



**Lambton Facility 2020 Annual
Landfill Report Biomonitoring
Program**

2019 Field Year

February 8, 2021

Prepared for:

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

Prepared by:

Stantec Consulting Ltd.
1-70 Southgate Drive
Guelph ON N1G 4P5

Project No.: 122160003



Table of Contents

TECHNICAL SUMMARY	I
ABBREVIATIONS	IV
1.0 INTRODUCTION	1.1
1.1 OBJECTIVES	1.1
1.2 RATIONALE FOR PROGRAM APPROACH.....	1.2
1.2.1 Selection of Chemicals for Analysis.....	1.2
1.2.2 Selection of Environmental Media for Analysis.....	1.3
1.2.3 Selection of Test Sites.....	1.4
1.2.4 Frequency of Sampling	1.5
1.3 SCOPE OF WORK.....	1.5
2.0 MATERIALS AND METHODS	2.1
2.1 LOCATION AND MANAGEMENT OF TEST SITES	2.4
2.1.1 Addition of Site E7.....	2.5
2.2 CHARACTERIZATION OF TEST SITES	2.5
2.3 COLLECTION OF SAMPLES FOR CHEMICAL ANALYSES.....	2.6
2.4 ANALYTICAL PROCEDURES	2.6
2.5 QUALITY ASSURANCE/QUALITY CONTROL.....	2.7
2.6 STATISTICAL ANALYSIS AND INTERPRETATION OF THE DATA.....	2.8
2.6.1 Development and Interpretation of Control Charts.....	2.10
2.6.2 Development and Interpretation of Trend Lines.....	2.11
3.0 RESULTS AND DISCUSSION	3.1
3.1 FACTORS AFFECTING THE RESULTS	3.1
3.2 QUALITY ASSURANCE/QUALITY CONTROL.....	3.2
3.3 INORGANIC ANALYTES.....	3.3
3.3.1 Annual Findings	3.3
3.3.2 Group 1 Analytes	3.3
3.3.3 Group 2 Analytes	3.7
3.3.4 Inorganic Analytes at Site E7	3.8
3.3.5 Fluoride	3.9
3.3.6 Site-Wide Inorganic Trend Lines	3.10
3.4 ORGANIC ANALYTES	3.10
3.4.1 Annual Findings	3.10
3.4.2 Long-Term Results - Site-Specific and Site-Wide Concentration Trend Lines	3.12
3.4.3 Organic Analytes at Site E7	3.14
3.5 FOLLOW UP OF RECOMMENDATIONS FROM PREVIOUS BIOMONITORING REPORTS.....	3.15
4.0 CONCLUSIONS	4.1
5.0 LIMITATIONS	5.1



6.0 REFERENCES.....6.1

LIST OF TABLES

Table 1: List of Analytes, by Group, Monitored during the 2019 Biomonitoring Program, Lambton Facility1.2
 Table 2: List of Analytes, by Group and Environmental Matrix, Monitored during the 2019 Biomonitoring Program, Lambton Facility.....1.4
 Table 3: Sampling and Reporting Cycles, Biomonitoring Program, Lambton Facility2.2
 Table 4: Name and Location of Test Sites, Biomonitoring Program, Lambton Facility2.4
 Table 5: Status of Conclusions and Recommendations of the 2018 Field Year Biomonitoring Program3.15

LIST OF APPENDICES

APPENDIX A: FIGURES.....A.1

APPENDIX B: CHARACTERIZATION OF SOILS AT TEST SITES.....B.1
 B.1 SOIL AND SEDIMENT CHARACTERISTICS..... B.2
 B.2 SOIL AND SEDIMENT CHARACTERIZATION B.3
 B.3 SOIL HORIZON LAYERS B.3
 B.4 SOIL CLASS..... B.4
 B.5 SOIL AND SEDIMENT RESULTS..... B.7
 B.5.1 Soil Class B.7
 B.5.2 Soil Nutrients, OM, CEC, pH, Clay Content and Surface Texture..... B.7
 B.5.3 Sediment Depth B.8
 B.5.4 Sediment Nutrients, OM, CEC, pH, Clay Content and Surface Texture..... B.8
 B.6 REFERENCES B.10

APPENDIX C: TABLESC.1

APPENDIX D: PHOTO LOGD.1

APPENDIX E: ASSESSMENT OF APPROPRIATE START DATE FOR STATISTICAL ANALYSIS.....E.1
 E.1 RATIONALE AND DISCUSSION E.2
 E.2 SCATTERPLOTS OF SITE-WIDE ANALYTICAL DATA AVAILABLE FOR EACH ANALYTE-MATRIX PAIR SINCE 1991 (INORGANIC)..... E.3
 E.2.5 Aluminum E.4
 E.2.6 Arsenic..... E.5
 E.2.7 Barium E.6
 E.2.8 Beryllium E.7
 E.2.9 Boron E.8
 E.2.10 Cadmium..... E.9
 E.2.11 Calcium..... E.10



