elevated recovery for 13C10-Heptachlor. Natives are calculated via isotope dilution and are inherently recovery corrected.							
L1862212-37 16-S4-NG-CH-093							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 13:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	67.9		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.043	[U]	0.043	ng/g	09-MAR-17	21-MAR-17	R3686339
beta-BHC	<0.074	[U]	0.074	ng/g	09-MAR-17	21-MAR-17	R3686339
delta-BHC	<0.060	[U]	0.060	ng/g	09-MAR-17	21-MAR-17	R3686339
gamma-BHC	<0.053	[U]	0.053	ng/g	09-MAR-17	21-MAR-17	R3686339
Heptachlor	0.0120	M,J,R	0.0051	ng/g	09-MAR-17	21-MAR-17	R3686339
Aldrin	<0.0078	[U]	0.0078	ng/g	09-MAR-17	21-MAR-17	R3686339
Heptachlor Epoxide	0.042	J,R	0.011	ng/g	09-MAR-17	21-MAR-17	R3686339
trans-Chlordane	<0.046	[U]	0.046	ng/g	09-MAR-17	21-MAR-17	R3686339
cis-Chlordane	0.127	M,J	0.043	ng/g	09-MAR-17	21-MAR-17	R3686339
Dieldrin	0.281	[J]	0.031	ng/g	09-MAR-17	21-MAR-17	R3686339
Endrin	<0.049	[U]	0.049	ng/g	09-MAR-17	21-MAR-17	R3686339
Endrin Aldehyde	<0.027	[U]	0.027	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan I	<0.093	[U]	0.093	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan II	<0.14	[U]	0.14	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan Sulfate	<0.085	[U]	0.085	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDE	0.243	M,J	0.088	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDD	<0.37	[U]	0.37	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDT	<0.53	[U]	0.53	ng/g	09-MAR-17	21-MAR-17	R3686339
Methoxychlor	<0.031	[U]	0.031	ng/g	09-MAR-17	21-MAR-17	R3686339
Mirex	0.093	J,R	0.015	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 26	<0.61	[U]	0.61	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 50	<0.33	[U]	0.33	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 62	<0.69	[U]	0.69	ng/g	09-MAR-17	21-MAR-17	R3686339
Surrogate: alpha-BHC, 13C6-	48.0		16-129	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: gamma-BHC-D6	50.0		11-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Heptachlor, 13C10-	75.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Oxychlordane, 13C10-	49.0		23-135	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: trans-Nonachlor, 13C10-	51.0		36-139	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Dieldrin, 13C12-	53.0		40-151	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Endrin, 13C12-	56.0		35-155	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Endosulfan II, 13C9-	32.0		15-148	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDE, 13C12-	45.0	G	47-160	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDT, 13C12-	34.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Methoxychlor-D6	29.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Mirex, 13C10-	20.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDD, 13C12-	29.0		5-150	%	09-MAR-17	21-MAR-17	R3686339
Note: Sample has a low recovery for 13C12-44'-DDE. Natives are calculated via isotope dilution and are inherently recovery corrected							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.16	[U]	0.16	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDD	<0.14	[U]	0.14	pg/g wwt	06-MAR-17	22-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-37 16-S4-NG-CH-093							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 13:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8-HxCDD	<0.19	M,U	0.19	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDD	<0.18	[U]	0.18	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDD	<0.19	[U]	0.19	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDD	<0.40	M,U	0.40	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDD	1.50	M,J,R	0.28	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,7,8-TCDF	<0.21	[U]	0.21	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDF	<0.12	[U]	0.12	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,7,8-PeCDF	<0.085	[U]	0.085	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDF	<0.15	[U]	0.15	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDF	<0.15	[U]	0.15	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,6,7,8-HxCDF	<0.14	[U]	0.14	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDF	<0.19	[U]	0.19	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDF	<0.12	[U]	0.12	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8,9-HpCDF	<0.17	[U]	0.17	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDF	0.41	M,J	0.18	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total-TCDD	0.18		0.16	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDD # Homologues	1				06-MAR-17	22-MAR-17	R3681434
Total-PeCDD	<0.14	[U]	0.14	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDD	1.33		0.19	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDD # Homologues	2				06-MAR-17	22-MAR-17	R3681434
Total-HpCDD	1.15		0.40	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDD # Homologues	1				06-MAR-17	22-MAR-17	R3681434
Total-TCDF	<0.21	[U]	0.21	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDF	<0.12	[U]	0.12	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDF	<0.19	[U]	0.19	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDF	<0.17	[U]	0.17	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDD	71.0		25-164	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	66.0		32-141	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	74.0		28-130	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	69.0		23-140	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-OCDD	55.0		17-157	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDF	64.0		24-169	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDF	70.0		21-192	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,7,8-PeCDF	78.0		21-178	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	59.0		26-152	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	67.0		26-123	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	67.0		26-138	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	78.0		31-197	%	06-MAR-17	22-MAR-17	R3681434
Lower Bound PCDD/F TEQ (WHO 2005)	0.000123			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Mid Point PCDD/F TEQ (WHO 2005)	0.239			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Upper Bound PCDD/F TEQ (WHO 2005)	0.477			pg/g wwt	06-MAR-17	22-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-38 16-S4-SB-CH-095							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 12:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	18.9		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
Chlorophenols as derivatives							
Pentachlorophenol	<0.8	[U]	0.80	ng/g		29-MAR-17	R3686824
Surrogate: 13C6-Pentachlorophenol	82.0		50-150	%		29-MAR-17	R3686824
OC Pesticides by Method 1699							
alpha-BHC	<0.0095	[U]	0.0095	ng/g	09-MAR-17	28-MAR-17	R3686339
beta-BHC	<0.015	[U]	0.015	ng/g	09-MAR-17	28-MAR-17	R3686339
delta-BHC	<0.014	[U]	0.014	ng/g	09-MAR-17	28-MAR-17	R3686339
gamma-BHC	<0.014	[U]	0.014	ng/g	09-MAR-17	28-MAR-17	R3686339
Heptachlor	<0.0025	M,U	0.0025	ng/g	09-MAR-17	28-MAR-17	R3686339
Aldrin	<0.0018	[U]	0.0018	ng/g	09-MAR-17	28-MAR-17	R3686339
Heptachlor Epoxide	0.0559	[J]	0.0045	ng/g	09-MAR-17	28-MAR-17	R3686339
trans-Chlordane	<0.023	M,U	0.023	ng/g	09-MAR-17	28-MAR-17	R3686339
cis-Chlordane	0.047	M,J	0.023	ng/g	09-MAR-17	28-MAR-17	R3686339
Dieldrin	0.129		0.0070	ng/g	09-MAR-17	28-MAR-17	R3686339
Endrin	<0.014	M,J,R	0.014	ng/g	09-MAR-17	28-MAR-17	R3686339
Endrin Aldehyde	<0.0058	[U]	0.0058	ng/g	09-MAR-17	28-MAR-17	R3686339
Endosulfan I	<0.021	[U]	0.021	ng/g	09-MAR-17	28-MAR-17	R3686339
Endosulfan II	<0.049	[U]	0.049	ng/g	09-MAR-17	28-MAR-17	R3686339
Endosulfan Sulfate	<0.010	[U]	0.010	ng/g	09-MAR-17	28-MAR-17	R3686339
4,4-DDE	<0.016	[U]	0.016	ng/g	09-MAR-17	28-MAR-17	R3686339
4,4-DDD	<0.024	[U]	0.024	ng/g	09-MAR-17	28-MAR-17	R3686339
4,4-DDT	<0.089	[U]	0.089	ng/g	09-MAR-17	28-MAR-17	R3686339
Methoxychlor	<0.026	[U]	0.026	ng/g	09-MAR-17	28-MAR-17	R3686339
Mirex	0.0025	M,J,R	0.0015	ng/g	09-MAR-17	28-MAR-17	R3686339
Parlar 26	<0.14	[U]	0.14	ng/g	09-MAR-17	28-MAR-17	R3686339
Parlar 50	<0.13	[U]	0.13	ng/g	09-MAR-17	28-MAR-17	R3686339
Parlar 62	<0.18	[U]	0.18	ng/g	09-MAR-17	28-MAR-17	R3686339
Surrogate: alpha-BHC, 13C6-	58.0		16-129	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: gamma-BHC-D6	56.0		11-120	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Heptachlor, 13C10-	57.0		5-120	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Oxychlordane, 13C10-	51.0		23-135	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: trans-Nonachlor, 13C10-	60.0		36-139	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Dieldrin, 13C12-	59.0		40-151	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Endrin, 13C12-	53.0		35-155	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Endosulfan II, 13C9-	47.0		15-148	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: 4,4'-DDE, 13C12-	60.0		47-160	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: 4,4'-DDT, 13C12-	23.0		5-120	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Methoxychlor-D6	13.0		5-120	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Mirex, 13C10-	30.0		5-120	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: 4,4'-DDD, 13C12-	33.0		5-150	%	09-MAR-17	28-MAR-17	R3686339
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.058	[U]	0.058	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDD	<0.039	[U]	0.039	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDD	<0.090	[U]	0.090	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDD	<0.083	M,U	0.083	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDD	<0.089	[U]	0.089	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDD	<0.12	[U]	0.12	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDD	0.26	M,J,R	0.18	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,7,8-TCDF	<0.057	[U]	0.057	pg/g wwt	06-MAR-17	22-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-38 16-S4-SB-CH-095							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 12:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,7,8-PeCDF	<0.042	[U]	0.042	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,7,8-PeCDF	<0.036	[U]	0.036	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDF	<0.078	[U]	0.078	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDF	<0.078	[U]	0.078	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,6,7,8-HxCDF	<0.090	[U]	0.090	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDF	<0.13	[U]	0.13	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDF	<0.089	[U]	0.089	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8,9-HpCDF	<0.13	[U]	0.13	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDF	0.19	M,J	0.11	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total-TCDD	<0.058	[U]	0.058	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDD	<0.039	[U]	0.039	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDD	<0.090	[U]	0.090	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDD	<0.12	[U]	0.12	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-TCDF	<0.057	[U]	0.057	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDF	<0.042	[U]	0.042	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDF	<0.13	[U]	0.13	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDF	<0.13	[U]	0.13	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDD	52.0		25-164	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDD	56.0		25-181	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	46.0		32-141	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	53.0		28-130	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	36.0		23-140	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-OCDD	37.0		17-157	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDF	50.0		24-169	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDF	54.0		21-192	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,7,8-PeCDF	52.0		21-178	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	49.0		26-152	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	52.0		26-123	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	47.0		29-147	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	38.0		28-136	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	40.0		28-143	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	37.0		26-138	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	54.0		31-197	%	06-MAR-17	22-MAR-17	R3681434
Lower Bound PCDD/F TEQ (WHO 2005)	0.0000582			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Mid Point PCDD/F TEQ (WHO 2005)	0.0911			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Upper Bound PCDD/F TEQ (WHO 2005)	0.182			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
L1862212-39 16-S5-SS-CH-097							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 09:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	15.7		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-39 16-S5-SS-CH-097							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 09:30							
Matrix: Soil							
OC Pesticides by Method 1699							
alpha-BHC	0.0029	J,R	0.0018	ng/g	02-FEB-17	09-MAR-17	R3676514
beta-BHC	<0.0033	[U]	0.0033	ng/g	02-FEB-17	09-MAR-17	R3676514
delta-BHC	<0.0024	[U]	0.0024	ng/g	02-FEB-17	09-MAR-17	R3676514
gamma-BHC	0.0083	M,J,R	0.0023	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor	0.00130	M,J,R	0.00064	ng/g	02-FEB-17	09-MAR-17	R3676514
Aldrin	<0.00024	[U]	0.00024	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor Epoxide	0.0187	[J]	0.00083	ng/g	02-FEB-17	09-MAR-17	R3676514
trans-Chlordane	0.0158	[J]	0.0032	ng/g	02-FEB-17	09-MAR-17	R3676514
cis-Chlordane	0.0181	M,J	0.0031	ng/g	02-FEB-17	09-MAR-17	R3676514
Dieldrin	0.0357	[J]	0.00080	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin	0.0068	M,J,R	0.0015	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin Aldehyde	<0.0025	[U]	0.0025	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan I	<0.0029	[U]	0.0029	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan II	0.0134	M,J	0.0099	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan Sulfate	<0.0016	[U]	0.0016	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDE	0.373		0.0029	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDD	0.0150	J,R	0.0038	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDT	0.379		0.011	ng/g	02-FEB-17	09-MAR-17	R3676514
Methoxychlor	<0.0037	[U]	0.0037	ng/g	02-FEB-17	09-MAR-17	R3676514
Mirex	0.00390	J,R	0.00067	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 26	0.053	M,J,R	0.044	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 50	<0.039	M,U	0.039	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 62	<0.062	[U]	0.062	ng/g	02-FEB-17	09-MAR-17	R3676514
Surrogate: alpha-BHC, 13C6-	82.0		16-129	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: gamma-BHC-D6	87.0		11-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Heptachlor, 13C10-	95.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Oxychlordane, 13C10-	106.0		23-135	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: trans-Nonachlor, 13C10-	80.0		36-139	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Dieldrin, 13C12-	88.0		40-151	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endrin, 13C12-	123.0		35-155	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endosulfan II, 13C9-	93.0		15-148	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: 4,4'-DDE, 13C12-	52.0		47-160	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: 4,4'-DDT, 13C12-	80.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Methoxychlor-D6	80.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Mirex, 13C10-	22.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.289	M,J	0.062	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.190	M,J,R	0.036	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.120	M,J,R	0.082	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.250	M,J,R	0.069	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.237	M,J	0.075	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	4.08		0.090	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	21.4		0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.335	M,J	0.078	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.170	M,J,R	0.059	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.385	M,J,B	0.053	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.419	M,J,B	0.091	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.292	M,J	0.087	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.272	M,J,B	0.087	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	<0.12	M,U	0.12	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	1.77	[J]	0.035	pg/g	24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-39 16-S5-SS-CH-097							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 09:30							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8,9-HpCDF	0.173	M,J	0.055	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	1.79	J,B	0.043	pg/g	24-JAN-17	28-JAN-17	R3643488
Total-TCDD	1.64		0.062	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	3.05		0.036	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	4.10		0.082	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	8.36		0.090	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	4.59		0.078	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	9				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	4.97		0.059	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDF # Homologues	10				24-JAN-17	28-JAN-17	R3643488
Total-HxCDF	3.34		0.12	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	8				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	2.08		0.055	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	3				24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	59.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	45.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	56.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	72.0		28-130	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	56.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	54.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	57.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	46.0		24-185	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	44.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	56.0		26-152	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	67.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	62.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	57.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	54.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	51.0		26-138	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	54.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	0.627			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	0.865			pg/g	24-JAN-17	28-JAN-17	R3643488
Upper Bound PCDD/F TEQ (WHO 2005)	0.871			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-40 16-S5-NG-CH-099							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 09:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	74.9		0.10	%	06-JAN-17	09-JAN-17	R3630333
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.33	[U]	0.33	ng/g	09-MAR-17	21-MAR-17	R3686339
beta-BHC	<0.56	[U]	0.56	ng/g	09-MAR-17	21-MAR-17	R3686339
delta-BHC	<0.46	[U]	0.46	ng/g	09-MAR-17	21-MAR-17	R3686339
gamma-BHC	<0.40	[U]	0.40	ng/g	09-MAR-17	21-MAR-17	R3686339
Heptachlor	0.065	M,J,R	0.031	ng/g	09-MAR-17	21-MAR-17	R3686339
Aldrin	<0.060	[U]	0.060	ng/g	09-MAR-17	21-MAR-17	R3686339
Heptachlor Epoxide	0.216	M,J	0.067	ng/g	09-MAR-17	21-MAR-17	R3686339

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-40 16-S5-NG-CH-099							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 09:00							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
trans-Chlordane	<0.36	[U]	0.36	ng/g	09-MAR-17	21-MAR-17	R3686339
cis-Chlordane	0.37	M,J,R	0.33	ng/g	09-MAR-17	21-MAR-17	R3686339
Dieldrin	0.53	M,J,R	0.14	ng/g	09-MAR-17	21-MAR-17	R3686339
Endrin	0.33	M,J,R	0.18	ng/g	09-MAR-17	21-MAR-17	R3686339
Endrin Aldehyde	<0.13	[U]	0.13	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan I	<0.43	[U]	0.43	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan II	<0.93	[U]	0.93	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan Sulfate	0.87	M,J	0.40	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDE	0.81	M,J	0.35	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDD	<0.81	[U]	0.81	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDT	<1.8	[U]	1.8	ng/g	09-MAR-17	21-MAR-17	R3686339
Methoxychlor	<0.052	[U]	0.052	ng/g	09-MAR-17	21-MAR-17	R3686339
Mirex	0.230	J,R	0.025	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 26	<1.3	[U]	1.3	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 50	<0.82	[U]	0.82	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 62	<1.7	[U]	1.7	ng/g	09-MAR-17	21-MAR-17	R3686339
Surrogate: alpha-BHC, 13C6-	61.0		16-129	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: gamma-BHC-D6	64.0		11-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Heptachlor, 13C10-	95.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Oxychlordane, 13C10-	64.0		23-135	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: trans-Nonachlor, 13C10-	63.0		36-139	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Dieldrin, 13C12-	62.0		40-151	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Endrin, 13C12-	76.0		35-155	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Endosulfan II, 13C9-	53.0		15-148	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDE, 13C12-	62.0		47-160	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDT, 13C12-	85.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Methoxychlor-D6	85.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Mirex, 13C10-	47.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDD, 13C12-	67.0		5-150	%	09-MAR-17	21-MAR-17	R3686339
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<2.2	[U]	2.2	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDD	<1.4	[U]	1.4	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDD	<1.2	[U]	1.2	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDD	<1.1	[U]	1.1	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDD	<1.2	[U]	1.2	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDD	<1.7	M,U	1.7	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDD	6.0	M,J	1.9	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,7,8-TCDF	<4.2	[U]	4.2	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDF	<1.3	[U]	1.3	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,7,8-PeCDF	<1.1	[U]	1.1	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDF	<1.6	[U]	1.6	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDF	<1.4	[U]	1.4	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,6,7,8-HxCDF	<1.4	[U]	1.4	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDF	<2.2	[U]	2.2	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDF	<1.2	[U]	1.2	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8,9-HpCDF	<1.8	[U]	1.8	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDF	1.7	M,J,R	1.4	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total-TCDD	<2.2	[U]	2.2	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDD	<1.4	[U]	1.4	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-40 16-S5-NG-CH-099							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 09:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HxCDD	<1.2	[U]	1.2	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDD	<1.7	[U]	1.7	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-TCDF	<4.2	[U]	4.2	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDF	<1.3	[U]	1.3	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDF	<2.2	[U]	2.2	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDF	<1.8	[U]	1.8	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDD	46.0		25-164	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDD	85.0		25-181	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	70.0		32-141	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	80.0		28-130	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	78.0		23-140	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-OCDD	66.0		17-157	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDF	36.0		24-169	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDF	75.0		21-192	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,7,8-PeCDF	82.0		21-178	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	76.0		26-123	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	82.0		29-147	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	68.0		28-136	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	74.0		28-143	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	71.0		26-138	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	49.0		31-197	%	06-MAR-17	22-MAR-17	R3681434
Lower Bound PCDD/F TEQ (WHO 2005)	0.00179			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Mid Point PCDD/F TEQ (WHO 2005)	2.73			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Upper Bound PCDD/F TEQ (WHO 2005)	5.45			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
L1862212-41 16-S5-FC-CH-101							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 09:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	31.5		0.10	%	06-JAN-17	11-JAN-17	R3630956
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
Chlorophenols as derivatives							
Pentachlorophenol	<1.2	[U]	1.2	ng/g		29-MAR-17	R3686824
Surrogate: 13C6-Pentachlorophenol	62.0		50-150	%		29-MAR-17	R3686824
OC Pesticides by Method 1699							
alpha-BHC	<0.0024	[U]	0.0024	ng/g	15-MAR-17	27-MAR-17	R3686157
beta-BHC	<0.0038	[U]	0.0038	ng/g	15-MAR-17	27-MAR-17	R3686157
delta-BHC	<0.0032	[U]	0.0032	ng/g	15-MAR-17	27-MAR-17	R3686157
gamma-BHC	<0.0032	[U]	0.0032	ng/g	15-MAR-17	27-MAR-17	R3686157
Heptachlor	0.00068	M,J,R	0.00053	ng/g	15-MAR-17	27-MAR-17	R3686157
Aldrin	<0.00043	[U]	0.00043	ng/g	15-MAR-17	27-MAR-17	R3686157
Heptachlor Epoxide	<0.00067	[U]	0.00067	ng/g	15-MAR-17	27-MAR-17	R3686157
trans-Chlordane	<0.0041	[U]	0.0041	ng/g	15-MAR-17	27-MAR-17	R3686157
cis-Chlordane	<0.0040	[U]	0.0040	ng/g	15-MAR-17	27-MAR-17	R3686157
Dieldrin	<0.0030	[U]	0.0030	ng/g	15-MAR-17	27-MAR-17	R3686157