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR

E.2.12	Chloride	E.11
E.2.13	Chromium	E.12
E.2.14	Cobalt	E.13
E.2.15	Copper	E.14
E.2.16	Iron.....	E.15
E.2.17	Lead.....	E.16
E.2.18	Magnesium	E.17
E.2.19	Manganese	E.18
E.2.20	Mercury.....	E.19
E.2.21	Molybdenum	E.20
E.2.22	Nickel	E.21
E.2.23	Phosphorus.....	E.22
E.2.24	Potassium	E.23
E.2.25	Silicon	E.24
E.2.26	Silver.....	E.25
E.2.27	Sodium.....	E.26
E.2.28	Strontium.....	E.27
E.2.29	Sulfur	E.28
E.2.30	Thallium	E.29
E.2.31	Titanium	E.30
E.2.32	Vanadium.....	E.31
E.2.33	Zinc.....	E.32
E.2.34	Zirconium	E.33
E.3	FINAL RECOMMENDED START DATES FOR EACH ANALYTE- MATRIX PAIR (INORGANIC).....	E.33
E.4	SCATTERPLOTS OF SITE-WIDE ANALYTICAL DATA AVAILABLE FOR EACH ANALYTE-MATRIX PAIR SINCE 1991 (ORGANIC)	E.38
E.4.1	OCPs	E.39
1.	Aldrin.....	E.39
2.	BHC, alpha-	E.40
3.	BHC, beta-	E.41
4.	BHC, delta-	E.42
5.	Campechlor (Toxaphene).....	E.43
6.	Chlordane, alpha-.....	E.44
7.	Chlordane, trans- (gamma-Chlordane).....	E.45
8.	DDD (p,p'-DDD)	E.46
9.	DDE (p,p'-DDE).....	E.47
10.	DDT (p,p'-DDT).....	E.48
11.	Dieldrin.....	E.49
12.	Endosulfan I	E.50
13.	Endosulfan II	E.51
14.	Endosulfan Sulfate	E.52
15.	Endrin	E.53
16.	Endrin Aldehyde.....	E.54
17.	Heptachlor.....	E.55
18.	Heptachlor Epoxide.....	E.56
19.	Lindane (Hexachlorocyclohexane, gamma).....	E.57
20.	Methoxychlor (4,4'-Methoxychlor).....	E.58



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR

21.	Mirex.....	E.59
22.	PARLAR 26.....	E.60
23.	PARLAR 50.....	E.61
24.	PARLAR 62.....	E.62
E.4.2	PCBs.....	E.63
1.	Polychlorinated Biphenyls (PCBs).....	E.63
E.4.3	PCP.....	E.64
1.	Pentachlorophenol.....	E.64
E.4.4	PCDD/DF.....	E.65
1.	Upper Bound PCDD/F TEQ (WHO 2005).....	E.65
E.5	FINAL RECOMMENDED START DATES FOR EACH ANALYTE- MATRIX PAIR (ORGANIC).....	E.33
APPENDIX F:	REGRESSION ANALYSES.....	F.1
F.1	Tables.....	F.2
F.2	Site-Wide Inorganic Trend Line Graphs (p<0.003).....	F.3
F.3	Site-Wide Organic Trend Line Graphs (p<0.003).....	F.4
F.4	Site-Specific Organic Trend Line Graphs p<0.003'.....	F.5
APPENDIX G:	APPROVED CHANGES TO THE BIOMONITORING PROGRAM.....	G.1
APPENDIX H:	LABORATORY CERTIFICATES.....	H.1



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. The locations of test Sites were selected based on wind directions at the Lambton Facility. In 2015, the test Sites were evaluated based on a wind rose (**Figure 2 of Appendix A**) generated using meteorological data collected from the Lambton Facility from July 2015 to June 2015. The wind rose indicated that the dominant wind direction came from the south and southwest and blew to lesser degree from the north and west. Sites N2, N4 and N5 in the north and Sites E1, E2, E5 in the east of the Lambton Facility were situated in the maximum deposition areas to the north and east of the Lambton incinerator. Site E6 was established within the Lambton Facility perimeter, east of the incinerator. Sites S1, S2 and S4 were situated to the south of the Lambton Facility to cover potential deposition areas due to the wind blowing to a lesser degree from the north of the Lambton incinerator. Sites W2 and W4 were situated in locations opposite from the predominant wind directions. In the 2019 Field Year, a new Site E7 was added to the northeast of the Lambton Facility based on dominant wind direction towards the northeast of the incinerator.