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-41 16-S5-FC-CH-101							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 09:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Endrin	<0.0050	[U]	0.0050	ng/g	15-MAR-17	27-MAR-17	R3686157
Endrin Aldehyde	0.00349	M,J	0.00097	ng/g	15-MAR-17	27-MAR-17	R3686157
Endosulfan I	<0.0048	[U]	0.0048	ng/g	15-MAR-17	27-MAR-17	R3686157
Endosulfan II	<0.013	[U]	0.013	ng/g	15-MAR-17	27-MAR-17	R3686157
Endosulfan Sulfate	<0.0030	[U]	0.0030	ng/g	15-MAR-17	27-MAR-17	R3686157
4,4-DDE	<0.0031	[U]	0.0031	ng/g	15-MAR-17	27-MAR-17	R3686157
4,4-DDD	<0.0061	[U]	0.0061	ng/g	15-MAR-17	27-MAR-17	R3686157
4,4-DDT	<0.048	[U]	0.048	ng/g	15-MAR-17	27-MAR-17	R3686157
Methoxychlor	<0.014	[U]	0.014	ng/g	15-MAR-17	27-MAR-17	R3686157
Mirex	0.00069	M,J,R	0.00066	ng/g	15-MAR-17	27-MAR-17	R3686157
Parlar 26	<0.046	[U]	0.046	ng/g	15-MAR-17	27-MAR-17	R3686157
Parlar 50	<0.042	[U]	0.042	ng/g	15-MAR-17	27-MAR-17	R3686157
Parlar 62	<0.059	[U]	0.059	ng/g	15-MAR-17	27-MAR-17	R3686157
Surrogate: alpha-BHC, 13C6-	75.0		16-129	%	15-MAR-17	27-MAR-17	R3686157
Surrogate: gamma-BHC-D6	80.0		11-120	%	15-MAR-17	27-MAR-17	R3686157
Surrogate: Heptachlor, 13C10-	95.0		5-120	%	15-MAR-17	27-MAR-17	R3686157
Surrogate: Oxychlordane, 13C10-	80.0		23-135	%	15-MAR-17	27-MAR-17	R3686157
Surrogate: trans-Nonachlor, 13C10-	86.0		36-139	%	15-MAR-17	27-MAR-17	R3686157
Surrogate: Dieldrin, 13C12-	87.0		40-151	%	15-MAR-17	27-MAR-17	R3686157
Surrogate: Endrin, 13C12-	94.0		35-155	%	15-MAR-17	27-MAR-17	R3686157
Surrogate: Endosulfan II, 13C9-	62.0		15-148	%	15-MAR-17	27-MAR-17	R3686157
Surrogate: 4,4'-DDE, 13C12-	79.0		47-160	%	15-MAR-17	27-MAR-17	R3686157
Surrogate: 4,4'-DDT, 13C12-	19.0		5-120	%	15-MAR-17	27-MAR-17	R3686157
Surrogate: Methoxychlor-D6	12.0		5-120	%	15-MAR-17	27-MAR-17	R3686157
Surrogate: Mirex, 13C10-	24.0		5-120	%	15-MAR-17	27-MAR-17	R3686157
Surrogate: 4,4'-DDD, 13C12-	49.0		5-150	%	15-MAR-17	27-MAR-17	R3686157
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.017	[U]	0.017	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDD	<0.014	[U]	0.014	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDD	<0.036	[U]	0.036	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDD	<0.033	[U]	0.033	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDD	<0.036	[U]	0.036	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDD	<0.044	[U]	0.044	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDD	<0.040	M,U	0.040	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,7,8-TCDF	<0.017	[U]	0.017	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDF	<0.011	[U]	0.011	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,7,8-PeCDF	<0.0091	[U]	0.0091	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDF	<0.025	[U]	0.025	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDF	<0.026	[U]	0.026	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,6,7,8-HxCDF	<0.027	[U]	0.027	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDF	<0.044	[U]	0.044	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDF	<0.039	[U]	0.039	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8,9-HpCDF	<0.059	[U]	0.059	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDF	0.098	M,J,R	0.041	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total-TCDD	<0.017	[U]	0.017	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDD	<0.014	[U]	0.014	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDD	<0.036	[U]	0.036	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDD	<0.044	[U]	0.044	pg/g wwt	06-MAR-17	22-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-41 16-S5-FC-CH-101							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 09:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total HpCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-TCDF	<0.017	[U]	0.017	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDF	<0.011	[U]	0.011	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDF	<0.044	[U]	0.044	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDF	<0.059	[U]	0.059	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDD	84.0		25-164	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	70.0		32-141	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	47.0		23-140	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-OCDD	57.0		17-157	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDF	79.0		24-169	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		21-192	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,7,8-PeCDF	78.0		21-178	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	74.0		26-152	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	76.0		26-123	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	75.0		29-147	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	61.0		28-136	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	51.0		28-143	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	51.0		26-138	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	82.0		31-197	%	06-MAR-17	22-MAR-17	R3681434
Lower Bound PCDD/F TEQ (WHO 2005)	0.00			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Mid Point PCDD/F TEQ (WHO 2005)	0.0300			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Upper Bound PCDD/F TEQ (WHO 2005)	0.0599			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
L1862212-42 16-S7-SS-CH-079							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 16:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	23.4		0.10	%	06-JAN-17	11-JAN-17	R3630956
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	0.0086	J,R	0.0023	ng/g	02-FEB-17	09-MAR-17	R3676514
beta-BHC	0.0051	M,J	0.0041	ng/g	02-FEB-17	09-MAR-17	R3676514
delta-BHC	<0.0032	[U]	0.0032	ng/g	02-FEB-17	09-MAR-17	R3676514
gamma-BHC	0.0942	[J]	0.0030	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor	0.00280	M,J,R	0.00045	ng/g	02-FEB-17	09-MAR-17	R3676514
Aldrin	0.00128	M,J	0.00034	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor Epoxide	0.00962	M,J	0.00075	ng/g	02-FEB-17	09-MAR-17	R3676514
trans-Chlordane	0.0263	[J]	0.0019	ng/g	02-FEB-17	09-MAR-17	R3676514
cis-Chlordane	0.0179	M,J	0.0019	ng/g	02-FEB-17	09-MAR-17	R3676514
Dieldrin	0.0359	[J]	0.0014	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin	0.0074	M,J,R	0.0028	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin Aldehyde	<0.0024	[U]	0.0024	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan I	0.0141	M,J	0.0084	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan II	0.0150	M,J,R	0.0084	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan Sulfate	<0.0014	[U]	0.0014	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDE	0.332		0.0021	ng/g	02-FEB-17	09-MAR-17	R3676514

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-42 16-S7-SS-CH-079							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 16:30							
Matrix: Soil							
OC Pesticides by Method 1699							
4,4-DDD	0.0200	J,R	0.0054	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDT	0.387		0.016	ng/g	02-FEB-17	09-MAR-17	R3676514
Methoxychlor	<0.0089	[U]	0.0089	ng/g	02-FEB-17	09-MAR-17	R3676514
Mirex	0.00810	J,R	0.00088	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 26	0.086	M,J,R	0.073	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 50	<0.051	[U]	0.051	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 62	<0.082	[U]	0.082	ng/g	02-FEB-17	09-MAR-17	R3676514
Surrogate: alpha-BHC, 13C6-	85.0		16-129	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: gamma-BHC-D6	89.0		11-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Heptachlor, 13C10-	125.0	G	5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Oxychlordane, 13C10-	109.0		23-135	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: trans-Nonachlor, 13C10-	96.0		36-139	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Dieldrin, 13C12-	96.0		40-151	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endrin, 13C12-	141.0		35-155	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endosulfan II, 13C9-	88.0		15-148	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: 4,4'-DDE, 13C12-	68.0		47-160	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: 4,4'-DDT, 13C12-	75.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Methoxychlor-D6	51.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Mirex, 13C10-	20.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Note: Sample has an elevated recovery for 13C10-Heptachlor. Natives are calculated via isotope dilution and are inherently recovery corrected.							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.227	M,J	0.081	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.16	M,J,B	0.10	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.17	M,J,B	0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.31	M,J	0.10	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.28	M,J,R	0.10	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	5.14		0.10	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	31.2		0.17	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.250	M,J,R	0.067	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.140	J,R	0.053	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.270	M,J,R	0.048	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.330	J,R	0.061	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.360	M,J,R	0.061	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.298	J,B	0.061	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	<0.084	M,U	0.084	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	1.78	[J]	0.025	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8,9-HpCDF	0.142	M,J	0.036	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	1.99	J,B	0.037	pg/g	24-JAN-17	28-JAN-17	R3643488
Total-TCDD	1.85		0.081	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	7				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	1.30		0.10	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	4.44		0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	10.3		0.10	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	2.07		0.067	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	2.22		0.053	pg/g	24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-42 16-S7-SS-CH-079							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 16:30							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total PeCDF # Homologues	6				24-JAN-17	28-JAN-17	R3643488
Total-HxCDF	1.74		0.084	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	4				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	2.93		0.036	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	3				24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	54.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	43.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	48.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	65.0		28-130	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	50.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	48.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	53.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	44.0		24-185	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	42.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	51.0		26-152	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	58.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	54.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	50.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	47.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	47.0		26-138	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	47.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	0.544			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	0.755			pg/g	24-JAN-17	28-JAN-17	R3643488
Upper Bound PCDD/F TEQ (WHO 2005)	0.759			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-43 16-S7-SD-CH-081							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 17:15							
Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	30.2		0.10	%	06-JAN-17	11-JAN-17	R3630956
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	0.0065	J,R	0.0018	ng/g	02-FEB-17	09-MAR-17	R3676514
beta-BHC	0.0157	[J]	0.0034	ng/g	02-FEB-17	09-MAR-17	R3676514
delta-BHC	<0.0024	[U]	0.0024	ng/g	02-FEB-17	09-MAR-17	R3676514
gamma-BHC	0.117	[J]	0.0023	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor	0.00160	M,J,R	0.00051	ng/g	02-FEB-17	09-MAR-17	R3676514
Aldrin	0.00072	[J]	0.00029	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor Epoxide	0.0136	[J]	0.00059	ng/g	02-FEB-17	09-MAR-17	R3676514
trans-Chlordane	0.0160	J,R	0.0053	ng/g	02-FEB-17	09-MAR-17	R3676514
cis-Chlordane	0.0157	[J]	0.0051	ng/g	02-FEB-17	09-MAR-17	R3676514
Dieldrin	0.0801	[J]	0.0016	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin	0.0091	M,J,R	0.0033	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin Aldehyde	<0.0021	[U]	0.0021	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan I	<0.0030	[U]	0.0030	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan II	0.020	M,J	0.010	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan Sulfate	<0.0017	[U]	0.0017	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDE	0.257		0.0028	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDD	0.0815	[J]	0.0076	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDT	0.200	R	0.031	ng/g	02-FEB-17	09-MAR-17	R3676514
Methoxychlor	<0.012	[U]	0.012	ng/g	02-FEB-17	09-MAR-17	R3676514
Mirex	0.0030	M,J,R	0.0015	ng/g	02-FEB-17	09-MAR-17	R3676514

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-43 16-S7-SD-CH-081							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 17:15							
Matrix: Sediment							
OC Pesticides by Method 1699							
Parlar 26	<0.14	[U]	0.14	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 50	<0.099	[U]	0.099	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 62	<0.16	[U]	0.16	ng/g	02-FEB-17	09-MAR-17	R3676514
Surrogate: alpha-BHC, 13C6-	82.0		16-129	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: gamma-BHC-D6	91.0		11-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Heptachlor, 13C10-	101.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Oxychlordane, 13C10-	112.0		23-135	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: trans-Nonachlor, 13C10-	80.0		36-139	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Dieldrin, 13C12-	89.0		40-151	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endrin, 13C12-	123.0		35-155	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endosulfan II, 13C9-	92.0		15-148	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: 4,4'-DDE, 13C12-	48.0		47-160	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: 4,4'-DDT, 13C12-	38.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Methoxychlor-D6	30.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Mirex, 13C10-	11.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
L1862212-44 16-S7-NG-CH-085							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 16:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	67.2		0.10	%	06-JAN-17	11-JAN-17	R3630956
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.066	[U]	0.066	ng/g	09-MAR-17	21-MAR-17	R3686339
beta-BHC	<0.11	[U]	0.11	ng/g	09-MAR-17	21-MAR-17	R3686339
delta-BHC	<0.091	[U]	0.091	ng/g	09-MAR-17	21-MAR-17	R3686339
gamma-BHC	<0.080	[U]	0.080	ng/g	09-MAR-17	21-MAR-17	R3686339
Heptachlor	0.0150	M,J,R	0.0071	ng/g	09-MAR-17	21-MAR-17	R3686339
Aldrin	<0.0095	[U]	0.0095	ng/g	09-MAR-17	21-MAR-17	R3686339
Heptachlor Epoxide	0.057	[J]	0.015	ng/g	09-MAR-17	21-MAR-17	R3686339
trans-Chlordane	<0.091	[U]	0.091	ng/g	09-MAR-17	21-MAR-17	R3686339
cis-Chlordane	0.128	M,J	0.084	ng/g	09-MAR-17	21-MAR-17	R3686339
Dieldrin	0.236	[J]	0.036	ng/g	09-MAR-17	21-MAR-17	R3686339
Endrin	<0.051	M,U	0.051	ng/g	09-MAR-17	21-MAR-17	R3686339
Endrin Aldehyde	<0.025	[U]	0.025	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan I	<0.14	[U]	0.14	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan II	<0.16	[U]	0.16	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan Sulfate	0.130	M,J,R	0.034	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDE	0.200	M,J,R	0.088	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDD	<0.19	[U]	0.19	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDT	<0.61	[U]	0.61	ng/g	09-MAR-17	21-MAR-17	R3686339
Methoxychlor	<0.040	[U]	0.040	ng/g	09-MAR-17	21-MAR-17	R3686339
Mirex	0.0520	M,J,R	0.0099	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 26	<0.55	[U]	0.55	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 50	<0.39	[U]	0.39	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 62	<0.80	[U]	0.80	ng/g	09-MAR-17	21-MAR-17	R3686339
Surrogate: alpha-BHC, 13C6-	41.0		16-129	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: gamma-BHC-D6	43.0		11-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Heptachlor, 13C10-	68.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Oxychlordane, 13C10-	45.0		23-135	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: trans-Nonachlor, 13C10-	44.0		36-139	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Dieldrin, 13C12-	46.0		40-151	%	09-MAR-17	21-MAR-17	R3686339

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-44 16-S7-NG-CH-085							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 16:00							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: Endrin, 13C12-	53.0		35-155	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Endosulfan II, 13C9-	32.0		15-148	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDE, 13C12-	43.0	G	47-160	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDT, 13C12-	35.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Methoxychlor-D6	26.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Mirex, 13C10-	19.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDD, 13C12-	31.0		5-150	%	09-MAR-17	21-MAR-17	R3686339
Note: Sample has a low recovery for 13C12-44'-DDE. Natives are calculated via isotope dilution and are inherently recovery corrected.							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.17	[U]	0.17	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDD	<0.14	[U]	0.14	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDD	<0.29	[U]	0.29	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDD	<0.29	[U]	0.29	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDD	<0.30	[U]	0.30	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDD	0.56	M,J,B	0.35	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDD	1.80	M,J,R	0.55	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,7,8-TCDF	<0.18	[U]	0.18	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDF	<0.16	[U]	0.16	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,7,8-PeCDF	<0.13	[U]	0.13	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDF	<0.21	[U]	0.21	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDF	<0.21	[U]	0.21	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,6,7,8-HxCDF	<0.21	[U]	0.21	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDF	<0.29	[U]	0.29	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDF	<0.21	[U]	0.21	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8,9-HpCDF	<0.32	[U]	0.32	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDF	<0.33	[U]	0.33	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total-TCDD	<0.17	[U]	0.17	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDD	0.24		0.14	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDD # Homologues	2				06-MAR-17	22-MAR-17	R3681434
Total-HxCDD	0.49		0.30	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDD # Homologues	1				06-MAR-17	22-MAR-17	R3681434
Total-HpCDD	0.56		0.35	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDD # Homologues	1				06-MAR-17	22-MAR-17	R3681434
Total-TCDF	<0.18	[U]	0.18	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDF	<0.16	[U]	0.16	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDF	<0.29	[U]	0.29	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDF	<0.32	[U]	0.32	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDD	75.0		25-164	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDD	85.0		25-181	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	73.0		32-141	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	63.0		28-130	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	64.0		23-140	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-OCDD	49.0		17-157	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDF	72.0		24-169	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		21-192	%	06-MAR-17	22-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-44 16-S7-NG-CH-085							
Sampled By: Pascal Tuarze on 14-SEP-16 @ 16:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,4,7,8-PeCDF	82.0		21-178	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	65.0		26-123	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	68.0		29-147	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	63.0		28-136	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	62.0		28-143	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	56.0		26-138	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	73.0		31-197	%	06-MAR-17	22-MAR-17	R3681434
Lower Bound PCDD/F TEQ (WHO 2005)	0.00559			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Mid Point PCDD/F TEQ (WHO 2005)	0.285			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Upper Bound PCDD/F TEQ (WHO 2005)	0.563			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
L1862212-45 16-D1-SS-CH-103							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 14:05							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	16.2		0.10	%	06-JAN-17	11-JAN-17	R3630956
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.0019	[U]	0.0019	ng/g	02-FEB-17	09-MAR-17	R3676514
beta-BHC	<0.0034	[U]	0.0034	ng/g	02-FEB-17	09-MAR-17	R3676514
delta-BHC	<0.0026	[U]	0.0026	ng/g	02-FEB-17	09-MAR-17	R3676514
gamma-BHC	0.0112	M,J	0.0025	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor	0.00130	M,J,R	0.00065	ng/g	02-FEB-17	09-MAR-17	R3676514
Aldrin	<0.00037	[U]	0.00037	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor Epoxide	0.0165	[J]	0.00078	ng/g	02-FEB-17	09-MAR-17	R3676514
trans-Chlordane	0.0088	M,J,R	0.0043	ng/g	02-FEB-17	09-MAR-17	R3676514
cis-Chlordane	0.0130	M,J	0.0042	ng/g	02-FEB-17	09-MAR-17	R3676514
Dieldrin	0.0265	[J]	0.0018	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin	0.0077	M,J,R	0.0034	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin Aldehyde	<0.0018	[U]	0.0018	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan I	<0.0051	[U]	0.0051	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan II	0.021	M,J	0.011	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan Sulfate	<0.0030	[U]	0.0030	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDE	0.234		0.0036	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDD	0.0079	J,R	0.0038	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDT	0.286	M	0.016	ng/g	02-FEB-17	09-MAR-17	R3676514
Methoxychlor	<0.0058	[U]	0.0058	ng/g	02-FEB-17	09-MAR-17	R3676514
Mirex	0.0087	J,R	0.0012	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 26	0.078	M,J	0.058	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 50	<0.072	[U]	0.072	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 62	<0.12	[U]	0.12	ng/g	02-FEB-17	09-MAR-17	R3676514
Surrogate: alpha-BHC, 13C6-	83.0		16-129	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: gamma-BHC-D6	88.0		11-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Heptachlor, 13C10-	99.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Oxychlordane, 13C10-	108.0		23-135	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: trans-Nonachlor, 13C10-	85.0		36-139	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Dieldrin, 13C12-	91.0		40-151	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endrin, 13C12-	133.0		35-155	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endosulfan II, 13C9-	91.0		15-148	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: 4,4'-DDE, 13C12-	50.0		47-160	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: 4,4'-DDT, 13C12-	65.0		5-120	%	02-FEB-17	09-MAR-17	R3676514