The annual Biomonitoring Program includes the collection of samples from up to four environmental media (soil, drainage ditch sediment, natural vegetation and agricultural crops) from each Site which are submitted to the analytical laboratory to determine the concentration of selected metals, pesticides, chlorinated phenols, and dioxins and furans. For the 2019 Field Year, a total of 13 test Sites were monitored.

The review and comparison of the 2019 data relative to the upper control limits (UL18)¹ for each Site and on a Site-wide basis was completed for inorganic analytes present in soil, sediment, natural grasses and fresh corn samples collected at the sites. The concentrations of 16 inorganic analytes (13 Group 1² analytes (i.e., boron, calcium, chloride, cobalt, magnesium, manganese, molybdenum, nickel, phosphorus, potassium, silicon, strontium and sulfur) and three Group 2 analytes³ (i.e., cadmium, lead

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 UL18 values were calculated using data collected from 1991-2017.

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).



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR

and zinc)) exceeded their respective Site-specific UL18 while two Group 1 analytes (i.e., magnesium and phosphorus) and two Group 2 analytes (i.e., cadmium and lead) exceeded the Site-wide UL18.

Within the 13 Group 1 analytes which exceeded the Site-specific UL18, the concentrations of one Group 1 analyte (i.e., sulfur) in soil collected in 2019 exceeded the Ontario Typical Range for Rural Parkland Soil (OTR₉₈) (Ministry of Environment, Conservation and Parks (MECP), 2011). Concentrations of one Group 1 analyte (i.e., manganese) in natural grasses also exceeded the rural Upper Limit of Normal (ULN) (MECP, 1989). No criteria were available for comparison of UL18 exceedances identified in crops. The exceedances of the Group 1 analytes do not warrant additional investigation at this time.

Within the 3 Group 2 analytes which exceeded their respective Site-specific UL18, the concentrations of two analytes (i.e., cadmium and zinc) in natural grasses exceeded the Upper Limit Normal (ULN) whereas concentrations of one analyte (i.e., cadmium) in soybeans and one analyte (i.e., lead) in natural grasses only exceeded the Site-specific UL18. The concentrations of Group 2 analytes in soil collected in 2019 were below the Site-specific UL18 and the Ontario Regulation (O. Reg. 153/04 Table 1 Site Condition Standards (SCS). The concentration of Group 2 analytes in sediment were below the Site-specific UL18 but exceeded the O.Reg. 153/04 Table 1 SCS. The exceedances of the Group 2 analytes do not warrant additional investigation at this time.

Group 3 organic analytes⁴ were not detected at concentrations representative of concern for ecological health during the 2019 Field Year.

Organochlorine pesticides (OCP) analytes were measured at concentrations greater than their applicable reporting detection limits (RDL)⁵. However, detected concentrations of OCPs were less than their respective guidelines, where available for comparison. There are no standards available for comparison of vegetation. Monitoring should continue but no additional investigation is proposed.

The concentrations of polychlorinated biphenyls (PCBs) were measured greater than their applicable RDLs. Detected concentrations of PCBs were below their respective guidelines, where available for comparison. There are no standards available for comparison of vegetation. Monitoring should continue but no additional investigation is proposed.

Pentachlorophenols (PCPs) were not identified at concentrations greater than their respective RDLs. Monitoring should continue but no additional investigation is proposed.

Individual compounds of Dioxins/furans (PCDD/DF) were reported at concentrations greater than the OTR₉₈, however, concentrations of total PCDD/DF were reported below the Table 1 SCS in the 2019 Field Year. No criteria were available for comparison of PCDD/DF concentrations in natural grasses. Monitoring should continue but no additional investigation is proposed.

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.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Site-wide trends over time for inorganic analytes, which were last reviewed in the 2016 Field-Year report, were updated. Of the 186 possible analyte / matrix combinations, pre-screening based on the number of collected samples and proportion of detected samples identified 128 datasets that were suitable for regression analysis. Of the resulting 128 linear regressions, 48 were found to be statistically significant ($p < 0.003$). These 48 statistically significant ($p < 0.003$) linear regressions included 11 decreasing and 37 increasing trends. For comparison, 51 significant trends (17 decreasing and 34 increasing) were identified as meaningful in the 2016 Field-Year report. The 37 increasing trends occurred primarily in sediment or soil, with some increasing trends also observed in natural grass and soybean. The majority (31/37) of the increasing trends reported in this 2019 Field-Year report were also identified as increasing in either the 2016 Field-Year or 2013 Field-Year report, indicating long-term stability of many of these trends. This includes 19 trends that were consistently identified as increasing in the 2013, 2016, and 2019 Field-Year report.