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-45 16-D1-SS-CH-103							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 14:05							
Matrix: Soil							
OC Pesticides by Method 1699							
Surrogate: Methoxychlor-D6	56.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Mirex, 13C10-	16.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.248	[J]	0.044	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDD	0.192	J,B	0.050	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDD	0.17	J,B	0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDD	0.38	[J]	0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDD	0.38	M,J,R	0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDD	6.73		0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDD	36.3		0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,7,8-TCDF	0.365	M,J	0.074	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8-PeCDF	0.178	M,J,B	0.067	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,7,8-PeCDF	0.569	J,B	0.061	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8-HxCDF	0.391	J,B	0.048	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,6,7,8-HxCDF	0.252	[J]	0.046	pg/g	24-JAN-17	28-JAN-17	R3643488
2,3,4,6,7,8-HxCDF	0.398	J,B	0.047	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,7,8,9-HxCDF	0.111	M,J	0.062	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,6,7,8-HpCDF	2.09	[J]	0.031	pg/g	24-JAN-17	28-JAN-17	R3643488
1,2,3,4,7,8,9-HpCDF	0.152	M,J	0.044	pg/g	24-JAN-17	28-JAN-17	R3643488
OCDF	2.27	J,B	0.030	pg/g	24-JAN-17	28-JAN-17	R3643488
Total-TCDD	1.54		0.044	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDD # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-PeCDD	2.22		0.050	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDD # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-HxCDD	5.46		0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDD # Homologues	5				24-JAN-17	28-JAN-17	R3643488
Total-HpCDD	12.7		0.11	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDD # Homologues	2				24-JAN-17	28-JAN-17	R3643488
Total-TCDF	7.11		0.074	pg/g	24-JAN-17	28-JAN-17	R3643488
Total TCDF # Homologues	13				24-JAN-17	28-JAN-17	R3643488
Total-PeCDF	9.03		0.067	pg/g	24-JAN-17	28-JAN-17	R3643488
Total PeCDF # Homologues	13				24-JAN-17	28-JAN-17	R3643488
Total-HxCDF	4.62		0.062	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HxCDF # Homologues	8				24-JAN-17	28-JAN-17	R3643488
Total-HpCDF	3.29		0.044	pg/g	24-JAN-17	28-JAN-17	R3643488
Total HpCDF # Homologues	3				24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDD	65.0		25-164	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDD	50.0		25-181	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	60.0		32-141	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	75.0		28-130	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	59.0		23-140	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-OCDD	57.0		17-157	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,7,8-TCDF	62.0		24-169	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8-PeCDF	51.0		24-185	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,7,8-PeCDF	48.0		21-178	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	61.0		26-152	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	68.0		26-123	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	62.0		29-147	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	60.0		28-136	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	56.0		28-143	%	24-JAN-17	28-JAN-17	R3643488
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	54.0		26-138	%	24-JAN-17	28-JAN-17	R3643488

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-45 16-D1-SS-CH-103							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 14:05							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	59.0		35-197	%	24-JAN-17	28-JAN-17	R3643488
Lower Bound PCDD/F TEQ (WHO 2005)	0.923			pg/g	24-JAN-17	28-JAN-17	R3643488
Mid Point PCDD/F TEQ (WHO 2005)	0.961			pg/g	24-JAN-17	28-JAN-17	R3643488
Upper Bound PCDD/F TEQ (WHO 2005)	0.961			pg/g	24-JAN-17	28-JAN-17	R3643488
L1862212-46 16-D3-NG-CH-105							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	73.1		0.10	%	06-JAN-17	11-JAN-17	R3630956
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.047	[U]	0.047	ng/g	09-MAR-17	21-MAR-17	R3686339
beta-BHC	<0.081	[U]	0.081	ng/g	09-MAR-17	21-MAR-17	R3686339
delta-BHC	<0.063	[U]	0.063	ng/g	09-MAR-17	21-MAR-17	R3686339
gamma-BHC	<0.056	[U]	0.056	ng/g	09-MAR-17	21-MAR-17	R3686339
Heptachlor	0.0069	M,J,R	0.0041	ng/g	09-MAR-17	21-MAR-17	R3686339
Aldrin	<0.0050	[U]	0.0050	ng/g	09-MAR-17	21-MAR-17	R3686339
Heptachlor Epoxide	0.0402	M,J	0.0078	ng/g	09-MAR-17	21-MAR-17	R3686339
trans-Chlordane	<0.038	[U]	0.038	ng/g	09-MAR-17	21-MAR-17	R3686339
cis-Chlordane	0.081	M,J	0.035	ng/g	09-MAR-17	21-MAR-17	R3686339
Dieldrin	0.110	J,R	0.034	ng/g	09-MAR-17	21-MAR-17	R3686339
Endrin	<0.047	M,U	0.047	ng/g	09-MAR-17	21-MAR-17	R3686339
Endrin Aldehyde	<0.027	[U]	0.027	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan I	<0.17	[U]	0.17	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan II	<0.14	[U]	0.14	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan Sulfate	0.215	M,J	0.034	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDE	0.155	[J]	0.057	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDD	<0.20	[U]	0.20	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDT	<0.27	[U]	0.27	ng/g	09-MAR-17	21-MAR-17	R3686339
Methoxychlor	<0.028	[U]	0.028	ng/g	09-MAR-17	21-MAR-17	R3686339
Mirex	0.0270	M,J,R	0.0078	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 26	<0.33	[U]	0.33	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 50	<0.24	[U]	0.24	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 62	<0.51	[U]	0.51	ng/g	09-MAR-17	21-MAR-17	R3686339
Surrogate: alpha-BHC, 13C6-	35.0		16-129	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: gamma-BHC-D6	40.0		11-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Heptachlor, 13C10-	57.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Oxychlordane, 13C10-	51.0		23-135	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: trans-Nonachlor, 13C10-	50.0		36-139	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Dieldrin, 13C12-	52.0		40-151	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Endrin, 13C12-	60.0		35-155	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Endosulfan II, 13C9-	20.0		15-148	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDE, 13C12-	44.0	G	47-160	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDT, 13C12-	36.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Methoxychlor-D6	27.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Mirex, 13C10-	19.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDD, 13C12-	35.0		5-150	%	09-MAR-17	21-MAR-17	R3686339
Note: Sample has a low recovery for 13C12-44'-DDE. Natives are calculated via isotope dilution and are inherently recovery corrected							
Dioxins and Furans HR 1613B							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-46 16-D3-NG-CH-105							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.12	[U]	0.12	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDD	<0.11	[U]	0.11	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDD	<0.16	[U]	0.16	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDD	<0.16	[U]	0.16	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDD	<0.17	[U]	0.17	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDD	1.02	[J]	0.26	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDD	5.11	[J]	0.32	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,7,8-TCDF	<0.12	[U]	0.12	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDF	<0.090	[U]	0.090	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,7,8-PeCDF	<0.074	[U]	0.074	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDF	<0.11	[U]	0.11	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDF	<0.11	[U]	0.11	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,6,7,8-HxCDF	<0.11	M,U	0.11	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDF	<0.15	[U]	0.15	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDF	0.38	M,J,R	0.18	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8,9-HpCDF	<0.26	[U]	0.26	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDF	0.63	[J]	0.18	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total-TCDD	<0.12	[U]	0.12	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDD	<0.11	[U]	0.11	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDD	<0.17	[U]	0.17	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDD	1.02		0.26	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDD # Homologues	1				06-MAR-17	22-MAR-17	R3681434
Total-TCDF	<0.12	[U]	0.12	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDF	0.093		0.090	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDF # Homologues	1				06-MAR-17	22-MAR-17	R3681434
Total-HxCDF	0.25		0.15	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDF # Homologues	1				06-MAR-17	22-MAR-17	R3681434
Total-HpCDF	<0.26	[U]	0.26	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDD	89.0		25-164	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDD	92.0		25-181	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	93.0		32-141	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	71.0		28-130	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	76.0		23-140	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-OCDD	67.0		17-157	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDF	87.0		24-169	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDF	85.0		21-192	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,7,8-PeCDF	91.0		21-178	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	82.0		26-152	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	70.0		26-123	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	76.0		29-147	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	76.0		28-136	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	80.0		28-143	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	72.0		26-138	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	90.0		31-197	%	06-MAR-17	22-MAR-17	R3681434
Lower Bound PCDD/F TEQ (WHO 2005)	0.0119			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Mid Point PCDD/F TEQ (WHO 2005)	0.199			pg/g wwt	06-MAR-17	22-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-46 16-D3-NG-CH-105							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 09:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Upper Bound PCDD/F TEQ (WHO 2005)	0.382			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
L1862212-47 16-D4-SD-CH-106							
Sampled By: Pascal Tuarze on 29-SEP-16 @ 10:15							
Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	46.8		0.10	%	06-JAN-17	11-JAN-17	R3630956
Total Polychlorinated Biphenyls	<0.020		0.020	mg/kg		15-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	0.0450	J,R	0.0035	ng/g	02-FEB-17	09-MAR-17	R3676514
beta-BHC	0.0511	[J]	0.0063	ng/g	02-FEB-17	09-MAR-17	R3676514
delta-BHC	<0.0045	[U]	0.0045	ng/g	02-FEB-17	09-MAR-17	R3676514
gamma-BHC	0.294		0.0044	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor	0.00920	J,R	0.00098	ng/g	02-FEB-17	09-MAR-17	R3676514
Aldrin	0.00651	[J]	0.00055	ng/g	02-FEB-17	09-MAR-17	R3676514
Heptachlor Epoxide	0.00510	M,J,R	0.00098	ng/g	02-FEB-17	09-MAR-17	R3676514
trans-Chlordane	0.187	[J]	0.0034	ng/g	02-FEB-17	09-MAR-17	R3676514
cis-Chlordane	0.166	[J]	0.0033	ng/g	02-FEB-17	09-MAR-17	R3676514
Dieldrin	0.0892	[J]	0.0028	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin	0.0180	M,J,R	0.0058	ng/g	02-FEB-17	09-MAR-17	R3676514
Endrin Aldehyde	<0.0038	[U]	0.0038	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan I	0.031	M,J	0.011	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan II	<0.022	[U]	0.022	ng/g	02-FEB-17	09-MAR-17	R3676514
Endosulfan Sulfate	0.0074	M,J	0.0034	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDE	1.34		0.0044	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDD	1.51		0.013	ng/g	02-FEB-17	09-MAR-17	R3676514
4,4-DDT	0.390	M	0.034	ng/g	02-FEB-17	09-MAR-17	R3676514
Methoxychlor	<0.032	[U]	0.032	ng/g	02-FEB-17	09-MAR-17	R3676514
Mirex	0.0210	J,R	0.0022	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 26	<0.11	[U]	0.11	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 50	<0.14	[U]	0.14	ng/g	02-FEB-17	09-MAR-17	R3676514
Parlar 62	<0.22	[U]	0.22	ng/g	02-FEB-17	09-MAR-17	R3676514
Surrogate: alpha-BHC, 13C6-	78.0		16-129	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: gamma-BHC-D6	86.0		11-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Heptachlor, 13C10-	138.0	G	5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Oxychlordane, 13C10-	108.0		23-135	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: trans-Nonachlor, 13C10-	84.0		36-139	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Dieldrin, 13C12-	79.0		40-151	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endrin, 13C12-	112.0		35-155	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Endosulfan II, 13C9-	76.0		15-148	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: 4,4'-DDE, 13C12-	58.0		47-160	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: 4,4'-DDT, 13C12-	37.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Methoxychlor-D6	22.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Surrogate: Mirex, 13C10-	15.0		5-120	%	02-FEB-17	09-MAR-17	R3676514
Note: Sample has an elevated recovery for 13C10-Heptachlor. Natives are calculated via isotope dilution and are inherently recovery corrected.							
L1862212-48 16-D5-SB-CH-107							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-48 16-D5-SB-CH-107							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:00							
Matrix: Plant Tissue							
% Moisture	41.0		0.10	%	06-JAN-17	11-JAN-17	R3630956
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
Chlorophenols as derivatives							
Pentachlorophenol	<1.2	[U]	1.2	ng/g		29-MAR-17	R3686824
Surrogate: 13C6-Pentachlorophenol	66.0		50-150	%		29-MAR-17	R3686824
OC Pesticides by Method 1699							
alpha-BHC	<0.014	[U]	0.014	ng/g	09-MAR-17	28-MAR-17	R3686339
beta-BHC	<0.022	[U]	0.022	ng/g	09-MAR-17	28-MAR-17	R3686339
delta-BHC	<0.019	[U]	0.019	ng/g	09-MAR-17	28-MAR-17	R3686339
gamma-BHC	<0.019	[U]	0.019	ng/g	09-MAR-17	28-MAR-17	R3686339
Heptachlor	<0.0033	M,U	0.0033	ng/g	09-MAR-17	28-MAR-17	R3686339
Aldrin	<0.0022	[U]	0.0022	ng/g	09-MAR-17	28-MAR-17	R3686339
Heptachlor Epoxide	0.0265	M,J	0.0048	ng/g	09-MAR-17	28-MAR-17	R3686339
trans-Chlordane	<0.019	M,U	0.019	ng/g	09-MAR-17	28-MAR-17	R3686339
cis-Chlordane	<0.018	[U]	0.018	ng/g	09-MAR-17	28-MAR-17	R3686339
Dieldrin	0.070	[J]	0.012	ng/g	09-MAR-17	28-MAR-17	R3686339
Endrin	<0.026	[U]	0.026	ng/g	09-MAR-17	28-MAR-17	R3686339
Endrin Aldehyde	<0.011	[U]	0.011	ng/g	09-MAR-17	28-MAR-17	R3686339
Endosulfan I	<0.024	[U]	0.024	ng/g	09-MAR-17	28-MAR-17	R3686339
Endosulfan II	<0.065	[U]	0.065	ng/g	09-MAR-17	28-MAR-17	R3686339
Endosulfan Sulfate	<0.024	[U]	0.024	ng/g	09-MAR-17	28-MAR-17	R3686339
4,4-DDE	<0.018	[U]	0.018	ng/g	09-MAR-17	28-MAR-17	R3686339
4,4-DDD	<0.029	[U]	0.029	ng/g	09-MAR-17	28-MAR-17	R3686339
4,4-DDT	<0.14	[U]	0.14	ng/g	09-MAR-17	28-MAR-17	R3686339
Methoxychlor	<0.033	[U]	0.033	ng/g	09-MAR-17	28-MAR-17	R3686339
Mirex	0.0057	M,J,R	0.0023	ng/g	09-MAR-17	28-MAR-17	R3686339
Parlar 26	<0.16	[U]	0.16	ng/g	09-MAR-17	28-MAR-17	R3686339
Parlar 50	<0.15	[U]	0.15	ng/g	09-MAR-17	28-MAR-17	R3686339
Parlar 62	<0.21	[U]	0.21	ng/g	09-MAR-17	28-MAR-17	R3686339
Surrogate: alpha-BHC, 13C6-	45.0		16-129	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: gamma-BHC-D6	48.0		11-120	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Heptachlor, 13C10-	44.0		5-120	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Oxychlordane, 13C10-	39.0		23-135	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: trans-Nonachlor, 13C10-	46.0		36-139	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Dieldrin, 13C12-	44.0		40-151	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Endrin, 13C12-	39.0		35-155	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Endosulfan II, 13C9-	38.0		15-148	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: 4,4'-DDE, 13C12-	46.0	G	47-160	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: 4,4'-DDT, 13C12-	19.0		5-120	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Methoxychlor-D6	10.0		5-120	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: Mirex, 13C10-	21.0		5-120	%	09-MAR-17	28-MAR-17	R3686339
Surrogate: 4,4'-DDD, 13C12-	25.0		5-150	%	09-MAR-17	28-MAR-17	R3686339
Note: Sample has a low recovery for 13C12-44'-DDE. Natives are calculated via isotope dilution and are inherently recovery corrected							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.022	[U]	0.022	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDD	<0.013	[U]	0.013	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDD	<0.043	[U]	0.043	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDD	<0.040	[U]	0.040	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDD	<0.042	[U]	0.042	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDD	<0.042	[U]	0.042	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDD	0.220	M,J,R	0.052	pg/g wwt	06-MAR-17	22-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-48 16-D5-SB-CH-107							
Sampled By: Pascal Tuarze on 28-SEP-16 @ 16:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDF	<0.022	[U]	0.022	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDF	<0.017	[U]	0.017	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,7,8-PeCDF	<0.016	[U]	0.016	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDF	<0.034	[U]	0.034	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDF	<0.034	[U]	0.034	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,6,7,8-HxCDF	<0.037	[U]	0.037	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDF	<0.058	[U]	0.058	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDF	<0.038	[U]	0.038	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8,9-HpCDF	<0.051	[U]	0.051	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDF	0.108	[J]	0.029	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total-TCDD	<0.022	[U]	0.022	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDD	<0.013	[U]	0.013	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDD	<0.043	[U]	0.043	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDD	<0.042	[U]	0.042	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-TCDF	<0.022	[U]	0.022	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDF	<0.017	[U]	0.017	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDF	<0.058	[U]	0.058	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDF	<0.051	[U]	0.051	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDD	70.0		25-164	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDD	67.0		25-181	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	59.0		32-141	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	65.0		28-130	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	48.0		23-140	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-OCDD	51.0		17-157	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDF	65.0		24-169	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDF	63.0		21-192	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,7,8-PeCDF	64.0		21-178	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	61.0		26-152	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	63.0		26-123	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	62.0		29-147	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	52.0		28-136	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	49.0		28-143	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	50.0		26-138	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	76.0		31-197	%	06-MAR-17	22-MAR-17	R3681434
Lower Bound PCDD/F TEQ (WHO 2005)	0.0000324			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Mid Point PCDD/F TEQ (WHO 2005)	0.0364			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Upper Bound PCDD/F TEQ (WHO 2005)	0.0727			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
L1862212-49 16-D6-FC-CH-108							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	33.2		0.10	%	06-JAN-17	11-JAN-17	R3630956
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-49 16-D6-FC-CH-108							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Plant Tissue							
Chlorophenols as derivatives							
Pentachlorophenol	<0.99	[U]	0.99	ng/g		29-MAR-17	R3686824
Surrogate: 13C6-Pentachlorophenol	80.0		50-150	%		29-MAR-17	R3686824
OC Pesticides by Method 1699							
alpha-BHC	<0.0067	[U]	0.0067	ng/g	09-MAR-17	22-MAR-17	R3686339
beta-BHC	<0.011	[U]	0.011	ng/g	09-MAR-17	22-MAR-17	R3686339
delta-BHC	<0.010	[U]	0.010	ng/g	09-MAR-17	22-MAR-17	R3686339
gamma-BHC	<0.0091	[U]	0.0091	ng/g	09-MAR-17	22-MAR-17	R3686339
Heptachlor	0.00110	M,J,R	0.00074	ng/g	09-MAR-17	22-MAR-17	R3686339
Aldrin	<0.0014	[U]	0.0014	ng/g	09-MAR-17	22-MAR-17	R3686339
Heptachlor Epoxide	<0.0017	M,U	0.0017	ng/g	09-MAR-17	22-MAR-17	R3686339
trans-Chlordane	<0.020	[U]	0.020	ng/g	09-MAR-17	22-MAR-17	R3686339
cis-Chlordane	<0.018	[U]	0.018	ng/g	09-MAR-17	22-MAR-17	R3686339
Dieldrin	<0.015	[U]	0.015	ng/g	09-MAR-17	22-MAR-17	R3686339
Endrin	<0.024	[U]	0.024	ng/g	09-MAR-17	22-MAR-17	R3686339
Endrin Aldehyde	<0.016	[U]	0.016	ng/g	09-MAR-17	22-MAR-17	R3686339
Endosulfan I	<0.035	[U]	0.035	ng/g	09-MAR-17	22-MAR-17	R3686339
Endosulfan II	<0.098	[U]	0.098	ng/g	09-MAR-17	22-MAR-17	R3686339
Endosulfan Sulfate	<0.021	[U]	0.021	ng/g	09-MAR-17	22-MAR-17	R3686339
4,4-DDE	<0.024	[U]	0.024	ng/g	09-MAR-17	22-MAR-17	R3686339
4,4-DDD	<0.064	[U]	0.064	ng/g	09-MAR-17	22-MAR-17	R3686339
4,4-DDT	<0.17	[U]	0.17	ng/g	09-MAR-17	22-MAR-17	R3686339
Methoxychlor	<0.049	[U]	0.049	ng/g	09-MAR-17	22-MAR-17	R3686339
Mirex	0.0088	M,J,R	0.0040	ng/g	09-MAR-17	22-MAR-17	R3686339
Parlar 26	<0.18	[U]	0.18	ng/g	09-MAR-17	22-MAR-17	R3686339
Parlar 50	<0.12	[U]	0.12	ng/g	09-MAR-17	22-MAR-17	R3686339
Parlar 62	<0.25	[U]	0.25	ng/g	09-MAR-17	22-MAR-17	R3686339
Surrogate: alpha-BHC, 13C6-	58.0		16-129	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: gamma-BHC-D6	54.0		11-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Heptachlor, 13C10-	126.0	G	5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Oxychlordane, 13C10-	66.0		23-135	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: trans-Nonachlor, 13C10-	72.0		36-139	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Dieldrin, 13C12-	65.0		40-151	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Endrin, 13C12-	67.0		35-155	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Endosulfan II, 13C9-	31.0		15-148	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: 4,4'-DDE, 13C12-	49.0		47-160	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: 4,4'-DDT, 13C12-	22.0		5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Methoxychlor-D6	20.0		5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Mirex, 13C10-	17.0		5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: 4,4'-DDD, 13C12-	31.0		5-150	%	09-MAR-17	22-MAR-17	R3686339
Note: Sample has an elevated recovery for 13C10-Heptachlor. Natives are calculated via isotope dilution and are inherently recovery corrected							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.018	[U]	0.018	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDD	<0.011	[U]	0.011	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDD	<0.025	[U]	0.025	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDD	<0.023	[U]	0.023	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDD	<0.025	M,U	0.025	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDD	0.052	M,J,R	0.026	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDD	0.140	M,J,R	0.018	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,7,8-TCDF	<0.020	[U]	0.020	pg/g wwt	06-MAR-17	22-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-49 16-D6-FC-CH-108							
Sampled By: Pascal Tuarze on 11-OCT-16 @ 17:15							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,7,8-PeCDF	<0.014	[U]	0.014	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,7,8-PeCDF	0.018	M,J,R	0.011	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDF	<0.025	M,U	0.025	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDF	<0.025	[U]	0.025	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,6,7,8-HxCDF	<0.026	[U]	0.026	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDF	<0.037	[U]	0.037	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDF	<0.029	[U]	0.029	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8,9-HpCDF	<0.036	[U]	0.036	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDF	0.103	[J]	0.016	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total-TCDD	<0.018	[U]	0.018	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDD	<0.011	[U]	0.011	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDD	<0.025	[U]	0.025	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDD	<0.026	[U]	0.026	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-TCDF	<0.020	[U]	0.020	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDF	<0.014	[U]	0.014	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDF	<0.037	[U]	0.037	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDF	<0.036	[U]	0.036	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDD	91.0		25-164	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDD	89.0		25-181	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	85.0		32-141	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	85.0		28-130	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	76.0		23-140	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-OCDD	79.0		17-157	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDF	85.0		24-169	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDF	79.0		21-192	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,7,8-PeCDF	89.0		21-178	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	81.0		26-152	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	82.0		26-123	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	86.0		29-147	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	79.0		28-136	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	75.0		28-143	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	87.0		31-197	%	06-MAR-17	22-MAR-17	R3681434
Lower Bound PCDD/F TEQ (WHO 2005)	0.0000309			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Mid Point PCDD/F TEQ (WHO 2005)	0.0313			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Upper Bound PCDD/F TEQ (WHO 2005)	0.0567			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
L1862212-50 16-D7-WW-CH-109							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:05							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	12.6		0.10	%	06-JAN-17	11-JAN-17	R3630956
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
Chlorophenols as derivatives							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-50 16-D7-WW-CH-109							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:05							
Matrix: Plant Tissue							
Chlorophenols as derivatives							
Pentachlorophenol	<0.77	[U]	0.77	ng/g		29-MAR-17	R3686824
Surrogate: 13C6-Pentachlorophenol	74.0		50-150	%		29-MAR-17	R3686824
OC Pesticides by Method 1699							
alpha-BHC	<0.0045	[U]	0.0045	ng/g	09-MAR-17	21-MAR-17	R3686339
beta-BHC	<0.0077	[U]	0.0077	ng/g	09-MAR-17	21-MAR-17	R3686339
delta-BHC	<0.0066	[U]	0.0066	ng/g	09-MAR-17	21-MAR-17	R3686339
gamma-BHC	<0.0058	[U]	0.0058	ng/g	09-MAR-17	21-MAR-17	R3686339
Heptachlor	0.00083	M,J,R	0.00073	ng/g	09-MAR-17	21-MAR-17	R3686339
Aldrin	<0.00083	[U]	0.00083	ng/g	09-MAR-17	21-MAR-17	R3686339
Heptachlor Epoxide	0.0040	M,J	0.0011	ng/g	09-MAR-17	21-MAR-17	R3686339
trans-Chlordane	<0.0055	[U]	0.0055	ng/g	09-MAR-17	21-MAR-17	R3686339
cis-Chlordane	0.0059	M,J,R	0.0051	ng/g	09-MAR-17	21-MAR-17	R3686339
Dieldrin	0.0225	[J]	0.0034	ng/g	09-MAR-17	21-MAR-17	R3686339
Endrin	0.0053	M,J,R	0.0046	ng/g	09-MAR-17	21-MAR-17	R3686339
Endrin Aldehyde	<0.0020	[U]	0.0020	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan I	<0.0054	[U]	0.0054	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan II	<0.0092	[U]	0.0092	ng/g	09-MAR-17	21-MAR-17	R3686339
Endosulfan Sulfate	<0.0030	[U]	0.0030	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDE	<0.0067	M,U	0.0067	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDD	<0.020	[U]	0.020	ng/g	09-MAR-17	21-MAR-17	R3686339
4,4-DDT	<0.014	[U]	0.014	ng/g	09-MAR-17	21-MAR-17	R3686339
Methoxychlor	<0.0023	[U]	0.0023	ng/g	09-MAR-17	21-MAR-17	R3686339
Mirex	0.00380	J,R	0.00092	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 26	<0.038	[U]	0.038	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 50	<0.041	[U]	0.041	ng/g	09-MAR-17	21-MAR-17	R3686339
Parlar 62	<0.086	[U]	0.086	ng/g	09-MAR-17	21-MAR-17	R3686339
Surrogate: alpha-BHC, 13C6-	62.0		16-129	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: gamma-BHC-D6	62.0		11-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Heptachlor, 13C10-	99.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Oxychlordane, 13C10-	71.0		23-135	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: trans-Nonachlor, 13C10-	66.0		36-139	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Dieldrin, 13C12-	71.0		40-151	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Endrin, 13C12-	84.0		35-155	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Endosulfan II, 13C9-	64.0		15-148	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDE, 13C12-	66.0		47-160	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDT, 13C12-	68.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Methoxychlor-D6	54.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: Mirex, 13C10-	33.0		5-120	%	09-MAR-17	21-MAR-17	R3686339
Surrogate: 4,4'-DDD, 13C12-	65.0		5-150	%	09-MAR-17	21-MAR-17	R3686339
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.035	[U]	0.035	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDD	<0.018	[U]	0.018	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDD	<0.033	[U]	0.033	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDD	<0.032	[U]	0.032	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDD	<0.033	[U]	0.033	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDD	0.046	M,J,R	0.029	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDD	0.268	[J]	0.041	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,7,8-TCDF	<0.036	[U]	0.036	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDF	<0.023	[U]	0.023	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,7,8-PeCDF	<0.018	[U]	0.018	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDF	<0.033	[U]	0.033	pg/g wwt	06-MAR-17	22-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-50 16-D7-WW-CH-109							
Sampled By: Pascal Tuarze on 18-JUL-16 @ 15:05							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,6,7,8-HxCDF	<0.029	[U]	0.029	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,6,7,8-HxCDF	<0.030	[U]	0.030	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDF	<0.044	[U]	0.044	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDF	0.037	M,J,R	0.026	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8,9-HpCDF	<0.035	[U]	0.035	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDF	0.037	M,J,R	0.017	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total-TCDD	<0.035	[U]	0.035	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDD	<0.018	[U]	0.018	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDD	<0.033	[U]	0.033	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDD	<0.029	[U]	0.029	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-TCDF	<0.036	[U]	0.036	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDF	<0.023	[U]	0.023	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDF	<0.044	[U]	0.044	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDF	<0.035	[U]	0.035	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDD	79.0		25-164	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDD	94.0		25-181	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	72.0		32-141	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	82.0		28-130	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	84.0		23-140	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-OCDD	75.0		17-157	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDF	72.0		24-169	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDF	88.0		21-192	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,7,8-PeCDF	91.0		21-178	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	63.0		26-152	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	76.0		26-123	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	76.0		29-147	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	65.0		28-136	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	71.0		28-143	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	70.0		26-138	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	74.0		31-197	%	06-MAR-17	22-MAR-17	R3681434
Lower Bound PCDD/F TEQ (WHO 2005)	0.0000804			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Mid Point PCDD/F TEQ (WHO 2005)	0.0441			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Upper Bound PCDD/F TEQ (WHO 2005)	0.0874			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
L1862212-51 16-D15-NG-CH-200							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	75.9		0.10	%	06-JAN-17	11-JAN-17	R3630956
Total Polychlorinated Biphenyls	<0.05		0.050	mg/kg		17-FEB-17	
OC Pesticides by Method 1699							
alpha-BHC	<0.069	[U]	0.069	ng/g	09-MAR-17	22-MAR-17	R3686339
beta-BHC	<0.12	[U]	0.12	ng/g	09-MAR-17	22-MAR-17	R3686339
delta-BHC	<0.11	[U]	0.11	ng/g	09-MAR-17	22-MAR-17	R3686339