Site-wide and site-specific trends over time were also reviewed for organic analytes. For OCPs, of the 210 possible analyte / matrix combinations, 22 datasets were suitable for regression analysis. Of the resulting 22 linear regressions, 10 were found to be statistically significant ($p < 0.003$). All 10 of these statistically significant ($p < 0.003$) linear regressions were decreasing. For comparison, 11 significant trends (all decreasing) were identified as meaningful in the 2013 Field-Year report. However, only two of the significant decreasing trends identified based on data up to and including the 2019 field year were for analyte / matrix pairs that were also found to be significantly decreasing in the 2013 Field-Year report. Therefore, the stability of these trends over time is currently uncertain. There were no statistically significant site-specific trend lines for OCPs.

For PCBs, PCP, and PCDD/DF analytes, trends over time were not previously evaluated in the 2013 Field-Year report due to the limited number of detected concentrations at that time. For the 2019 Field-Year report, there were still insufficient detected concentrations to support trend analysis over time for PCP. However, there were sufficient data to complete regression analyses for both PCBs and PCDD/DF analytes. For PCBs, two of the six possible analyte/ matrix combinations for PCBs were identified as suitable for regression analysis, but neither resulted in a statistically significant regression. Likewise, no significant site-specific trend lines for PCBs were identified. For PCDD/DFs, five of the seven possible analyte/ matrix combinations were identified as suitable for site-wide regression analysis and these resulted in four statistically significant decreasing and one statistically significant increasing site-wide trend. There were also two statistically significant ($p < 0.003$) site-specific linear regressions for PCDD/DFs.



Abbreviations

ANOVA	Analysis of Variance
CALA	Canadian Association for Laboratory Accreditation Inc.
CEC	Cation Exchange Capacity
ECA	Environmental Compliance Approval
FC	Field Corn
GLP	Good Laboratory Practice
GC/HRMS	High Resolution Mass Spectrometry/Gas Chromatography
H ⁺	Hydrogen Ion
ISO	International Organization for Standardization
LL	Lower Control Limit
MDL	Method Detection Limit
meq	Milliequivalent
MECP	Ministry of the Environment, Conservation and Parks (formerly the Ministry of the Environment and Climate Change)
NG	Natural Grasses
OCDD	Octachlorodibenzodioxin
OCP	Organochlorinated Pesticide
ODWS	Ontario Drinking Water Standard
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 ⁺]



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

pg	Picograms
ppm	Parts per Million
PSQG	Provincial Sediment Quality Guidelines
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
SD	Sediment
SB	Soybean
SS	Soil
Stantec	Stantec Consulting Ltd.
SWEDAC	Swedish Board for Accreditation and Conformity Assessment
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
WW	Winter Wheat



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Introduction
February 8, 2021

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 2019 Field Year and compared these data to accumulated biomonitoring data. Analytical testing of the 2019 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.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Introduction
February 8, 2021

3. Gather information (e.g., crop growth, sediment fertility and characterization⁶ 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 Ministry of Environment, Conservation and Parks (MECP) to monitor is provided in **Table 1** and in the design and operation manual which is an attachment to operating ECA No. A031806.

Table 1: List of Analytes, by Group, Monitored during the 2019 Biomonitoring Program, Lambton Facility

GROUP 1 ANALYTES			
Barium	Fluoride ⁷	Potassium	Zirconium
Beryllium	Iron	Silicon	
Boron	Magnesium	Silver	
Calcium	Manganese	Sodium	
Chloride	Molybdenum	Strontium	
Chromium	Nickel	Sulphur	
Cobalt	Phosphorus	Titanium	
GROUP 2 ANALYTES			
Aluminum	Copper	Thallium	
Arsenic	Lead	Vanadium	
Cadmium	Mercury	Zinc	

⁶ The influence of soil and sediment characterization/fertility is discussed in Section 2.2 and Appendix B.

⁷ The monitoring of fluoride was added to the Biomonitoring Program in the 2018 Field Year as per the MECP approved changes.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Introduction
February 8, 2021

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	
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**):

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 media were considered for inclusion in the Biomonitoring Program. These include soil, grass from hay or pastured fields, grain and oilseed crops, corn silage, sediment from drainage ditches and maple leaves. Prior to the 2018 Field Year, maple leaves were collected and reported outside of the Biomonitoring Program, as part of a voluntary program called the Maple Leaf Sampling Program that Clean Harbors engaged in. The findings from the Maple Leaf Sampling Program indicated that there was no significant difference between the concentrations measured in the maple leaves adjacent to the Clean Harbors facility in comparison with the randomly selected control sites. As a result, the maple leaf



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Introduction
February 8, 2021

program provided no benefit to the core Biomonitoring Program. In 2018, the MECP approved Clean Harbors to discontinue the maple leaf program and no maple leaves were collected in the 2018 and 2019 Field Years. 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, field corn and 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 2**.