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-51 16-D15-NG-CH-200							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:00							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
gamma-BHC	<0.094	[U]	0.094	ng/g	09-MAR-17	22-MAR-17	R3686339
Heptachlor	0.0260	M,J,R	0.0065	ng/g	09-MAR-17	22-MAR-17	R3686339
Aldrin	0.036	M,J	0.011	ng/g	09-MAR-17	22-MAR-17	R3686339
Heptachlor Epoxide	0.069	M,J	0.017	ng/g	09-MAR-17	22-MAR-17	R3686339
trans-Chlordane	<0.087	[U]	0.087	ng/g	09-MAR-17	22-MAR-17	R3686339
cis-Chlordane	<0.081	M,U	0.081	ng/g	09-MAR-17	22-MAR-17	R3686339
Dieldrin	0.150	M,J,R	0.081	ng/g	09-MAR-17	22-MAR-17	R3686339
Endrin	0.13	M,J,R	0.11	ng/g	09-MAR-17	22-MAR-17	R3686339
Endrin Aldehyde	<0.039	[U]	0.039	ng/g	09-MAR-17	22-MAR-17	R3686339
Endosulfan I	<0.14	[U]	0.14	ng/g	09-MAR-17	22-MAR-17	R3686339
Endosulfan II	<0.21	[U]	0.21	ng/g	09-MAR-17	22-MAR-17	R3686339
Endosulfan Sulfate	<0.066	[U]	0.066	ng/g	09-MAR-17	22-MAR-17	R3686339
4,4-DDE	0.22	[J]	0.11	ng/g	09-MAR-17	22-MAR-17	R3686339
4,4-DDD	<0.33	[U]	0.33	ng/g	09-MAR-17	22-MAR-17	R3686339
4,4-DDT	<0.50	[U]	0.50	ng/g	09-MAR-17	22-MAR-17	R3686339
Methoxychlor	<0.073	[U]	0.073	ng/g	09-MAR-17	22-MAR-17	R3686339
Mirex	0.045	M,J,R	0.016	ng/g	09-MAR-17	22-MAR-17	R3686339
Parlar 26	<0.59	[U]	0.59	ng/g	09-MAR-17	22-MAR-17	R3686339
Parlar 50	<0.51	[U]	0.51	ng/g	09-MAR-17	22-MAR-17	R3686339
Parlar 62	<1.1	[U]	1.1	ng/g	09-MAR-17	22-MAR-17	R3686339
Surrogate: alpha-BHC, 13C6-	41.0		16-129	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: gamma-BHC-D6	42.0		11-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Heptachlor, 13C10-	62.0		5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Oxychlordane, 13C10-	44.0		23-135	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: trans-Nonachlor, 13C10-	42.0		36-139	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Dieldrin, 13C12-	43.0		40-151	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Endrin, 13C12-	49.0		35-155	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Endosulfan II, 13C9-	24.0		15-148	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: 4,4'-DDE, 13C12-	38.0	G	47-160	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: 4,4'-DDT, 13C12-	28.0		5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Methoxychlor-D6	23.0		5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: Mirex, 13C10-	16.0		5-120	%	09-MAR-17	22-MAR-17	R3686339
Surrogate: 4,4'-DDD, 13C12-	26.0		5-150	%	09-MAR-17	22-MAR-17	R3686339
Note: Sample has a low recovery for 13C12-44'-DDE. Natives are calculated via isotope dilution and are inherently recovery corrected							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.48	[U]	0.48	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDD	<0.21	[U]	0.21	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDD	<0.45	[U]	0.45	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDD	<0.44	[U]	0.44	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDD	<0.46	[U]	0.46	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDD	<0.85	[U]	0.85	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDD	5.34	M,J	0.90	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,7,8-TCDF	<0.45	[U]	0.45	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8-PeCDF	<0.39	[U]	0.39	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,7,8-PeCDF	<0.33	[U]	0.33	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,7,8-HxCDF	<0.38	[U]	0.38	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,6,7,8-HxCDF	<0.34	[U]	0.34	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
2,3,4,6,7,8-HxCDF	<0.34	[U]	0.34	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,7,8,9-HxCDF	<0.51	[U]	0.51	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
1,2,3,4,6,7,8-HpCDF	<0.50	[U]	0.50	pg/g wwt	06-MAR-17	22-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1862212-51 16-D15-NG-CH-200							
Sampled By: Pascal Tuarze on 12-OCT-16 @ 16:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8,9-HpCDF	<0.68	[U]	0.68	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
OCDF	<0.62	[U]	0.62	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total-TCDD	<0.48	[U]	0.48	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDD	<0.21	[U]	0.21	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDD	1.00		0.46	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDD # Homologues	1				06-MAR-17	22-MAR-17	R3681434
Total-HpCDD	<0.85	[U]	0.85	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDD # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-TCDF	<0.45	[U]	0.45	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total TCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-PeCDF	<0.39	[U]	0.39	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total PeCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HxCDF	<0.51	[U]	0.51	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HxCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Total-HpCDF	<0.68	[U]	0.68	pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Total HpCDF # Homologues	0				06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDD	80.0		25-164	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDD	92.0		25-181	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	82.0		32-141	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	88.0		28-130	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	86.0		23-140	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-OCDD	72.0		17-157	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,7,8-TCDF	80.0		24-169	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8-PeCDF	84.0		21-192	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,7,8-PeCDF	85.0		21-178	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	83.0		26-152	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	82.0		26-123	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	89.0		29-147	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	82.0		28-136	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	84.0		28-143	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	83.0		26-138	%	06-MAR-17	22-MAR-17	R3681434
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	88.0		31-197	%	06-MAR-17	22-MAR-17	R3681434
Lower Bound PCDD/F TEQ (WHO 2005)	0.00160			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Mid Point PCDD/F TEQ (WHO 2005)	0.581			pg/g wwt	06-MAR-17	22-MAR-17	R3681434
Upper Bound PCDD/F TEQ (WHO 2005)	1.16			pg/g wwt	06-MAR-17	22-MAR-17	R3681434

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J,B	The analyte was detected below the calibrated range but above the EDL, and was detected in the Method Blank at >10% of the sample concentration.
J,R	The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M	A peak has been manually integrated.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,B	A peak has been manually integrated. Target analyte was detected below the calibrated range but above the EDL. Compound was detected in the method blank at >10% of the sample concentration.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
R	The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CP-CUSTOM-LRMS-BU	Solid	Chlorophenols as derivatives	EPA 8270 (modified)
DX-1613B-HRMS-BU	Soil	Dioxins and Furans HR 1613B	USEPA 1613B
Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS			
DX-1613B-HRMS-BU	Tissue	Dioxins and Furans HR 1613B	USEPA 1613B
Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS.			
MOISTURE-BU	Soil	% Moisture	ASTM METHOD D2974-00
MOISTURE-BU	Tissue	% Moisture	ASTM METHOD D2794-00
OCPEST-1699-HRMS-BU	Solid	OC Pesticides by Method 1699	OC PESTICIDES 1699
Samples are extracted by Soxhlet, prepared by column chromatography, and analyzed by GC-HRMS.			
OCPEST-1699-HRMS-BU	Tissue	OC Pesticides by Method 1699	EPA 1699
Samples are extracted by Soxhlet, prepared by gel-permeation chromatography followed by column chromatography, and analyzed by GC-HRMS.			
PCB-CSR-SUM-CALC-VA	Soil	Total PCB (BC CSR) in soil	BC Contaminated Sites Regulation
Calculation of Total PCB to meet BC Contaminated Sites Regulation. Total PCB (BC CSR) is the sum of the concentrations of PCB aroclors 1242, 1248, 1254 and 1260. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.			
PCB-SE-ECD-VA	Soil	PCB by Extraction with GCECD	EPA8082, 3630
This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3500, 3620, 3630, 3660, 3665 & 8082, published by the United States Environmental Protection Agency (EPA). The procedure involves a solid-liquid extraction of a subsample of the sediment/soil using a mixture of hexane and acetone. Water is added to the extract and the resulting hexane extract undergoes one or more of the following clean-up procedures (if required): florisil clean-up, silica gel clean-up, sulphur clean-up and/or sulphuric acid clean-up. The final extract is analysed by capillary column gas chromatography with electron capture detection (GC/ECD).			
PCB-SUM-CALC-DRY-VA	Tissue	Total PCBs in tissue (dry weight)	CALCULATION
Calculation of Total PCB. Total PCB is the sum of the concentrations of PCB aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.			
PCB-SUM-CALC-VA	Soil	Total PCBs in soil	CALCULATION
Calculation of Total PCB. Total PCB is the sum of the concentrations of PCB aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.			
PCB-T-DRY-SOX-ECD-VA	Tissue	PCB in Tissue - dry weight basis	EPA METHODS 3540, 3665, 3620, 3660, 8082
This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3540, 3665, 3620, 3660, and 8082 published by the United States Environmental Protection Agency (EPA). The procedure uses a Soxhlet system to extract with dichloromethane, a			

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**

subsample of homogenized tissue which has been dried with anhydrous sodium sulphate. The extract then undergoes one or more of the following clean-up procedures (if required): sulfuric acid, florisil and/or sulphur clean-up. The final extract is analyzed by capillary column gas chromatography with electron capture detection (GC/ECD).

** 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
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
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
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
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.