Table 2: List of Analytes, by Group and Environmental Matrix, Monitored during the 2019 Biomonitoring Program, Lambton Facility

Group	Environmental Media			
	Soil (SS)	Drainage Ditch Sediment (SD)	Natural Grasses (NG)	Agricultural Crop (e.g., Winter Wheat - WW, Soybean - SB, and Field Corn - FC)
1	All analytes	All analytes	All analytes	All analytes
2	All analytes	All analytes	All analytes	All analytes
3 ^A	OCP PCB PCDD/DF	OCP PCB	OCP PCB PCDD/DF	OCP PCB PCP PCDD/DF

Note(s):

^A OCP/PCB/PCP samples analyzed on 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 a randomly selected control site. 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. The 2019 Field Year is Year 3.

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 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 **Section 2.1**.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Introduction
February 8, 2021

In 2017, based on the recommendations by Stantec, Clean Harbors requested MECP to approve a number of modifications to the Clean Harbors Biomonitoring Program. The changes included an addition of a test Site based on a review of wind directions, and the relocation of an existing test Site to accommodate the expansion of the landfill. In 2018, the MECP approved the following changes in test Sites for the Biomonitoring Program:

- The addition of a new Site (i.e., E7) downwind from the Facility (i.e., northeast) approved based on a review of the predominant wind direction. This Site was included in the 2019 Field Year.
- The relocation of S7 (previously S3) to the east of its original location as Site S3 was destroyed by the construction of an access road that supported construction activities for the landfill expansion. The new location was proposed on top of an existing cap, however, ongoing construction activities at the location did not allow for the collection of samples. Thus, S7 was not included in the 2019 Field Year. In addition, with the ongoing construction activities expected to end in 2021, Site S7 will be replaced by Site S8 for the 2021 Field Year.

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 less frequently than annually 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. Establish a new Site E7 to the northeast of the Clean Harbors facility.
2. Collect samples of natural grasses, soil, sediment and agricultural crops during the appropriate time of year using the standardized sampling techniques outlined in the Revised Biomonitoring Sampling Program (Stantec, 2018) and as amended and filed in the Raw Data File Notebook.
3. Send samples to analytical testing facility for sample processing and analysis.
4. Conduct quality assurance and quality control on the analytical data received from the laboratory.
5. Review and compare 2019 data to the UL18 for each Site and on a Site-wide basis. Results with concentrations greater than the UL18 (referred to as exceedances) have been reviewed and reported herein.
6. Review and compare the exceedances (inorganic analytes) or detections (organic analytes) in the 2019 data to applicable guidelines relevant for various media as outlined in **Section 2.6**.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Introduction
February 8, 2021

Follow up on MECP approved changes to the Biomonitoring Program and recommendations identified in the 2019 Annual Landfill Report (Clean Harbors, 2019).

7. Provide recommendations regarding further investigation or issues to consider during future Biomonitoring Program events.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Materials and Methods
February 8, 2021

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 2019 Biomonitoring Program and field phase test records from the 2019 Field Year are included within the Raw Data File Notebook (RDFN) (Stantec, 2019). The field protocol for the Biomonitoring Program describes the methods used during the field and analytical phases of the program.

Table 3 details the sampling and reporting cycles of the Clean Harbors Biomonitoring Program and has been updated to reflect MECP approved changes to the Biomonitoring Program. More details regarding the MECP approved changes are provided in **Appendix G**.



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Materials and Methods
February 8, 2021

Table 3: Sampling and Reporting Cycles, Biomonitoring Program, Lambton Facility

Task	Timing	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	X	X	X	X	X
Collect sediment fertility and characterization samples at select Sites	3 yr cycle*	X	X	X		
Collect soil fertility and characterization samples at all Sites	6 yr cycle*			X		D
Analysis Task						
Laboratory analysis of inorganics and PCDD/DF	Annual	X	X	X	X	X
Laboratory analysis of PCB, PCP and OCP	3 yr cycle	X	X	X ^A	X ^B	X ^{B, D}
Reporting Task						
Compare annual findings with control chart upper limits	Annual	X	X	X ^C	X	X
Compare annual findings with available government guidelines	Annual	X	X	X	X	X
Follow up on identified issues, if any	Annual	X	X	X	X	X
Update control chart limits used for annual comparisons	3 yr cycle			X (UL18, LL18)		
Update inorganic Site-specific trends	3 yr cycle	X			X	



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Materials and Methods
February 8, 2021

Task	Timing	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
Update inorganic Site-wide trends	3 yr cycle		X			X
Update organic Site-specific/Site-wide trends	6 yr cycle					X

Note(s):

^A Year 1, all samples will be submitted for analysis.

^B Years 2 and 3, two samples per environmental media will be submitted for analytical testing: The Site with highest historical concentration and a randomly selected control site. 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.

^C 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).

* Recommend collecting sediment fertility and characterization samples at all applicable Sites every four years and soil fertility and characterization samples every eight years.