Quality Control Report

Workorder: L1862212 Report Date: 30-MAR-17

Client: STANTEC CONSULTING LTD.
70 Southgate Dr, Suite 01
Guelph ON N1G 4P5
Contact: Katherine Ketis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	**Soil**							
Batch R3643488								
WG2462490-4 DUP		**L1862212-1**						
2,3,7,8-TCDD		0.190	0.257		pg/g	30	50	28-JAN-17
1,2,3,7,8-PeCDD		0.210	0.190		pg/g	10	50	28-JAN-17
1,2,3,4,7,8-HxCDD		0.170	0.190		pg/g	11	50	28-JAN-17
1,2,3,6,7,8-HxCDD		0.330	0.376		pg/g	13	50	28-JAN-17
1,2,3,7,8,9-HxCDD		0.432	0.423		pg/g	2.1	50	28-JAN-17
1,2,3,4,6,7,8-HpCDD		5.68	6.00		pg/g	5.5	50	28-JAN-17
OCDD		32.9	32.1		pg/g	2.5	50	28-JAN-17
2,3,7,8-TCDF		0.38	0.408		pg/g	7.1	50	28-JAN-17
1,2,3,7,8-PeCDF		0.217	0.191		pg/g	13	50	28-JAN-17
2,3,4,7,8-PeCDF		0.575	0.569		pg/g	1.0	50	28-JAN-17
1,2,3,4,7,8-HxCDF		0.371	0.376		pg/g	1.3	50	28-JAN-17
1,2,3,6,7,8-HxCDF		0.407	0.446		pg/g	9.1	50	28-JAN-17
2,3,4,6,7,8-HxCDF		0.437	0.426		pg/g	2.5	50	28-JAN-17
1,2,3,7,8,9-HxCDF		0.110	0.110		pg/g	0.0	50	28-JAN-17
1,2,3,4,6,7,8-HpCDF		2.07	1.95		pg/g	6.0	50	28-JAN-17
1,2,3,4,7,8,9-HpCDF		0.183	0.170		pg/g	7.4	50	28-JAN-17
OCDF		2.17	2.14		pg/g	1.4	50	28-JAN-17
Total-TCDD		1.07	1.43		pg/g	29	50	28-JAN-17
Total-PeCDD		1.62	2.58		pg/g	46	50	28-JAN-17
Total-HxCDD		5.06	5.67		pg/g	11	50	28-JAN-17
Total-HpCDD		11.1	11.6		pg/g	4.4	50	28-JAN-17
Total-TCDF		4.80	5.88		pg/g	20	50	28-JAN-17
Total-PeCDF		7.18	8.32		pg/g	15	50	28-JAN-17
Total-HxCDF		4.69	4.38		pg/g	6.8	50	28-JAN-17
Total-HpCDF		3.38	3.16		pg/g	6.7	50	28-JAN-17
WG2462490-2 LCS								
2,3,7,8-TCDD			95.0		%		67-158	27-JAN-17
1,2,3,7,8-PeCDD			98.0		%		70-142	27-JAN-17
1,2,3,4,7,8-HxCDD			93.0		%		70-164	27-JAN-17
1,2,3,6,7,8-HxCDD			92.0		%		76-134	27-JAN-17
1,2,3,7,8,9-HxCDD			103.0		%		64-162	27-JAN-17
1,2,3,4,6,7,8-HpCDD			99.0		%		70-140	27-JAN-17
OCDD			96.0		%		78-144	27-JAN-17
2,3,7,8-TCDF			98.0		%		75-158	27-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	**Soil**							
Batch R3643488								
WG2462490-2 LCS								
1,2,3,7,8-PeCDF			93.0		%		80-134	27-JAN-17
2,3,4,7,8-PeCDF			91.0		%		68-160	27-JAN-17
1,2,3,4,7,8-HxCDF			97.0		%		72-134	27-JAN-17
1,2,3,6,7,8-HxCDF			99.0		%		84-130	27-JAN-17
2,3,4,6,7,8-HxCDF			93.0		%		78-130	27-JAN-17
1,2,3,7,8,9-HxCDF			95.0		%		70-156	27-JAN-17
1,2,3,4,6,7,8-HpCDF			103.0		%		82-122	27-JAN-17
1,2,3,4,7,8,9-HpCDF			98.0		%		78-138	27-JAN-17
OCDF			95.0		%		63-170	27-JAN-17
WG2462490-1 MB								
2,3,7,8-TCDD			<0.048	[U]	pg/g		0.048	27-JAN-17
1,2,3,7,8-PeCDD			0.116	M,J	pg/g		0.025	27-JAN-17
1,2,3,4,7,8-HxCDD			0.103	M,J	pg/g		0.027	27-JAN-17
1,2,3,6,7,8-HxCDD			0.096	M,J,R	pg/g		0.025	27-JAN-17
1,2,3,7,8,9-HxCDD			0.099	M,J,R	pg/g		0.026	27-JAN-17
1,2,3,4,6,7,8-HpCDD			0.150	M,J,R	pg/g		0.026	27-JAN-17
OCDD			0.322	M,J	pg/g		0.049	27-JAN-17
2,3,7,8-TCDF			0.044	M,J,R	pg/g		0.037	27-JAN-17
1,2,3,7,8-PeCDF			0.148	[J]	pg/g		0.019	27-JAN-17
2,3,4,7,8-PeCDF			0.133	M,J	pg/g		0.017	27-JAN-17
1,2,3,4,7,8-HxCDF			0.119	M,J	pg/g		0.022	27-JAN-17
1,2,3,6,7,8-HxCDF			0.090	M,J,R	pg/g		0.02	27-JAN-17
2,3,4,6,7,8-HxCDF			0.102	M,J	pg/g		0.022	27-JAN-17
1,2,3,7,8,9-HxCDF			0.120	M,J,R	pg/g		0.03	27-JAN-17
1,2,3,4,6,7,8-HpCDF			0.120	M,J,R	pg/g		0.018	27-JAN-17
1,2,3,4,7,8,9-HpCDF			0.110	M,J,R	pg/g		0.026	27-JAN-17
OCDF			0.254	[J]	pg/g		0.043	27-JAN-17
Total-TCDD			<0.048	[U]	pg/g		0.048	27-JAN-17
Total-PeCDD			0.116	A	pg/g		0.025	27-JAN-17
Total-HxCDD			0.103	A	pg/g		0.027	27-JAN-17
Total-HpCDD			<0.026	[U]	pg/g		0.026	27-JAN-17
Total-TCDF			<0.037	[U]	pg/g		0.037	27-JAN-17
Total-PeCDF			0.282	A	pg/g		0.019	27-JAN-17
Total-HxCDF			0.221	A	pg/g		0.03	27-JAN-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	**Soil**							
Batch	**R3643488**							
WG2462490-1	**MB**							
Total-HpCDF			<0.026	[U]	pg/g		0.026	27-JAN-17
Surrogate: 13C12-2,3,7,8-TCDD			54.0		%		25-164	27-JAN-17
Surrogate: 13C12-1,2,3,7,8-PeCDD			47.0		%		25-181	27-JAN-17
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			51.0		%		32-141	27-JAN-17
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			67.0		%		28-130	27-JAN-17
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			52.0		%		23-140	27-JAN-17
Surrogate: 13C12-OCDD			51.0		%		17-157	27-JAN-17
Surrogate: 13C12-2,3,7,8-TCDF			52.0		%		24-169	27-JAN-17
Surrogate: 13C12-1,2,3,7,8-PeCDF			49.0		%		24-185	27-JAN-17
Surrogate: 13C12-2,3,4,7,8-PeCDF			46.0		%		21-178	27-JAN-17
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			53.0		%		26-152	27-JAN-17
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			63.0		%		26-123	27-JAN-17
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			55.0		%		29-147	27-JAN-17
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			52.0		%		28-136	27-JAN-17
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			51.0		%		28-143	27-JAN-17
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			49.0		%		26-138	27-JAN-17
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			51.0		%		35-197	27-JAN-17

COMMENTS: There were low levels of selected targets detected in the method blank that were within the reference method control limits. Samples with these targets are flagged if the blank concentration is >10% of the sample concentration.

DX-1613B-HRMS-BU	**Tissue**							
Batch	**R3678009**							
WG2462493-2	**LCS**							
2,3,7,8-TCDD			121.0		%		67-158	15-MAR-17
1,2,3,7,8-PeCDD			110.0		%		70-142	15-MAR-17
1,2,3,4,7,8-HxCDD			99.0		%		70-164	15-MAR-17
1,2,3,6,7,8-HxCDD			106.0		%		76-134	15-MAR-17
1,2,3,7,8,9-HxCDD			113.0		%		64-162	15-MAR-17
1,2,3,4,6,7,8-HpCDD			105.0		%		70-140	15-MAR-17
OCDD			106.0		%		78-144	15-MAR-17
2,3,7,8-TCDF			106.0		%		75-158	15-MAR-17
1,2,3,7,8-PeCDF			102.0		%		80-134	15-MAR-17
2,3,4,7,8-PeCDF			99.0		%		68-160	15-MAR-17
1,2,3,4,7,8-HxCDF			103.0		%		72-134	15-MAR-17
1,2,3,6,7,8-HxCDF			113.0		%		84-130	15-MAR-17
2,3,4,6,7,8-HxCDF			105.0		%		78-130	15-MAR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	**Tissue**							
Batch R3678009								
WG2462493-2 LCS								
1,2,3,7,8,9-HxCDF			112.0		%		70-156	15-MAR-17
1,2,3,4,6,7,8-HpCDF			124.0	G	%		82-122	15-MAR-17
1,2,3,4,7,8,9-HpCDF			103.0		%		78-138	15-MAR-17
OCDF			88.0		%		63-170	15-MAR-17
COMMENTS: 1,2,3,4,6,7,8-HpCDF is marginally outside the method recovery criteria in the LCS.								
WG2462493-1 MB								
2,3,7,8-TCDD			<0.045	[U]	pg/g wwt		0.045	15-MAR-17
1,2,3,7,8-PeCDD			<0.028	[U]	pg/g wwt		0.028	15-MAR-17
1,2,3,4,7,8-HxCDD			<0.023	[U]	pg/g wwt		0.023	15-MAR-17
1,2,3,6,7,8-HxCDD			<0.024	[U]	pg/g wwt		0.024	15-MAR-17
1,2,3,7,8,9-HxCDD			<0.024	M,U	pg/g wwt		0.024	15-MAR-17
1,2,3,4,6,7,8-HpCDD			<0.052	[U]	pg/g wwt		0.052	15-MAR-17
OCDD			0.150	M,J,R	pg/g wwt		0.048	15-MAR-17
2,3,7,8-TCDF			<0.053	[U]	pg/g wwt		0.053	15-MAR-17
1,2,3,7,8-PeCDF			<0.025	[U]	pg/g wwt		0.025	15-MAR-17
2,3,4,7,8-PeCDF			<0.025	[U]	pg/g wwt		0.025	15-MAR-17
1,2,3,4,7,8-HxCDF			<0.047	[U]	pg/g wwt		0.047	15-MAR-17
1,2,3,6,7,8-HxCDF			<0.046	[U]	pg/g wwt		0.046	15-MAR-17
2,3,4,6,7,8-HxCDF			<0.046	[U]	pg/g wwt		0.046	15-MAR-17
1,2,3,7,8,9-HxCDF			<0.075	[U]	pg/g wwt		0.075	15-MAR-17
1,2,3,4,6,7,8-HpCDF			<0.058	[U]	pg/g wwt		0.058	15-MAR-17
1,2,3,4,7,8,9-HpCDF			<0.077	[U]	pg/g wwt		0.077	15-MAR-17
OCDF			<0.051	[U]	pg/g wwt		0.051	15-MAR-17
Total-TCDD			<0.045	[U]	pg/g wwt		0.045	15-MAR-17
Total-PeCDD			<0.028	[U]	pg/g wwt		0.028	15-MAR-17
Total-HxCDD			<0.024	[U]	pg/g wwt		0.024	15-MAR-17
Total-HpCDD			<0.052	[U]	pg/g wwt		0.052	15-MAR-17
Total-TCDF			<0.053	[U]	pg/g wwt		0.053	15-MAR-17
Total-PeCDF			<0.025	[U]	pg/g wwt		0.025	15-MAR-17
Total-HxCDF			<0.075	[U]	pg/g wwt		0.075	15-MAR-17
Total-HpCDF			<0.077	[U]	pg/g wwt		0.077	15-MAR-17
Surrogate: 13C12-2,3,7,8-TCDD			66.0		%		25-164	15-MAR-17
Surrogate: 13C12-1,2,3,7,8-PeCDD			104.0		%		25-181	15-MAR-17
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			84.0		%		32-141	15-MAR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	**Tissue**							
Batch	**R3678009**							
WG2462493-1	**MB**							
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			73.0		%		28-130	15-MAR-17
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			86.0		%		23-140	15-MAR-17
Surrogate: 13C12-OCDD			66.0		%		17-157	15-MAR-17
Surrogate: 13C12-2,3,7,8-TCDF			83.0		%		24-169	15-MAR-17
Surrogate: 13C12-1,2,3,7,8-PeCDF			110.0		%		21-192	15-MAR-17
Surrogate: 13C12-2,3,4,7,8-PeCDF			100.0		%		21-178	15-MAR-17
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			74.0		%		26-152	15-MAR-17
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			68.0		%		26-123	15-MAR-17
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			73.0		%		29-147	15-MAR-17
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			61.0		%		28-136	15-MAR-17
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			70.0		%		28-143	15-MAR-17
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			71.0		%		26-138	15-MAR-17
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			88.0		%		31-197	15-MAR-17
Batch	**R3681434**							
WG2462494-2	**LCS**							
2,3,7,8-TCDD			107.0		%		67-158	21-MAR-17
1,2,3,7,8-PeCDD			102.0		%		70-142	21-MAR-17
1,2,3,4,7,8-HxCDD			97.0		%		70-164	21-MAR-17
1,2,3,6,7,8-HxCDD			96.0		%		76-134	21-MAR-17
1,2,3,7,8,9-HxCDD			109.0		%		64-162	21-MAR-17
1,2,3,4,6,7,8-HpCDD			103.0		%		70-140	21-MAR-17
OCDD			95.0		%		78-144	21-MAR-17
2,3,7,8-TCDF			96.0		%		75-158	21-MAR-17
1,2,3,7,8-PeCDF			101.0		%		80-134	21-MAR-17
2,3,4,7,8-PeCDF			95.0		%		68-160	21-MAR-17
1,2,3,4,7,8-HxCDF			103.0		%		72-134	21-MAR-17
1,2,3,6,7,8-HxCDF			102.0		%		84-130	21-MAR-17
2,3,4,6,7,8-HxCDF			101.0		%		78-130	21-MAR-17
1,2,3,7,8,9-HxCDF			100.0		%		70-156	21-MAR-17
1,2,3,4,6,7,8-HpCDF			99.0		%		82-122	21-MAR-17
1,2,3,4,7,8,9-HpCDF			101.0		%		78-138	21-MAR-17
OCDF			100.0		%		63-170	21-MAR-17
WG2462494-1	**MB**							
2,3,7,8-TCDD			<0.063	[U]	pg/g wwt		0.063	21-MAR-17

COMMENTS: There were low levels of selected targets detected in the method blank that were within the reference method control limits. Low level

[redacted]

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	**Tissue**							
Batch	**R3681434**							
WG2462494-1	**MB**							
1,2,3,7,8-PeCDD			0.057	M,J	pg/g wwt		0.021	21-MAR-17
1,2,3,4,7,8-HxCDD			<0.050	[U]	pg/g wwt		0.05	21-MAR-17
1,2,3,6,7,8-HxCDD			<0.050	M,U	pg/g wwt		0.05	21-MAR-17
1,2,3,7,8,9-HxCDD			0.060	M,J	pg/g wwt		0.052	21-MAR-17
1,2,3,4,6,7,8-HpCDD			0.096	M,J	pg/g wwt		0.067	21-MAR-17
OCDD			0.300	M,J,R	pg/g wwt		0.061	21-MAR-17
2,3,7,8-TCDF			<0.063	[U]	pg/g wwt		0.063	21-MAR-17
1,2,3,7,8-PeCDF			<0.078	[U]	pg/g wwt		0.078	21-MAR-17
2,3,4,7,8-PeCDF			<0.071	[U]	pg/g wwt		0.071	21-MAR-17
1,2,3,4,7,8-HxCDF			<0.046	[U]	pg/g wwt		0.046	21-MAR-17
1,2,3,6,7,8-HxCDF			<0.044	[U]	pg/g wwt		0.044	21-MAR-17
2,3,4,6,7,8-HxCDF			<0.046	M,U	pg/g wwt		0.046	21-MAR-17
1,2,3,7,8,9-HxCDF			0.068	M,J,R	pg/g wwt		0.064	21-MAR-17
1,2,3,4,6,7,8-HpCDF			0.069	M,J,R	pg/g wwt		0.049	21-MAR-17
1,2,3,4,7,8,9-HpCDF			0.110	M,J	pg/g wwt		0.07	21-MAR-17
OCDF			0.160	M,J,R	pg/g wwt		0.074	21-MAR-17
Total-TCDD			<0.063	[U]	pg/g wwt		0.063	21-MAR-17
Total-PeCDD			0.057	A	pg/g wwt		0.021	21-MAR-17
Total-HxCDD			0.060	A	pg/g wwt		0.052	21-MAR-17
Total-HpCDD			0.096	A	pg/g wwt		0.067	21-MAR-17
Total-TCDF			<0.063	[U]	pg/g wwt		0.063	21-MAR-17
Total-PeCDF			<0.078	[U]	pg/g wwt		0.078	21-MAR-17
Total-HxCDF			<0.064	[U]	pg/g wwt		0.064	21-MAR-17
Total-HpCDF			0.110	A	pg/g wwt		0.07	21-MAR-17
Surrogate: 13C12-2,3,7,8-TCDD			35.0		%		25-164	21-MAR-17
Surrogate: 13C12-1,2,3,7,8-PeCDD			36.0		%		25-181	21-MAR-17
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			43.0		%		32-141	21-MAR-17
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			44.0		%		28-130	21-MAR-17
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			41.0		%		23-140	21-MAR-17
Surrogate: 13C12-OCDD			34.0		%		17-157	21-MAR-17
Surrogate: 13C12-2,3,7,8-TCDF			36.0		%		24-169	21-MAR-17
Surrogate: 13C12-1,2,3,7,8-PeCDF			37.0		%		21-192	21-MAR-17
Surrogate: 13C12-2,3,4,7,8-PeCDF			36.0		%		21-178	21-MAR-17
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			43.0		%		26-152	21-MAR-17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	**Tissue**							
Batch R3681434								
WG2462494-1 MB								
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			43.0		%		26-123	21-MAR-17
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			44.0		%		29-147	21-MAR-17
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			44.0		%		28-136	21-MAR-17
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			41.0		%		28-143	21-MAR-17
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			41.0		%		26-138	21-MAR-17
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			40.0		%		31-197	21-MAR-17
COMMENTS: There were low levels of selected targets detected in the method blank that were within the reference method control limits. Low level sample results may be elevated, as identified on the sample reports.								
MOISTURE-BU	**Tissue**							
Batch R3630333								
WG2460138-2 LCS								
% Moisture			100.1		%		50-150	09-JAN-17
WG2460138-1 MB								
% Moisture			<0.10		%		0.1	09-JAN-17
Batch R3630956								
WG2460140-2 LCS								
% Moisture			96.3		%		50-150	11-JAN-17
WG2460140-1 MB								
% Moisture			<0.10		%		0.1	11-JAN-17
Batch R3630957								
WG2460137-2 LCS								
% Moisture			95.0		%		50-150	10-JAN-17
WG2460137-1 MB								
% Moisture			<0.10		%		0.1	10-JAN-17
OCPEST-1699-HRMS-BU	**Tissue**							
Batch R3686157								
WG2493013-2 LCS								
alpha-BHC			94.0		%		50-120	27-MAR-17
beta-BHC			106.0		%		50-120	27-MAR-17
delta-BHC			112.0		%		50-120	27-MAR-17
gamma-BHC			98.0		%		50-120	27-MAR-17
Heptachlor			95.0		%		50-120	27-MAR-17
Aldrin			91.0		%		50-120	27-MAR-17
Heptachlor Epoxide			115.0		%		50-150	27-MAR-17
trans-Chlordane			95.0		%		50-120	27-MAR-17
cis-Chlordane			96.0		%		50-120	27-MAR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU	**Tissue**							
Batch R3686157								
WG2493013-2 LCS								
Dieldrin			97.0		%		50-120	27-MAR-17
Endrin			93.0		%		50-120	27-MAR-17
Endrin Aldehyde			102.0		%		20-200	27-MAR-17
Endosulfan I			88.0		%		50-120	27-MAR-17
Endosulfan II			98.0		%		5-200	27-MAR-17
Endosulfan Sulfate			85.0		%		50-200	27-MAR-17
4,4-DDE			100.0		%		50-120	27-MAR-17
4,4-DDD			100.0		%		42-120	27-MAR-17
4,4-DDT			101.0		%		50-120	27-MAR-17
Methoxychlor			93.0		%		50-120	27-MAR-17
Mirex			97.0		%		50-120	27-MAR-17
Parlar 26			78.0		%		20-200	27-MAR-17
Parlar 50			77.0		%		20-200	27-MAR-17
Parlar 62			59.0		%		20-200	27-MAR-17
WG2493013-1 MB								
alpha-BHC			<0.0031	[U]	ng/g		0.1	27-MAR-17
beta-BHC			<0.0048	[U]	ng/g		0.1	27-MAR-17
delta-BHC			<0.0040	[U]	ng/g		0.1	27-MAR-17
gamma-BHC			<0.0040	[U]	ng/g		0.1	27-MAR-17
Heptachlor			0.00140	M,J,R	ng/g		0.1	27-MAR-17
Aldrin			<0.00075	[U]	ng/g		0.1	27-MAR-17
Heptachlor Epoxide			<0.0011	[U]	ng/g		0.1	27-MAR-17
trans-Chlordane			<0.0029	[U]	ng/g		0.1	27-MAR-17
cis-Chlordane			<0.0028	[U]	ng/g		0.1	27-MAR-17
Dieldrin			0.0033	M,J,R	ng/g		0.1	27-MAR-17
Endrin			0.0130	M,J,R	ng/g		0.1	27-MAR-17
Endrin Aldehyde			<0.0028	[U]	ng/g		0.1	27-MAR-17
Endosulfan I			<0.0041	[U]	ng/g		0.1	27-MAR-17
Endosulfan II			<0.025	M,U	ng/g		0.1	27-MAR-17
Endosulfan Sulfate			<0.0014	[U]	ng/g		0.1	27-MAR-17
4,4-DDE			<0.0036	[U]	ng/g		0.1	27-MAR-17
4,4-DDD			<0.0048	[U]	ng/g		0.1	27-MAR-17
4,4-DDT			<0.027	[U]	ng/g		0.1	27-MAR-17
Methoxychlor			<0.0024	[U]	ng/g		0.38	27-MAR-17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU	**Tissue**							
Batch	**R3686157**							
WG2493013-1	**MB**							
Mirex			0.00100	M,J,R	ng/g		0.1	27-MAR-17
Parlar 26			<0.011	[U]	ng/g		0.1	27-MAR-17
Parlar 50			<0.016	[U]	ng/g		0.1	27-MAR-17
Parlar 62			<0.023	[U]	ng/g		0.1	27-MAR-17
Surrogate: alpha-BHC, 13C6-			59.0		%		16-129	27-MAR-17
Surrogate: gamma-BHC-D6			63.0		%		11-120	27-MAR-17
Surrogate: Heptachlor, 13C10-			60.0		%		5-120	27-MAR-17
Surrogate: Oxychlordane, 13C10-			56.0		%		23-135	27-MAR-17
Surrogate: trans-Nonachlor, 13C10-			72.0		%		36-139	27-MAR-17
Surrogate: Dieldrin, 13C12-			70.0		%		40-151	27-MAR-17
Surrogate: Endrin, 13C12-			62.0		%		35-155	27-MAR-17
Surrogate: Endosulfan II, 13C9-			69.0		%		15-148	27-MAR-17
Surrogate: 4,4'-DDE, 13C12-			75.0		%		47-160	27-MAR-17
Surrogate: 4,4'-DDT, 13C12-			59.0		%		5-120	27-MAR-17
Surrogate: Methoxychlor-D6			51.0		%		5-120	27-MAR-17
Surrogate: Mirex, 13C10-			70.0		%		5-120	27-MAR-17
Surrogate: 4,4'-DDD, 13C12-			57.0		%		5-150	27-MAR-17
Batch	**R3686339**							
WG2462497-2	**LCS**							
alpha-BHC			101.0		%		50-120	21-MAR-17
beta-BHC			112.0		%		50-120	21-MAR-17
delta-BHC			115.0		%		50-120	21-MAR-17
gamma-BHC			104.0		%		50-120	21-MAR-17
Heptachlor			96.0		%		50-120	21-MAR-17
Aldrin			101.0		%		50-120	21-MAR-17
Heptachlor Epoxide			105.0		%		50-150	21-MAR-17
trans-Chlordane			103.0		%		50-120	21-MAR-17
cis-Chlordane			103.0		%		50-120	21-MAR-17
Dieldrin			99.0		%		50-120	21-MAR-17
Endrin			96.0		%		50-120	21-MAR-17
Endrin Aldehyde			104.0		%		20-200	21-MAR-17
Endosulfan I			102.0		%		50-120	21-MAR-17
Endosulfan II			103.0		%		5-200	21-MAR-17
Endosulfan Sulfate			121.0		%		50-200	21-MAR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU	**Tissue**							
Batch R3686339								
WG2462497-2 LCS								
4,4-DDE			101.0		%		50-120	21-MAR-17
4,4-DDD			108.0		%		42-120	21-MAR-17
4,4-DDT			103.0		%		50-120	21-MAR-17
Methoxychlor			88.0		%		50-120	21-MAR-17
Mirex			99.0		%		50-120	21-MAR-17
Parlar 26			81.0		%		20-200	21-MAR-17
Parlar 50			89.0		%		20-200	21-MAR-17
Parlar 62			147.0		%		20-200	21-MAR-17
WG2462497-1 MB								
alpha-BHC			<0.015	[U]	ng/g		0.2	21-MAR-17
beta-BHC			<0.026	[U]	ng/g		0.2	21-MAR-17
delta-BHC			<0.021	[U]	ng/g		0.2	21-MAR-17
gamma-BHC			<0.019	[U]	ng/g		0.2	21-MAR-17
Heptachlor			<0.0021	[U]	ng/g		0.2	21-MAR-17
Aldrin			<0.0031	[U]	ng/g		0.2	21-MAR-17
Heptachlor Epoxide			<0.0039	[U]	ng/g		0.2	21-MAR-17
trans-Chlordane			<0.013	[U]	ng/g		0.2	21-MAR-17
cis-Chlordane			<0.012	[U]	ng/g		0.2	21-MAR-17
Dieldrin			0.0110	M,J,R	ng/g		0.2	21-MAR-17
Endrin			0.0230	M,J	ng/g		0.2	21-MAR-17
Endrin Aldehyde			0.0230	M,J	ng/g		0.2	21-MAR-17
Endosulfan I			<0.011	[U]	ng/g		0.2	21-MAR-17
Endosulfan II			<0.028	[U]	ng/g		0.2	21-MAR-17
Endosulfan Sulfate			<0.0058	[U]	ng/g		0.2	21-MAR-17
4,4-DDE			<0.019	[U]	ng/g		0.2	21-MAR-17
4,4-DDD			<0.014	[U]	ng/g		0.2	21-MAR-17
4,4-DDT			<0.085	[U]	ng/g		0.2	21-MAR-17
Methoxychlor			<0.0018	[U]	ng/g		2	21-MAR-17
Mirex			0.0110	J,R	ng/g		0.2	21-MAR-17
Parlar 26			<0.045	[U]	ng/g		0.2	21-MAR-17
Parlar 50			<0.026	[U]	ng/g		0.2	21-MAR-17
Parlar 62			<0.054	[U]	ng/g		0.77	21-MAR-17
Surrogate: alpha-BHC, 13C6-			52.0		%		16-129	21-MAR-17
Surrogate: gamma-BHC-D6			55.0		%		11-120	21-MAR-17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU	**Tissue**							
Batch	**R3686339**							
WG2462497-1	**MB**							
Surrogate: Heptachlor, 13C10-			75.0		%		5-120	21-MAR-17
Surrogate: Oxychlordane, 13C10-			57.0		%		23-135	21-MAR-17
Surrogate: trans-Nonachlor, 13C10-			61.0		%		36-139	21-MAR-17
Surrogate: Dieldrin, 13C12-			62.0		%		40-151	21-MAR-17
Surrogate: Endrin, 13C12-			72.0		%		35-155	21-MAR-17
Surrogate: Endosulfan II, 13C9-			60.0		%		15-148	21-MAR-17
Surrogate: 4,4'-DDE, 13C12-			64.0		%		47-160	21-MAR-17
Surrogate: 4,4'-DDT, 13C12-			104.0		%		5-120	21-MAR-17
Surrogate: Methoxychlor-D6			166.0	G	%		5-120	21-MAR-17
Surrogate: Mirex, 13C10-			72.0		%		5-120	21-MAR-17
Surrogate: 4,4'-DDD, 13C12-			78.0		%		5-150	21-MAR-17

COMMENTS: The Method Blank has an elevated recovery for d6-Methoxychlor. The native is calculated via isotope dilution and is inherently recovery corrected.

Batch	**R3686449**							
WG2462495-2	**LCS**							
alpha-BHC			94.0		%		50-120	17-MAR-17
beta-BHC			106.0		%		50-120	17-MAR-17
delta-BHC			110.0		%		50-120	17-MAR-17
gamma-BHC			96.0		%		50-120	17-MAR-17
Heptachlor			93.0		%		50-120	17-MAR-17
Aldrin			89.0		%		50-120	17-MAR-17
Heptachlor Epoxide			100.0		%		50-150	17-MAR-17
trans-Chlordane			94.0		%		50-120	17-MAR-17
cis-Chlordane			95.0		%		50-120	17-MAR-17
Dieldrin			95.0		%		50-120	17-MAR-17
Endrin			89.0		%		50-120	17-MAR-17
Endrin Aldehyde			94.0		%		20-200	17-MAR-17
Endosulfan I			93.0		%		50-120	17-MAR-17
Endosulfan II			91.0		%		5-200	17-MAR-17
Endosulfan Sulfate			96.0		%		50-200	17-MAR-17
4,4-DDE			94.0		%		50-120	17-MAR-17
4,4-DDD			98.0		%		42-120	17-MAR-17
4,4-DDT			99.0		%		50-120	17-MAR-17
Methoxychlor			105.0		%		50-120	17-MAR-17
Mirex			92.0		%		50-120	17-MAR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU	**Tissue**							
Batch R3686449								
WG2462495-2 LCS								
Parlar 26			92.0		%		20-200	17-MAR-17
Parlar 50			79.0		%		20-200	17-MAR-17
Parlar 62			89.0		%		20-200	17-MAR-17
WG2462495-1 MB								
alpha-BHC			<0.017	[U]	ng/g		0.2	17-MAR-17
beta-BHC			<0.026	[U]	ng/g		0.2	17-MAR-17
delta-BHC			<0.019	[U]	ng/g		0.2	17-MAR-17
gamma-BHC			<0.018	[U]	ng/g		0.2	17-MAR-17
Heptachlor			<0.0017	[U]	ng/g		0.2	17-MAR-17
Aldrin			<0.0016	[U]	ng/g		0.2	17-MAR-17
Heptachlor Epoxide			<0.0028	[U]	ng/g		0.2	17-MAR-17
trans-Chlordane			<0.012	[U]	ng/g		0.2	17-MAR-17
cis-Chlordane			<0.011	[U]	ng/g		0.2	17-MAR-17
Dieldrin			0.0080	M,J	ng/g		0.2	17-MAR-17
Endrin			0.0087	M,J,R	ng/g		0.2	17-MAR-17
Endrin Aldehyde			<0.0068	[U]	ng/g		0.2	17-MAR-17
Endosulfan I			<0.013	[U]	ng/g		0.2	17-MAR-17
Endosulfan II			<0.019	[U]	ng/g		0.2	17-MAR-17
Endosulfan Sulfate			<0.0051	[U]	ng/g		0.2	17-MAR-17
4,4-DDE			<0.020	[U]	ng/g		0.2	17-MAR-17
4,4-DDD			<0.049	[U]	ng/g		0.2	17-MAR-17
4,4-DDT			<0.051	[U]	ng/g		0.2	17-MAR-17
Methoxychlor			<0.0059	[U]	ng/g		0.77	17-MAR-17
Mirex			0.00270	J,R	ng/g		0.2	17-MAR-17
Parlar 26			<0.033	[U]	ng/g		0.2	17-MAR-17
Parlar 50			<0.016	[U]	ng/g		0.2	17-MAR-17
Parlar 62			<0.021	[U]	ng/g		0.2	17-MAR-17
Surrogate: alpha-BHC, 13C6-			62.0		%		16-129	17-MAR-17
Surrogate: gamma-BHC-D6			68.0		%		11-120	17-MAR-17
Surrogate: Heptachlor, 13C10-			61.0		%		5-120	17-MAR-17
Surrogate: Oxychlordane, 13C10-			68.0		%		23-135	17-MAR-17
Surrogate: trans-Nonachlor, 13C10-			71.0		%		36-139	17-MAR-17
Surrogate: Dieldrin, 13C12-			73.0		%		40-151	17-MAR-17
Surrogate: Endrin, 13C12-			64.0		%		35-155	17-MAR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU	**Tissue**							
Batch	**R3686449**							
WG2462495-1	**MB**							
Surrogate: Endosulfan II, 13C9-			73.0		%		15-148	17-MAR-17
Surrogate: 4,4'-DDE, 13C12-			71.0		%		47-160	17-MAR-17
Surrogate: 4,4'-DDT, 13C12-			67.0		%		5-120	17-MAR-17
Surrogate: Methoxychlor-D6			63.0		%		5-120	17-MAR-17
Surrogate: Mirex, 13C10-			74.0		%		5-120	17-MAR-17
Surrogate: 4,4'-DDD, 13C12-			71.0		%		5-150	17-MAR-17
Batch	**R3686747**							
WG2498776-2	**LCS**							
alpha-BHC			97.0		%		50-120	28-MAR-17
beta-BHC			91.0		%		50-120	28-MAR-17
delta-BHC			102.0		%		50-120	28-MAR-17
gamma-BHC			98.0		%		50-120	28-MAR-17
Heptachlor			93.0		%		50-120	28-MAR-17
Aldrin			110.0		%		50-120	28-MAR-17
Heptachlor Epoxide			110.0		%		50-150	28-MAR-17
trans-Chlordane			103.0		%		50-120	28-MAR-17
cis-Chlordane			100.0		%		50-120	28-MAR-17
Dieldrin			96.0		%		50-120	28-MAR-17
Endrin			94.0		%		50-120	28-MAR-17
Endrin Aldehyde			97.0		%		20-200	28-MAR-17
Endosulfan I			109.0		%		50-120	28-MAR-17
Endosulfan II			97.0		%		5-200	28-MAR-17
Endosulfan Sulfate			92.0		%		50-200	28-MAR-17
4,4-DDE			99.0		%		50-120	28-MAR-17
4,4-DDD			96.0		%		42-120	28-MAR-17
4,4-DDT			102.0		%		50-120	28-MAR-17
Methoxychlor			98.0		%		50-120	28-MAR-17
Mirex			95.0		%		50-120	28-MAR-17
Parlar 26			85.0		%		20-200	28-MAR-17
Parlar 50			72.0		%		20-200	28-MAR-17
Parlar 62			79.0		%		20-200	28-MAR-17
WG2498776-1	**MB**							
alpha-BHC			<0.026	[U]	ng/g		0.68	28-MAR-17
beta-BHC			<0.045	[U]	ng/g		0.68	28-MAR-17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU	**Tissue**							
Batch R3686747								
WG2498776-1 MB								
delta-BHC			<0.035	[U]	ng/g		0.68	28-MAR-17
gamma-BHC			<0.034	[U]	ng/g		0.68	28-MAR-17
Heptachlor			<0.0046	[U]	ng/g		0.68	28-MAR-17
Aldrin			<0.0046	[U]	ng/g		0.68	28-MAR-17
Heptachlor Epoxide			<0.0095	[U]	ng/g		0.68	28-MAR-17
trans-Chlordane			<0.020	[U]	ng/g		0.68	28-MAR-17
cis-Chlordane			<0.020	[U]	ng/g		0.68	28-MAR-17
Dieldrin			<0.016	[U]	ng/g		0.68	28-MAR-17
Endrin			<0.039	[U]	ng/g		0.68	28-MAR-17
Endrin Aldehyde			<0.021	[U]	ng/g		0.68	28-MAR-17
Endosulfan I			<0.025	M,U	ng/g		0.68	28-MAR-17
Endosulfan II			<0.046	[U]	ng/g		0.68	28-MAR-17
Endosulfan Sulfate			<0.0082	[U]	ng/g		0.68	28-MAR-17
4,4-DDE			<0.016	[U]	ng/g		0.68	28-MAR-17
4,4-DDD			<0.023	[U]	ng/g		0.68	28-MAR-17
4,4-DDT			<0.086	[U]	ng/g		0.68	28-MAR-17
Methoxychlor			<0.0091	[U]	ng/g		2.6	28-MAR-17
Mirex			0.0059	M,J,R	ng/g		0.68	28-MAR-17
Parlar 26			<0.10	[U]	ng/g		2.6	28-MAR-17
Parlar 50			<0.090	[U]	ng/g		0.68	28-MAR-17
Parlar 62			<0.12	[U]	ng/g		0.68	28-MAR-17
Surrogate: alpha-BHC, 13C6-			47.0		%		16-129	28-MAR-17
Surrogate: gamma-BHC-D6			53.0		%		11-120	28-MAR-17
Surrogate: Heptachlor, 13C10-			41.0		%		5-120	28-MAR-17
Surrogate: Oxychlordane, 13C10-			57.0		%		23-135	28-MAR-17
Surrogate: trans-Nonachlor, 13C10-			69.0		%		36-139	28-MAR-17
Surrogate: Dieldrin, 13C12-			74.0		%		40-151	28-MAR-17
Surrogate: Endrin, 13C12-			50.0		%		35-155	28-MAR-17
Surrogate: Endosulfan II, 13C9-			59.0		%		15-148	28-MAR-17
Surrogate: 4,4'-DDE, 13C12-			77.0		%		47-160	28-MAR-17
Surrogate: 4,4'-DDT, 13C12-			46.0		%		5-120	28-MAR-17
Surrogate: Methoxychlor-D6			44.0		%		5-120	28-MAR-17
Surrogate: Mirex, 13C10-			59.0		%		5-120	28-MAR-17
Surrogate: 4,4'-DDD, 13C12-			55.0		%		5-150	28-MAR-17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CP-CUSTOM-LRMS-BU	**Solid**							
Batch R3686824								
WG2462489-1 MB								
Pentachlorophenol			<0.99		ng/g			29-MAR-17
Surrogate: 13C6-Pentachlorophenol			22.0	RRQC	%		50-150	29-MAR-17
COMMENTS: The recovery of the 13C6-pentachlorophenol was below method control limits for the method blank. All results are calculatd by isotope dilution and therefore are inherently recovery-corrected.								
OCPEST-1699-HRMS-BU	**Solid**							
Batch R3649829								
WG2462491-4 DUP		**L1862212-4**						
alpha-BHC		<0.018	<0.016	RPD-NA	ng/g	N/A	50	09-FEB-17
beta-BHC		<0.031	<0.026	RPD-NA	ng/g	N/A	50	09-FEB-17
delta-BHC		<0.026	<0.021	RPD-NA	ng/g	N/A	50	09-FEB-17
gamma-BHC		<0.024	<0.020	RPD-NA	ng/g	N/A	50	09-FEB-17
Heptachlor		<0.0019	<0.0024	RPD-NA	ng/g	N/A	50	09-FEB-17
Aldrin		<0.0025	<0.0030	RPD-NA	ng/g	N/A	50	09-FEB-17
Heptachlor Epoxide		0.0376	0.0379		ng/g	0.8	50	09-FEB-17
trans-Chlordane		<0.017	<0.013	RPD-NA	ng/g	N/A	50	09-FEB-17
cis-Chlordane		0.028	0.034		ng/g	19	50	09-FEB-17
Dieldrin		0.121	0.122		ng/g	0.8	50	09-FEB-17
Endrin		<0.011	<0.012	RPD-NA	ng/g	N/A	50	09-FEB-17
Endrin Aldehyde		<0.0094	<0.0068	RPD-NA	ng/g	N/A	50	09-FEB-17
Endosulfan I		<0.017	<0.017	RPD-NA	ng/g	N/A	50	09-FEB-17
Endosulfan II		<0.025	<0.035	RPD-NA	ng/g	N/A	50	09-FEB-17
Endosulfan Sulfate		<0.010	<0.0062	RPD-NA	ng/g	N/A	50	09-FEB-17
4,4-DDE		0.262	0.240		ng/g	8.8	50	09-FEB-17
4,4-DDD		0.0190	0.0200		ng/g	5.1	50	09-FEB-17
4,4-DDT		0.472	0.445		ng/g	5.9	50	09-FEB-17
Methoxychlor		<0.0028	<0.0036	RPD-NA	ng/g	N/A	50	09-FEB-17
Mirex		0.0052	0.0056		ng/g	7.4	50	09-FEB-17
Parlar 26		<0.057	<0.15	RPD-NA	ng/g	N/A	50	09-FEB-17
Parlar 50		<0.039	<0.086	RPD-NA	ng/g	N/A	50	09-FEB-17
Parlar 62		<0.048	<0.11	RPD-NA	ng/g	N/A	50	09-FEB-17
WG2462491-2 LCS								
alpha-BHC			88.0		%		50-120	09-FEB-17
beta-BHC			96.0		%		50-120	09-FEB-17
delta-BHC			96.0		%		50-120	09-FEB-17
COMMENTS: The Laboratory Control Sample has an elevated recovery for Parlar-62. This target is not detected in any of the samples.								