^D Site E7 was added to the Biomonitoring Program in the 2019 Field Year. Soil at this Site was analyzed for fertility and characterization. Samples from Site E7 were analyzed for PCB, PCP and OCP.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Materials and Methods
February 8, 2021

2.1 LOCATION AND MANAGEMENT OF TEST SITES

The lands surrounding the Facility are predominantly agricultural, used for the production of crops. General descriptions of the test Sites are provided in **Table 4**. 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 existing test sites and a new test site (E7) is provided in **Figure 1** of **Appendix A**. Site S7 was not included in the 2019 Field Year due to construction activities taking place at the location during the sampling event.

Of the 13 Sites included in the 2019 Field Year, 11 Sites (including E7) have been managed under a crop rotation that included soybean, winter wheat and field corn. The remaining two sites (E6 and N5) are within the Clean Harbors facility and do not follow any cultural practices. In 2019, ten of the thirteen Sites were cultivated with soybean (E1, E5, E7, N2, N4, W2, W4, S1, S2 and S4) and one Site with field corn (E2).

Table 4: 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
E7	2019	East: Located in an agricultural field approx. 0.7 km from the property boundary
S1 ¹	1991-present	South: Located in an agricultural field approx. 0.2 km from the property boundary
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 ²	1991-present	South: Located in an agricultural field approx. 2.4 km from the property boundary
S5	1995-2017	South: Located in an agricultural field approx. 0.8 km from the property boundary
S7	2016-2018	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

Note(s):

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.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Materials and Methods
February 8, 2021

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 surveys⁸ completed by the land managers (farmers) responsible for crop cultivation at the various test sites, Site W4 was tilled in June 2018 to a depth of 7.6 cm. Site S4 was tilled in June 2019 to a depth of 3.8 cm. Sites W2, S1, and S2 were managed using a no-till system in 2019. Site N4 was primary tilled to a depth of 17.8 cm in November 2018 and secondary tilled in June 2019 to a depth of 7.6 cm. Sites E1 and E5 were primary tilled to a depth of 5 cm and secondary tilled to a depth of 3.8 cm in May 2018 but were not tilled in 2019. Similarly, Site E2 was tilled to a depth of 7.6 cm in November 2018 but was not tilled in 2019. Site E7 was also not tilled in 2019.

Site E6 was located on clay-capped waste cells and Site N5 was on a previously disturbed, but naturally re-vegetated area. The two 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.

2.1.1 Addition of Site E7

The location of Site E7 was selected based on a review of scientific literature and predominant wind direction towards the northeast of the incinerator at the Lambton facility. Test sites in the north (N2, N4 and N5) and east (E1, E2 and E5) of the incinerator already existed but there was a lack of coverage to the northeast. Thus, Site E7 was established to the northeast of the incinerator at approximately 700 m away from Lambton facility perimeter. Site E7 is situated in a farm field, at 150 m to 180 m away from a paved road (Petrolia Line). The ball marker for the Site was installed at approximately 20 m distance away from the farm perimeter, where sampling of natural grasses was completed. There were no ditches or water bodies present near the Site and no sediment samples were collected during the 2019 Field Year. At the time of sampling, soybean was cultivated, and soybean samples were collected for the Biomonitoring Program. As mentioned above, based on cultural practices surveys⁸, soil was not tilled in 2019 and past record of soil tillage is not available for the Site.

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 2019 RDFN (Stantec, 2019). Sediment sampling for fertility and characterization (concentrations of nutrients, organic matter (OM), pH, cation exchange capacity (CEC) and texture) is completed on a three-year cycle and was completed in the 2017 Field Year. Soil characterization and fertility sampling (concentrations of nutrients, OM, pH, CEC and texture) occurs on a six-year cycle and was completed in the 2017 Field Year. Soil characterization

⁸ Cultural Practice Surveys are sent out to land managers of record for cropped test Sites following the conclusion of the sampling program to gather information on field management practices. Completed Cultural Practice Surveys are on file in the RDFN.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Materials and Methods
February 8, 2021

and fertility sampling was also completed for the new Site E7 in the 2019 Field Year. The characterization of sediment and soil is further discussed in **Appendix B**.

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. 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, (approximately 1.4 km, 2.4 km, and 1.75 km, respectively), it is likely that data collected from these Sites are more influenced by activities unrelated to the Lambton Facility rather than activities related to the Lambton facility.

2.3 COLLECTION OF SAMPLES FOR CHEMICAL ANALYSES

Samples of soil, drainage ditch sediment, natural grasses and agricultural crop were collected as per the methods outlined in the Revised Biomonitoring Sampling Program (Stantec, 2018). Soil and natural grasses samples were collected from 13 Sites in 2019. Agricultural crops were sampled at 10 of the 13 Sites⁹. Samples of drainage ditch sediment were collected from test Sites where drainage ditches were present (i.e., N5, S1, S4, E2, and N2).