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU	**Solid**							
Batch R3649829								
WG2462491-2 LCS								
gamma-BHC			91.0		%		50-120	09-FEB-17
Heptachlor			95.0		%		50-120	09-FEB-17
Aldrin			70.0		%		50-120	09-FEB-17
Heptachlor Epoxide			107.0		%		20-200	09-FEB-17
trans-Chlordane			109.0		%		50-120	09-FEB-17
cis-Chlordane			106.0		%		50-120	09-FEB-17
Dieldrin			97.0		%		50-120	09-FEB-17
Endrin			93.0		%		50-120	09-FEB-17
Endrin Aldehyde			87.0		%		20-200	09-FEB-17
Endosulfan I			101.0		%		50-120	09-FEB-17
Endosulfan II			88.0		%		5-200	09-FEB-17
Endosulfan Sulfate			98.0		%		50-200	09-FEB-17
4,4-DDE			85.0		%		50-120	09-FEB-17
4,4-DDD			100.0		%		42-120	09-FEB-17
4,4-DDT			116.0		%		50-120	09-FEB-17
Methoxychlor			101.0		%		50-120	09-FEB-17
Mirex			100.0		%		50-120	09-FEB-17
Parlar 26			199.0		%		20-200	09-FEB-17
Parlar 50			183.0		%		20-200	09-FEB-17
Parlar 62			210.0	G	%		20-200	09-FEB-17
COMMENTS: The Laboratory Control Sample has an elevated recovery for Parlar-62. This target is not detected in any of the samples.								
WG2462491-1 MB								
alpha-BHC			<0.023	[U]	ng/g		0.14	09-FEB-17
beta-BHC			<0.038	[U]	ng/g		0.14	09-FEB-17
delta-BHC			<0.028	[U]	ng/g		0.14	09-FEB-17
gamma-BHC			<0.027	[U]	ng/g		0.14	09-FEB-17
Heptachlor			<0.0024	[U]	ng/g		0.14	09-FEB-17
Aldrin			<0.0033	[U]	ng/g		0.14	09-FEB-17
Heptachlor Epoxide			<0.0078	[U]	ng/g		0.14	09-FEB-17
trans-Chlordane			<0.016	[U]	ng/g		0.14	09-FEB-17
cis-Chlordane			<0.016	[U]	ng/g		0.14	09-FEB-17
Dieldrin			<0.0061	[U]	ng/g		0.14	09-FEB-17
Endrin			<0.0095	[U]	ng/g		0.14	09-FEB-17
Endrin Aldehyde			<0.0068	[U]	ng/g		0.14	09-FEB-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU	**Solid**							
Batch R3649829								
WG2462491-1 MB								
Endosulfan I			<0.018	[U]	ng/g		0.14	09-FEB-17
Endosulfan II			<0.034	[U]	ng/g		0.14	09-FEB-17
Endosulfan Sulfate			<0.0070	[U]	ng/g		0.14	09-FEB-17
4,4-DDE			<0.0088	[U]	ng/g		0.14	09-FEB-17
4,4-DDD			<0.0060	[U]	ng/g		0.14	09-FEB-17
4,4-DDT			<0.052	[U]	ng/g		0.51	09-FEB-17
Methoxychlor			<0.0021	[U]	ng/g		1.4	09-FEB-17
Mirex			0.00120	M,J,R	ng/g		0.14	09-FEB-17
Parlar 26			<0.055	[U]	ng/g		0.14	09-FEB-17
Parlar 50			<0.032	[U]	ng/g		0.14	09-FEB-17
Parlar 62			<0.040	[U]	ng/g		0.14	09-FEB-17
Surrogate: alpha-BHC, 13C6-			84.0		%		16-129	09-FEB-17
Surrogate: gamma-BHC-D6			84.0		%		11-120	09-FEB-17
Surrogate: Heptachlor, 13C10-			76.0		%		5-120	09-FEB-17
Surrogate: Oxychlordane, 13C10-			72.0		%		23-135	09-FEB-17
Surrogate: trans-Nonachlor, 13C10-			92.0		%		36-139	09-FEB-17
Surrogate: Dieldrin, 13C12-			91.0		%		40-151	09-FEB-17
Surrogate: Endrin, 13C12-			79.0		%		35-155	09-FEB-17
Surrogate: Endosulfan II, 13C9-			86.0		%		15-148	09-FEB-17
Surrogate: 4,4'-DDE, 13C12-			101.0		%		47-160	09-FEB-17
Surrogate: 4,4'-DDT, 13C12-			65.0		%		5-120	09-FEB-17
Surrogate: Methoxychlor-D6			70.0		%		5-120	09-FEB-17
Surrogate: Mirex, 13C10-			90.0		%		5-120	09-FEB-17
Batch R3676514								
WG2462492-4 DUP		**L1862212-26**						
alpha-BHC		0.0099	0.0079		ng/g	22	50	08-MAR-17
beta-BHC		<0.0041	<0.0040	RPD-NA	ng/g	N/A	50	08-MAR-17
delta-BHC		<0.0031	<0.0030	RPD-NA	ng/g	N/A	50	08-MAR-17
gamma-BHC		0.0732	0.0814		ng/g	11	50	08-MAR-17
Heptachlor		0.00260	0.00280		ng/g	7.4	50	08-MAR-17
Aldrin		0.00100	0.00181	G	ng/g	58	50	08-MAR-17
Heptachlor Epoxide		0.0192	0.0211		ng/g	9.4	50	08-MAR-17
trans-Chlordane		0.0174	0.0362	G	ng/g	70	50	08-MAR-17
cis-Chlordane		0.0130	0.0163		ng/g	23	50	08-MAR-17

[redacted]

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU	**Solid**							
Batch R3676514								
WG2462492-4 DUP		**L1862212-26**						
Dieldrin		0.0246	0.0265		ng/g	7.4	50	08-MAR-17
Endrin		0.0095	0.0099		ng/g	4.1	50	08-MAR-17
Endrin Aldehyde		<0.0013	<0.0018	RPD-NA	ng/g	N/A	50	08-MAR-17
Endosulfan I		<0.0039	<0.0053	RPD-NA	ng/g	N/A	50	08-MAR-17
Endosulfan II		0.0138	<0.0091	RPD-NA	ng/g	N/A	50	08-MAR-17
Endosulfan Sulfate		<0.0015	<0.0024	RPD-NA	ng/g	N/A	50	08-MAR-17
4,4-DDE		0.265	0.262		ng/g	1.1	50	08-MAR-17
4,4-DDD		0.0414	0.0380		ng/g	8.6	50	08-MAR-17
4,4-DDT		0.310	0.301		ng/g	2.9	50	08-MAR-17
Methoxychlor		<0.0037	<0.0064	RPD-NA	ng/g	N/A	50	08-MAR-17
Mirex		0.0130	0.0150		ng/g	14	50	08-MAR-17
Parlar 26		0.102	0.100		ng/g	2.5	50	08-MAR-17
Parlar 50		<0.041	<0.061	RPD-NA	ng/g	N/A	50	08-MAR-17
Parlar 62		<0.066	<0.098	RPD-NA	ng/g	N/A	50	08-MAR-17
COMMENTS: The duplicate does not match for Aldrin and trans-Chlordane. Detected results are much lower than the lowest calibration standard.								
WG2462492-2 LCS								
alpha-BHC			104.0		%		50-120	08-MAR-17
beta-BHC			111.0		%		50-120	08-MAR-17
delta-BHC			117.0		%		50-120	16-MAR-17
gamma-BHC			106.0		%		50-120	08-MAR-17
Heptachlor			105.0		%		50-120	08-MAR-17
Aldrin			89.0		%		50-120	08-MAR-17
Heptachlor Epoxide			109.0		%		20-200	08-MAR-17
trans-Chlordane			110.0		%		50-120	16-MAR-17
cis-Chlordane			95.0		%		50-120	16-MAR-17
Dieldrin			101.0		%		50-120	16-MAR-17
Endrin			104.0		%		50-120	16-MAR-17
Endrin Aldehyde			103.0		%		20-200	16-MAR-17
Endosulfan I			94.0		%		50-120	16-MAR-17
Endosulfan II			87.0		%		5-200	16-MAR-17
Endosulfan Sulfate			118.0		%		50-200	16-MAR-17
4,4-DDE			100.0		%		50-120	16-MAR-17
4,4-DDD			101.0		%		42-120	16-MAR-17
4,4-DDT			104.0		%		50-120	16-MAR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU	**Solid**							
Batch R3676514								
WG2462492-2 LCS								
Methoxychlor			84.0		%		50-120	16-MAR-17
Mirex			100.0		%		50-120	16-MAR-17
Parlar 26			100.0		%		20-200	16-MAR-17
Parlar 50			115.0		%		20-200	16-MAR-17
Parlar 62			103.0		%		20-200	16-MAR-17
WG2462492-1 MB								
alpha-BHC			<0.0025	[U]	ng/g		0.14	08-MAR-17
beta-BHC			<0.0046	[U]	ng/g		0.14	08-MAR-17
delta-BHC			<0.0037	[U]	ng/g		0.14	08-MAR-17
gamma-BHC			<0.0035	[U]	ng/g		0.14	08-MAR-17
Heptachlor			<0.00050	[U]	ng/g		0.14	08-MAR-17
Aldrin			<0.00028	[U]	ng/g		0.14	08-MAR-17
Heptachlor Epoxide			<0.00086	[U]	ng/g		0.14	08-MAR-17
trans-Chlordane			<0.059	[U]	ng/g		0.68	16-MAR-17
cis-Chlordane			<0.031	[U]	ng/g		0.14	08-MAR-17
Dieldrin			0.0043	M,J,R	ng/g		0.14	08-MAR-17
Endrin			0.0060	M,J,R	ng/g		0.14	08-MAR-17
Endrin Aldehyde			<0.00071	[U]	ng/g		0.14	08-MAR-17
Endosulfan I			<0.0031	[U]	ng/g		0.14	08-MAR-17
Endosulfan II			0.0087	M,J,R	ng/g		0.14	08-MAR-17
Endosulfan Sulfate			<0.0022	[U]	ng/g		0.14	08-MAR-17
4,4-DDE			0.0053	M,J	ng/g		0.14	08-MAR-17
4,4-DDD			<0.0044	[U]	ng/g		0.14	08-MAR-17
4,4-DDT			<0.092	[U]	ng/g		0.68	16-MAR-17
Methoxychlor			<0.021	[U]	ng/g		0.68	16-MAR-17
Mirex			0.00150	J,R	ng/g		0.14	08-MAR-17
Parlar 26			<0.018	[U]	ng/g		0.14	08-MAR-17
Parlar 50			<0.017	[U]	ng/g		0.14	08-MAR-17
Parlar 62			<0.027	[U]	ng/g		0.14	08-MAR-17
Surrogate: alpha-BHC, 13C6-			84.0		%		16-129	08-MAR-17
Surrogate: gamma-BHC-D6			86.0		%		11-120	08-MAR-17
Surrogate: Heptachlor, 13C10-			106.0		%		5-120	08-MAR-17
Surrogate: Oxychlordane, 13C10-			98.0		%		23-135	08-MAR-17
Surrogate: trans-Nonachlor, 13C10-			77.0	M	%		36-139	08-MAR-17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU	**Solid**							
Batch R3676514								
WG2462492-1 MB								
Surrogate: Dieldrin, 13C12-			85.0		%		40-151	08-MAR-17
Surrogate: Endrin, 13C12-			111.0		%		35-155	08-MAR-17
Surrogate: Endosulfan II, 13C9-			94.0		%		15-148	08-MAR-17
Surrogate: 4,4'-DDE, 13C12-			66.0		%		47-160	08-MAR-17
Surrogate: 4,4'-DDT, 13C12-			87.0		%		5-120	16-MAR-17
Surrogate: Methoxychlor-D6			94.0		%		5-120	16-MAR-17
Surrogate: Mirex, 13C10-			44.0		%		5-120	08-MAR-17

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J,R	The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M	A peak has been manually integrated.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
RRQC	Refer to report remarks for information regarding this QC result.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

L1861968 - ED & LE
L1862212 - VA & BC

Chain of Custody / Analytical Request Form

1435 Norjohn Court Unit 1, Burlington Ontario, Canada L7L 0E6
Tel +1-905-331-3111 Fax +1-905-331-4567 www.alsglobal.com alsbu.clientservices@alsglobal.com

COC # _____

Report To		Report Format / Distribution		Service Requested
Company:	Stantec	☑ Standard ☐ Other:		☐ Regular Service
Contact:	Katherine Ketis	☑ PDF ☑ Excel ☑ Digital ☐ Fax		☐ Rush Service - surcharge applies
Address:	1-70 Southgate Drive, Guelph, ON N1G 4P5	Email 1:	katherine.ketis@stantec.com	☐ Other - Please contact ALS
Phone:	519-780-8198 Fax: 519-836-2943	Email 2:		
Invoice To	Same as Report ? ☐ Yes ☑ No	**Client / Project Information**		
Company:	Clean Harbors	Job #:	122160003	
Contact:	Erica Carabott	Location:	Clean Harbors	
Address:		PO:	Q53923	
Phone:	519-864-3890 Fax:	Sampled by:	Pascal Tuarze	
Lab Work Order #		ALS Contact:	Rachael Stolys	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)		Chloride		OCPs		PCBs (no arochlors)		PCP		PCDD/PCDF	Hazardous? Provide Details	Highly Contaminated?	Number of Containers
1	16-W2-SS-CH-001	18-07-2016	14:00	Soil	X		X		X		X				X			1
2	16-W2-NG-CH-003	29-09-2016	7:45	Plant Tissue	X		X		X		X				X			1
3	16-W2-WW-CH-005	18-07-2016	15:00	Plant Tissue	X		X		X		X		X		X			2
4	16-W4-SS-CH-007	12/10/2016	11:45	Soil	X		X		X		X				X			1
5	16-W4-NG-CH-009	12/10/2016	12:15	Plant Tissue	X		X		X		X				X			1
6	16-W4-FC-CH-011	12/10/2016	11:45	Plant Tissue	X		X		X		X		X		X			2
7	16-N2-SS-CH-013	28-09-2016	16:30	Soil	X		X		X		X				X			1
8	16-N2-SD-CH-015	28-09-2016	17:15	Sediment	X		X		X		X							1
9	16-N2-NG-CH-019	28-09-2016	17:00	Plant Tissue	X		X		X		X				X			1
10	16-N2-SB-CH-021	28-09-2016	16:00	Plant Tissue	X		X		X		X		X		X			1

Special Instructions / Regulations / Hazardous Details

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided by ALS

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
Pascal Tuarze	21-11-2016	17:00		23/11/16	16:00	10.7 °C	AARON BURTON	24-Nov-2016	11:40	

#1 9.4 #2 10.7 #3 7.2 #4 5.6 #5 9.1

4.2°C

Chain of Custody / Analytical Request Form

1435 Norjohn Court Unit 1, Burlington Ontario, Canada L7L 0E6

Tel +1-905-331-3111 Fax +1-905-331-4567 www.alsglobal.com alsbu.clientservices@alsglobal.com

COC #

Report To		Report Format / Distribution		Service Requested
Company:	Stantec	☑ Standard ☐ Other:		☐ Regular Service
Contact:	Katherine Ketis	☑ PDF ☑ Excel ☑ Digital ☐ Fax		☐ Rush Service - surcharge applies
Address:	1-70 Southgate Drive, Guelph, ON N1G 4P5	Email 1:	katherine.ketis@stantec.com	☐ Other - Please contact ALS
Phone:	519-780-8198 Fax: 519-836-2943	Email 2:		
Invoice To	Same as Report ? ☐ Yes ☑ No	**Client / Project Information**		**Analysis Request**
Company:	Clean Harbors	Job #:	122160003	
Contact:	Erica Carabott	Location:	Clean Harbors	
Address:		PO:	Q53923	
Phone:	519-864-3890 Fax:	Sampled by:	Pascal Tuarze	
Lab Work Order #		ALS Contact:	Rachael Stolys	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)		Chloride		OCPs		PCBs (no arochlors)		PCP		PCDD/PCDF	Hazardous? Provide Detai	Highly Contaminated?	Number of Containers
11	16-N4-SS-CH-023	11/10/2016	17:15	Soil	X		X		X		X				X			1
12	16-N4-NG-CH-025	28-09-2016	17:30	Plant Tissue	X		X		X		X				X			1
13	16-N4-FC-CH-027	11/10/2016	17:15	Plant Tissue	X		X		X		X		X		X			2
14	16-N5-SS-CH-029	29-09-2016	9:00	Soil	X		X		X		X				X			1
15	16-N5-SD-CH-031	29-09-2016	10:00	Sediment	X		X		X		X							1
16	16-N5-NG-CH-035	29-09-2016	9:00	Plant Tissue	X		X		X		X				X			1
17	16-E1-SS-CH-037	12/10/2016	14:45	Soil	X		X		X		X				X			1
18	16-E1-NG-CH-039	12/10/2016	16:30	Plant Tissue	X		X		X		X				X			1
19	16-E1-FC-CH-041	12/10/2016	14:45	Plant Tissue	X		X		X		X		X		X			2
20	16-E2-SS-CH-043	29-09-2016	13:30	Soil	X		X		X		X				X			1
21	16-E2-SD-CH-045	29-09-2017	14:30	Sediment	X		X		X		X							2

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	"	"		23/11/16	16:00	10.7 °C	AARON BURTON	24-Nov-2016	11:40	Yes / No ? If Yes add SIF

4.2°C

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Report To		Report Format / Distribution		Service Requested
Company:	Stantec	☑ Standard ☐ Other:		☐ Regular Service
Contact:	Katherine Ketis	☑ PDF ☑ Excel ☑ Digital ☐ Fax		☐ Rush Service - surcharge applies
Address:	1-70 Southgate Drive, Guelph, ON N1G 4P5	Email 1:	katherine.ketis@stantec.com	☐ Other - Please contact ALS
Phone:	519-780-8198 Fax: 519-836-2943	Email 2:		
Invoice To	Same as Report ? ☐ Yes ☑ No	Client / Project Information		Analysis Request
Company:	Clean Harbors	Job #:	122160003	
Contact:	Erica Carabott	Location:	Clean Harbors	
Address:		PO:	Q53923	
Phone:	519-864-3890 Fax:	Sampled by:	Pascal Tuarze	
Lab Work Order #		ALS Contact:	Rachael Stolys	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)		Chloride		OCPs		PCBs (no arochlors)		PCP		PCDD/PCDF	Hazardous? Provide Deta	Highly Contaminated?	Number of Containers
22	16-E2-NG-CH-049	29-09-2016	12:45	Plant Tissue	X		X		X		X				X			1
23	16-E5-SS-CH-053	12/10/2016	15:30	Soil	X		X		X		X				X			1
24	16-E5-NG-CH-055	12/10/2016	16:00	Plant Tissue	X		X		X		X				X			1
25	16-E5-FC-CH-057	12/10/2016	15:30	Plant Tissue	X		X		X		X		X		X			2
26	16-E6-SS-CH-059	29-09-2016	11:30	Soil	X		X		X		X				X			1
27	16-E6-NG-CH-061	29-09-2016	11:30	Plant Tissue	X		X		X		X				X			1
28	16-S1-SS-CH-063	11/10/2016	13:50	Soil	X		X		X		X				X			1
29	16-S1-SD-CH-065	11/10/2016	13:10	Sediment	X		X		X		X							1

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[signature]	" "	" "	[signature]	28/11/16	16:00	10.9 °C	Arran Burton	24-Nov-2016	11:40	Yes / No ? If Yes add SIF

4.2°C

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Report To		**Report Format / Distribution**	**Service Requested**
Company:	Stantec	☑ Standard ☐ Other:	☐ Regular Service
Contact:	Katherine Ketis	☑ PDF ☑ Excel ☑ Digital ☐ Fax	☐ Rush Service - surcharge applies
Address:	1-70 Southgate Drive, Guelph, ON N1G 4P5	Email 1: katherine.ketis@stantec.com	☐ Other - Please contact ALS
Phone:	519-780-8198 Fax: 519-836-2943	Email 2:	
Invoice To	Same as Report ? ☐ Yes ☑ No	**Client / Project Information**	**Analysis Request**
Company:	Clean Harbors	Job #: 122160003	
Contact:	Erica Carabott	Location: Clean Harbors	
Address:		PO: Q53923	
Phone:	519-864-3890 Fax:	Sampled by: Pascal Tuarze	
Lab Work Order #		ALS Contact: Rachael Stolys	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)		Chloride		OCPs		PCBs (no arochlors)		PCP		PCDD/PCDF	Hazardous? Provide Deta	Highly Contaminated?	Number of Containers
30	16-S1-NG-CH-069	11/10/2016	13:10	Plant Tissue	X		X		X		X				X			1
31	16-S1-FC-CH-071	11/10/2016	13:50	Plant Tissue	X		X		X		X		X		X			2
32	16-S2-SS-CH-073	11/10/2016	15:00	Soil	X		X		X		X				X			1
33	16-S2-NG-CH-075	11/10/2016	15:15	Plant Tissue	X		X		X		X				X			1
34	16-S2-FC-CH-077	11/10/2016	14:30	Plant Tissue	X		X		X		X		X		X			2
35	16-S4-SS-CH-087	28-09-2016	12:00	Soil	X		X		X		X				X			1
36	16-S4-SD-CH-089	28-09-2016	13:00	Sediment	X		X		X		X							1
37	16-S4-NG-CH-093	28-09-2016	13:30	Plant Tissue	X		X		X		X				X			1
38	16-S4-SB-CH-095	28-09-2016	12:30	Plant Tissue	X		X		X		X		X		X			1

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Released by:	Date (dd-mm	Time (hh-m	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
[signature]	"	"	[signature]	23/11/16	16:00	10.7 °C	AARON BURTON	24-Nov-2016	11:40	