Since the samples were analyzed to determine the concentration of organic chemicals, 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 is provided in **Appendix D**.

2.4 ANALYTICAL PROCEDURES

The samples for chemical analysis from the 2019 Field Year were submitted to ALS Laboratories for the list of Group 1, 2 and 3 analytes identified in **Table 1**.

Analysis of PCB, PCP and OCP occurs on a three-year cycle. In the 2019 Field Year, organic analysis was completed for one sample from the Site that historically has the highest concentrations (i.e., the worst-case scenario) and one sample from a randomly selected control site. Therefore, the sites with the highest number of OCP detections and the highest upper bound PCDD/DF toxicologically equivalent (TEQ) from the 2018 Field Year, were selected as the sites with the highest organic concentrations

⁹ The two remaining Sites (i.e., E6, N5) are not managed under a crop rotation.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Materials and Methods
February 8, 2021

(i.e., the worst case scenario) to be sampled for organic analysis in the 2019 Field Year. Site E6 was selected as the worst case for soil and natural grasses and Site E2 was selected as the worst case for sediment. Site E7, added in 2019 Field Year, was a new site which warranted the analysis of PCB, PCP and OCP in natural grasses, soil and crops. The randomly selected control sites were chosen to correspond to the parent samples of the field duplicates. The locations of the field duplicates were randomly selected during the sampling program. The field duplicate locations are Sites E2 and N2 for natural grasses and soil, N2 for sediment, E2 for field corn and N2 for soybeans.

The metals analysis for soil, sediment and unwashed tissue were conducted by the ALS Vancouver laboratory with the exception of chloride in unwashed tissue which was conducted by ALS Edmonton. In order to meet the detection limits required for the biomonitoring program, the silicon analyses in vegetation and 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 Vancouver, British Columbia and Burlington, Ontario 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/sediment, 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 (International Organization for Standardization (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 2019 Biomonitoring Program and is on file with Stantec.

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.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Materials and Methods
February 8, 2021

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. Eight 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 concentrations, the original (a) and the duplicate (b), is provided below:

$$RPD (\%) = 100 \times \frac{(a - b)}{(a + b)/2}$$

The applicable limit of the RPD is 40% for soil and sediment samples and 60% for tissue samples. Field duplicates were considered acceptable if the RPD met the applicable limit set by the laboratory. 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 2019 Field Year of the Biomonitoring Program.

The analytical data obtained during the 2019 Field Year are compared to applicable guidelines, where available. Soil analytical data are preferentially compared to the soil O. Reg. 153/04 Table 1 Site Condition Standards¹⁰ (SCS) (MECP, 2011). Where soil SCS are unavailable, the soil analytical data are compared to the rural parkland Ontario Typical Range (OTR) (MECP, 2011) (MECP, 1993). Sediment analytical data are preferentially compared to the sediment O. Reg. 153/04 Table 1 SCS. Where sediment SCS are unavailable, the sediment analytical data are compared to the Provincial Sediment Quality Guidelines (PSQG) (MECP, 2008). Natural grasses analytical data are compared to the Upper Limit of Normal (ULN) (MECP, 1989). There are no guidelines available for agricultural crops (i.e., soybeans, field corn and winter wheat).

The statistical conventions used in the statistical analysis include:

- The use of actual values of the Reporting Detection Limits (RDLs, reported by the analytical laboratory) to represent the concentrations of those analytes that were not detected in the samples. Equipment used by the analytical laboratory produced measurements of analytes in environmental media at high levels of reliability within certain limits. The "low" limit is often referred to as the MDL

¹⁰ O.Reg.153/04 Soil, Ground Water and Sediment Standards for use Under Part XV.1 of the *Environmental Protection Act*.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Materials and Methods

February 8, 2021

which represents the concentration below which reliable measurement of an individual analyte cannot be made by laboratory equipment. MDLs may vary between media, analytes, years and, as with dioxins and furans, between samples. The RDL is the concentration at which individual analyses will consistently detect the analytes when present. The RDL must be equal or greater than the MDL. The actual concentrations below the MDL or RDL are not known. Therefore, the value of the RDL was arbitrarily used for statistical treatment of those samples where the concentration of the analyte was not detected greater than its RDL. This is viewed as a “worst case” estimate of the concentration of the analyte.