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Contact:	Katherine Ketis	☑ PDF ☑ Excel ☑ Digital ☐ Fax	☐ Rush Service - surcharge applies
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Phone:	519-780-8198 Fax: 519-836-2943	Email 2:	
Invoice To	Same as Report ? ☐ Yes ☑ No	**Client / Project Information**	
Company:	Clean Harbors	Job #: 122160003	
Contact:	Erica Carabott	Location: Clean Harbors	
Address:		PO: Q53923	
Phone:	519-864-3890 Fax:	Sampled by: Pascal Tuarze	
Lab Work Order #		ALS Contact: Rachael Stolys	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)		Chloride		OCPs		PCBs (no arochlors)		PCP		PCDD/PCDF	Hazardous? Provide Det	Highly Contaminated?	Number of Containers
39	16-S5-SS-CH-097	12/10/2016	9:30	Soil	X		X		X		X				X			1
40	16-S5-NG-CH-099	12/10/2016	9:00	Plant Tissue	X		X		X		X				X			1
41	16-S5-FC-CH-101	12/10/2016	9:30	Plant Tissue	X		X		X		X		X		X			2
42	16-S7-SS-CH-079	14-09-2016	16:30	Soil	X		X		X		X				X			1
43	16-S7-SD-CH-081	14-09-2016	17:15	Sediment	X		X		X		X							1
44	16-S7-NG-CH-085	14-09-2016	16:00	Plant Tissue	X		X		X		X				X			1
45	16-D1-SS-CH-103	18-07-2016	14:05	Soil	X		X		X		X				X			1

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Paul Tay	"	"	OJ	23/11/16	16:00	10.7 °C	AARON BURTON	24-Nov-2016	11:40	

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Phone:	519-780- Fax: 519-836-2943	Email 2:	
Invoice To	Same as Report To ☐ Yes ☑ No	**Client / Project Information**	**Analysis Request**
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Address:		PO: Q53923	
Phone:	519-864- Fax:	Sampled by: Pascal Tuarze	
Lab Work Order #		ALS Contact: Rachael Stolys	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)		Chloride		OCPs		PCBs (no arochlors)		PCP		PCDD/PCDF	Hazardous? Provide Det	Highly Contaminated?	Number of Containers
46	16-D3-NG-CH-105	29-09-2016	9:00	Plant Tissue	X		X		X		X				X			1
47	16-D4-SD-CH-106	29-09-2016	10:15	Sediment	X		X		X		X							1
48	16-D5-SB-CH-107	28-09-2016	16:00	Plant Tissue	X		X		X		X		X		X			1
49	16-D6-FC-CH-108	11/10/2016	17:15	Plant Tissue	X		X		X		X		X		X			2
50	16-D7-WW-CH-109	18-07-2016	15:05	Plant Tissue	X		X		X		X		X		X			2
51	16-D15-NG-CH-200	12/10/2016	16:00	Plant Tissue	X		X		X		X				X			1
52	16-W2-FB-CH-111	18-07-2016	15:00	Water	X		X											1
53	16-N2-FB-CH-112	28-09-2016	16:00	Water	X		X											1
54	16-E1-FB-CH-113	12/10/2016	16:30	Water	X		X											1
55	16-W2-RB-CH-115	18-07-2016	15:05	Water	X		X											1
56	16-S7-RB-CH-116	14-09-2016	17:00	Water	X		X											1
57	16-S4-RB-CH-117	28-09-2016	9:00	Water	X		X											1
58	16-S4-RB-CH-118	11/10/2016	12:50	Water	X		X											1

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[signature]	"	"	[signature]	23/11/16	16:00	10.7 °C	AARON BURTON	24-Nov-2016	11:40	

4.2°C

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Phone:	519-780-819E Fax: 519-836-2943	Email 2:		
Invoice	Same as Report ? ☐ Yes ☑ No	Client / Project Information		Analysis Request
Company:	Clean Harbors	Job #:	122160003	
Contact:	Erica Carabott	Location:	Clean Harbors	
Address:		PO:	Q53923	
Phone:	519-864-389C Fax:	Sampled by:	Pascal Tuarze	
Lab Work Order #		ALS Contact:	Rachael Stolys	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metals (list attached)		Chloride		OCPs		PCBs (no arochlors)		PCP		PCDD/PCDF	Hazardous? Provide Detail	Highly Contaminated?	Number of Containers
59	16-S1-RB-CH-119	11/10/2016		Water	X		X											1
60	16-S1-RB-CH-120	11/10/2016		Water	X		X											1

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Pascal Tuarze	21-11-16	17:00		23/11/16	16:00	10.7°C	Arlan BURTON	24-Nov-2016	11:40	Yes / No ? If Yes add SIF

Pascal Tuarze

4.2°C

APPENDIX G: SUMMARY OF PROPOSED CHANGES TO CLEAN HARBORS BIOMONITORING PROGRAM

Stantec Consulting Ltd.
100-300 Hagey Boulevard, Waterloo ON N2L 0A4

September 6, 2016
File: 122160003

Attention: Erica Carabott
Facility Compliance Manager
Clean Harbors
4090 Telfer Road, R.R. #1
Corruna, ON N0N 1G0

Dear Ms. Carabott,

Reference: Summary of Proposed Changes to Clean Harbors Biomonitoring Program

Stantec Consulting Ltd. (Stantec) is proposing a number of modifications to the Clean Harbors Biomonitoring Program to streamline the program and accommodate the Landfill Expansion currently underway. The Biomonitoring Program is required under condition 9 of the Lambton Facility's Environmental Compliance Approval (ECA No. A031806).

The proposed changes were presented in a letter prepared by Stantec (July 3, 2015). Comments were received from the Ontario Ministry of the Environment and Climate Change (MOECC) (September 17, 2015), and Neegan Burnside on behalf of First Nations (August 28, 2015). Taking these comments into consideration a Revised Biomonitoring Sampling Program was prepared (Stantec, December 15, 2015) and provided to the MOECC. Since that time, conditions at the Lambton Facility have changed, resulting in additional proposed changes to the Biomonitoring Program.

The purpose of this letter is to summarize the current proposed changes to the Biomonitoring Program. Each change is discussed in detail in the following sections.

Table 1 – Summary of Proposed Changes to the Biomonitoring Program

Type of Change	Proposed Changes
Test Sites	**Sites within Lambton Facility affected by Landfill Expansion** • Site E6 – No change at this time. • Site S3 – Remove from Biomonitoring Program. Site has been replaced by an access road. • New Site S7 – Proposed new site to replace Site S3. **Sites in Surrounding Area of Lambton Facility** • New Site E7 - Proposed new site to increase coverage to northeast of Facility based on predominant wind direction. • Site S5 – Remove from Biomonitoring Program. Sufficient coverage to the south of Facility is provided by remaining sites.
Environmental Media	Discontinue maple leaf sampling
Chemical Analytes	Add fluoride as an analyte to all environmental media sampled in the Biomonitoring Program
Sampling Frequency	Change sediment fertility and characterization sampling to every three years.
Analytical Frequency	Polychlorinated biphenyls, pentachlorophenol and organochlorinated pesticides (PCB, PCP and OCP): Analysis will change to a three-year cycle. Year 1, all samples will be submitted for analysis. Years 2 and 3, two samples per environmental media will be submitted for analytical testing: the site with highest historical concentration and the control. Should concentrations of PCB, PCP or OCP be detected at concentrations greater than 50% of the applicable guidelines, the remaining samples will be submitted for analysis.
Data Analysis	Create isopleth maps only when investigating recurring exceedances (more than three years consecutively) for Group 2 Chemicals.

CHANGE IN TEST SITES ON THE LAMBTON FACILITY

The Clean Harbors Lambton Facility existing landfill occupies 56 hectares of the Clean Harbors licensed property. In order to keep managing hazardous waste over a 25 year period, Clean Harbors has identified the need to expand the landfill capacity. As a result, an environmental assessment was initiated in March 2011 to identify the environment potentially impacted by the expansion (Clean Harbors, 2014a).

Reference: Summary of Proposed Changes to Clean Harbors Biomonitoring Program

The environmental assessment describes two proposed expansion alternatives to increase the landfill capacity. The first alternative involves a vertical expansion of the existing on-site landfill up to a grade of 9 m above the ground surface, with the exception of the northwest corner. Areas that have not been landfilled in the southeast corner will be excavated and filled (Clean Harbors, 2014a). With this alternative, biomonitoring sites on the facility may be impacted by the expansion. Biomonitoring test site locations are provided on Figures 1 and 2.

Site E6

At this time, Site E6 remains intact, although a new temporary access road has been constructed immediately to the west of the test site. Monitoring at Site E6 will continue and results from samples collected at Site E6 will be closely monitored to determine if traffic from the access road is influencing analyte concentrations.

Site S3 replaced by a New Site S7

Site S3 has been removed and the area replaced by an access road to support construction activities for the landfill expansion. To replace Site S3, it is recommended that a new site (Site S7) be installed at the proposed location directly east of Site S3 (Figure 2). The proposed location will align in a southern direction with the previous location for Site S3 and will allow for the collection of sediment samples from the adjacent drainage ditch which extends from the southwest pond. This will facilitate the continuation of sediment concentration records established at Site S3. Based on the estimated construction schedule, landfilling activities will proceed in a gradual manner and the proposed location for Site S7 will remain viable for up to ten years after being established.

CHANGE IN TEST SITES SURROUNDING THE LAMBTON FACILITY

The locations of test sites surrounding the facility were evaluated based on the current scientific literature and the predominant wind direction. The establishment of a new test site to the northeast of the Facility, and the removal of Site S5 to the south are proposed.

Stantec has generated a wind rose using meteorological data collected from the Lambton Facility from July 2014 to June 2015 (Figure 3). The wind rose indicated that the dominant wind direction came from the south and southwest, and blew to a lesser degree from the north and west. The current program has two sites that are in the maximum deposition area to the north of the incinerator (N2 and N4), and three sites east of the facility (E1, E2 and E5). Sites S1, S2, S4 and S5 are situated to the south of the facility. Sites W2 and W4 are situated in locations opposite from the predominant wind directions.

Site E7 – New Site

The dominant wind direction is toward the northeast from the Facility. The current sites are located to the north and east of the Facility. A new site (Site E7) has been recommended to be added to the northeast of the incinerator approximately 1 km away to provide coverage for areas located downwind from the facility. A map showing the proposed location of the new site has been included as Figure 1. The permanent location of Site E7 will be finalized following consultation with Clean Harbors and associated property owner regarding access to the site.

Site S5 to be Removed

Due to the abundant number of sites located to the south of the facility, and the fact that concentrations reported in samples collected from S5 are similar to or less than concentrations reported at Site S2, Site S5 will be removed from the Biomonitoring Program, as the remaining sites (S1, S2 and S4) will provide sufficient coverage.

ENVIRONMENTAL MEDIA (MAPLE LEAVES)

In an effort to streamline the Biomonitoring Program, a review of the analyzed environmental media has been conducted to determine if any should be added or removed from the program. Based on the past findings of the Maple Leaf Sampling Program, results have shown no significant difference between concentrations measured in maple leaves adjacent to the facility in comparison with the control site. As the maple leaf program does not offer additional meaningful information to supplement the Biomonitoring Program, sampling of maple leaves is proposed to be discontinued.

ADDITION OF FLUORIDE AS A CHEMICAL ANALYTE

A review of the 2014 Landfill Report (Clean Harbors, 2014b) was conducted to determine if the groundwater, surface water, or air quality environmental monitoring programs identified exceedances of analytes that could be added to the current Biomonitoring Program. Potential environmental concerns are limited to those identified in the groundwater. Fluoride was detected at concentrations above the Ontario Drinking Water Standards (ODWS) in the shallow and deep monitoring wells that have been installed on the facility property and off-property. The MOECC has observed that fluoride concentrations within silver maple foliage samples collected in close proximity to the Clean Harbors facility are higher in comparison to samples collected further away (DeBrou, 2010). Due to these high fluoride concentrations in silver maple foliage, and the high fluoride concentrations identified in the groundwater, it is recommended that fluoride be added as an analyte to all environmental media sampled in the Biomonitoring Program.

Reference: Summary of Proposed Changes to Clean Harbors Biomonitoring Program

SEDIMENT FERTILITY AND CHARACTERIZATION SAMPLING FREQUENCY

Based on a review of historical data, sediment particle size distribution (texture) has shown little variation annually. The majority of the sites in the Biomonitoring Program are described as having silt clay, clay, or clay loam texture and a low organic matter content. Although concentrations of inorganic chemicals have been identified in sediment, the clay soil texture in the vicinity of the Lambton Facility means that inorganic chemicals are often sorbed to the abundant clay particles and are less likely to leach into the groundwater or be transported by surface water runoff. Although the majority of the sites are shown to have low organic matter content, the number of detected concentrations for organic chemicals reported in samples collected from these sites is low, and monitoring of the sorption of these parameters to the organic matter in the sediment is not as essential. As a result, the frequency of sediment fertility and characterization sampling will be changed to every three years.

PCB, PCP, AND OCP ANALYTICAL FREQUENCY

Concentrations of select organic analytes (PCBs, PCPs and OCPs) have been relatively consistent for over twenty years and there have been few concentrations measured above the reportable detection limit since 1991. Samples will continue to be collected from all sites on an annual basis, but analytical frequency will change to a three year cycle. In Year 1 all samples will be submitted for analysis. In Years 2 and 3 only one sample from the site that historically has the highest concentrations and one sample from the control site will be submitted for analysis. If PCB, PCP or OCP are detected at concentrations which exceed 50% of the applicable guidelines in the sample from the site that historically has the highest concentrations, the samples from the other sites can be submitted for analysis. However, if these analytes are not detected in the site that historically has the highest concentrations, it is assumed that the other sites will not have detected concentrations greater than applicable guidelines.

ADDITION OF ISOPLETH MAPS FOR DATA ANALYSIS

Isopleth maps will only be generated and used for visual analysis when an analyte/matrix combination for Group 2 chemicals has been identified as repeatedly exceeding a site-specific or site-wide upper limit (UL) in three consecutive years and additional investigation is warranted. Isopleths illustrating the distribution of UL15 values will be used when investigating analytes that have exceeded site-wide concentrations, while isopleths illustrating year-specific concentrations can be used when investigating exceedances of site-specific concentrations.

CLOSURE

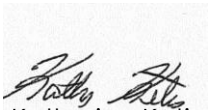
This letter outlined a number of recommendations that can be implemented to streamline the Biomonitoring Program and accommodate the Landfill Expansion at the Lambton Facility. Upon approval by the MOECC, they could be implemented during the next cycle of the Biomonitoring Program beginning in the 2017 Field Year.

Reference: Summary of Proposed Changes to Clean Harbors Biomonitoring Program

Should you have any questions, please don't hesitate to contact the undersigned.

Regards,

STANTEC CONSULTING LTD.



Katherine Ketis
Environmental Engineer
Phone: (519) 780-8198
Fax: (519) 836-2943
Katherine.Ketis@stantec.com

Tereza Dan
Principal, Environmental Services
Phone: (519) 575-4112
Fax: (519) 579-6733
Tereza.Dan@stantec.com

Attachment: Figure 1 – Existing and Proposed Sampling Locations (overview)
Figure 2 – Existing and Proposed Sampling Locations (within and adjacent to Facility)
Figure 3 – Wind Speed Direction (blowing from)

c. Mike Parker, Clean Harbors Canada

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ATTACHMENT
FIGURES

\\cd1220-f02\Work_group\01221\active\122160003\drawing\MXD\2016_Q3_SamplingStations\122160003_2016_Q3_Fig01_Existing_ProposedSampling_zoomed_20160826.mxd
Revised: 2016-09-05 By: svandamme

N

PLANK ROAD

N2

N4

E7

PETROLIA LINE

W4

N5

E2

E1

E6

W2

WAUBUNO ROAD

TELFER ROAD

S3

S7

E5

BRIGDEN ROAD

S1

S2

S5

ROKEBY LINE

S4

0 440 880 m

1:20,000

September 2016
122160003

Stantec

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

Legend

- Existing Sampling Locations (Approximate)
- Proposed Sampling Location (Approximate)
- Existing Sampling Station to be Removed (Approximate)
- Watercourse
- Building
- Lambton Facility
- Waterbody
- Wooded Area

Client/Project

Clean Harbors Canada Inc.
Lambton Landfill Expansion

Figure No.

1

Title

Existing and Proposed Sampling Locations

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Revised: 2016-09-05 By: svandamme

September 2016
122160003

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Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

Legend

- Existing Sampling Locations (Approximate)
- Proposed Sampling Location (Approximate)
- Existing Sampling Station to be Removed (Approximate)
- Watercourse
- Building
- Lambton Facility
- Waterbody
- Wooded Area

Client/Project

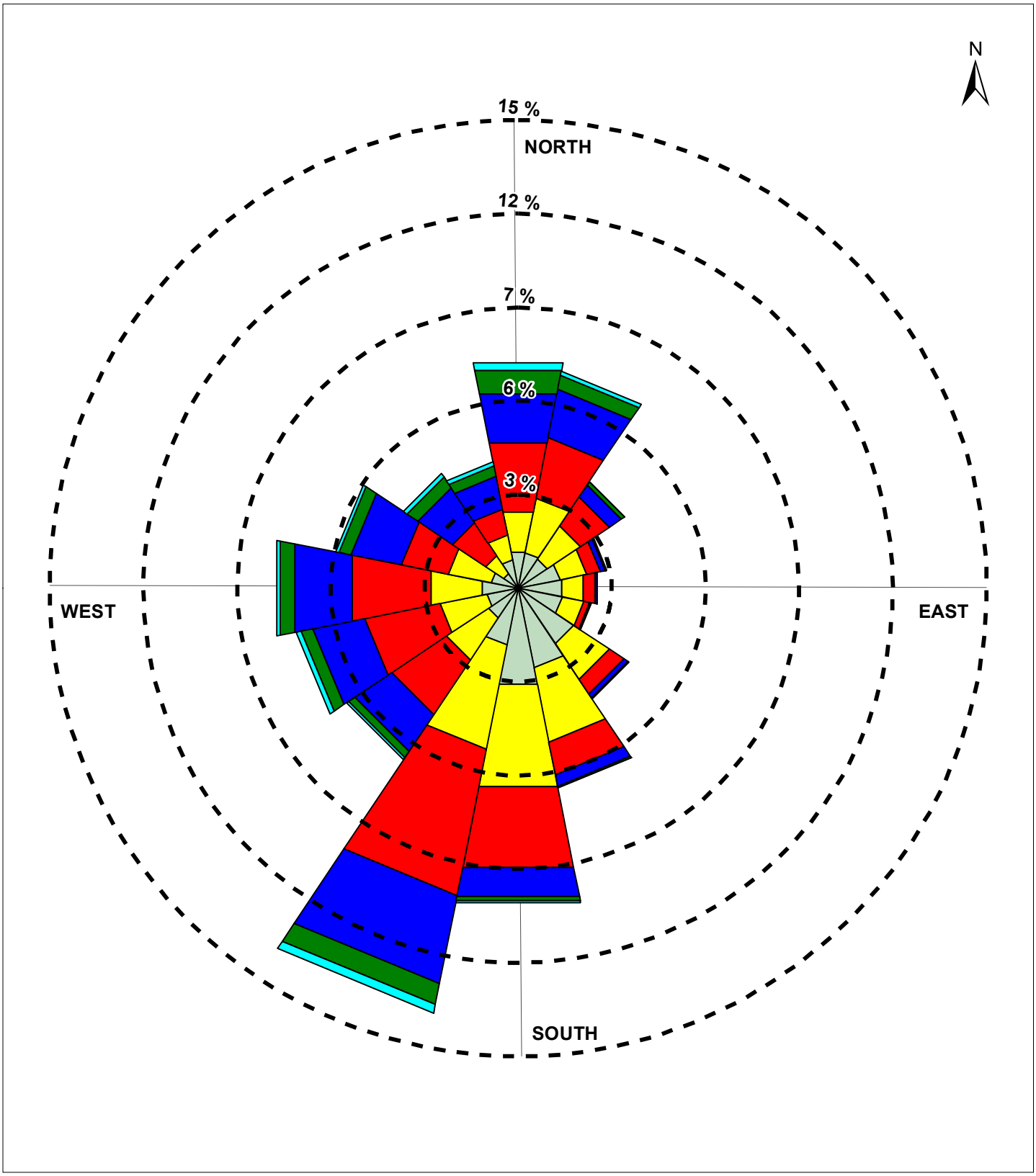
Clean Harbors Canada Inc.
Lambton Landfill Expansion

Figure No.

2

Title

Existing and Proposed Sampling Locations



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Revised: 2016-09-05 By: svandamme

September 2016
122160003

Stantec

Notes
1. Not to scale.

Legend

Wind Speed (Knots)

- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 -7
- 1 - 4

Calms: 3.06%

Client/Project

Clean Harbors Canada Inc.
Lambton Landfill Expansion

Figure No.

3

Title

Wind Speed Direction (blowing from)