- Assessment of normality prior to statistical analysis. For the data up to and including 2019, the normality of analytical datasets was assessed on a Site-wide basis for each analyte-matrix pair by comparing histograms of both the log-transformed and untransformed dataset. In all cases, log-transformation improved the normality of the plotted data. Therefore, all statistical analyses in the current report were performed assuming an underlying lognormal distribution. Reported results (e.g., regression values, upper limits and lower limits) have been back transformed to the original scale for final reporting.
- Assessment of appropriate start date prior to statistical analysis. As noted in prior reports, RDLs have shifted since 1991 for certain analyte-matrix pairs due to changes in analytical methods. In most cases, RDLs have decreased because of increased sensitivity of the analytical method. However, in other cases, RDLs have increased, generally as a trade-off for greater sensitivity for other analytes. For analyte-matrix pairs that have large proportions of non-detect data, these changes in RDL can have major impacts on statistical results for analyses that consider all data collected throughout the Biomonitoring Program (e.g., linear regressions and calculations of upper and lower limits). Therefore, prior to analyses carried out in the present report, analytical data were reviewed for each analyte-matrix pair on a Site-wide basis to determine the appropriate start date for statistical analyses. This review is discussed in detail in **Appendix E**. Statistical analyses (e.g., linear regression and calculation of upper and lower limits) in this report and future reports will rely on the analyte-matrix specific start dates indicated in **Appendix E** unless future analysis indicates that a more recent start date is appropriate. Historical data will be retained for historical comparison purposes only.
- Missing data were accounted for within the statistical analysis and were left blank within each data set.
- 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 TEQ amount of 2,3,7,8-TCDD, the most toxic congener.
- Duplicate samples were relied on to assess analytical and/or sampling variability as discussed in **Section 2.5**. To avoid overrepresentation of individual samples, further statistical analysis (e.g., linear regression and calculations of upper and lower limits) excluded duplicate results and relied only on ‘parent’ sample results (when available).



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Materials and Methods
February 8, 2021

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 warranted.

Two critical components of a control chart are the UL and LL. In industrial process control charts, these limits are chosen such that almost all data points will fall between them as long as the process remains in-control (i.e., observations that fall below the LL or above the UL indicate potential process errors). These control limits are frequently derived to capture the mean value for the in-control process plus or minus three standard deviations of the mean (an approximate probability of 0.997).

In the Biomonitoring Program, LLs and ULs have been calculated using a similar approach that relies on an overall annual mean¹¹ (or geometric mean, if data are determined to be log-distributed) of observed concentrations plus or minus three standard deviations of the overall annual mean (or geometric mean) calculated on a Site-wide or Site-specific basis. The resulting LLs and ULs describe a range of concentrations for each analyte in a given matrix that can be considered “typical” or “expected” (with an approximate probability of 0.997) for the monitored areas in the program (i.e., Site-wide and Site-specific). Individual values that fall outside of these control limits, and especially that are greater than an upper limit, are atypical for that Site-wide or Site-specific area and should be flagged for further consideration.

To generate upper and lower limits, the normality of each analyte-matrix pair was first assessed on a Site-wide basis. In general, the data collected in this program are largely lognormal and normality will be improved if data are log-transformed prior to analysis. As such, statistical analyses are typically performed on log-transformed data, which are back-transformed to regular units prior to report upper and lower limits. However, if analysis indicated that data were normally distributed, this process could also be carried out using un-transformed data.

The overall annual mean (or geometric mean, for lognormal data) for each analyte-matrix pair was calculated on a Site-wide and Site-specific basis by as a mean of annual means (or mean of annual geometric means for lognormal) to account for potential variability of sample numbers collected in individual years.

To calculate standard deviations for each analyte-matrix pair, the log-transformed (or normally distributed) data for each analyte in each medium on a Site-wide basis were then subjected to an analysis of variance (ANOVA) Type III model using Year and Site as independent variables with no interaction. Both Year and Site were considered categorical variables and Year was considered a random variable. The residual and year variance components were estimated from the ANOVA tables and used to compute the standard deviation for Site-specific and Site-wide concentrations of each analyte for each year.

¹¹ This overall mean was calculated as a mean of annual means (or mean of annual geometric means for samples with lognormal distributions) to account for potential variability of sample numbers collected in individual years.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Materials and Methods

February 8, 2021

For analyte-matrix pairs that were log-transformed, the mean and mean ± 3 standard deviations, or upper and lower control limits (UL and LL), were computed on the log scale and then transformed back (by taking the antilog) before the control charts were prepared. For normally distributed data, the mean and mean ± 3 standard deviations, or upper and lower control limits could be computed directly.

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 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 deviation of the yearly means. Data that has a high degree of variability will result in a large standard deviation, causing the ± 3 standard deviations, or control limits, to be wide.

Following this approach, LLs and ULs were initially calculated in 1997 using data from the first six years of the program (1991-1996). Since then, these limits have been periodically updated to encompass new data, as it became available, on a three-year cycle. The most recent update of these values prior to the current report incorporated data available between 1991 and 2017 (i.e., the UL18 and LL18 values). Throughout this program, LLs and ULs were not developed for Sites and matrices where concentrations of an element were not detected greater than the RDL. Also, LLs and ULs were not developed when less than six data points were available.

When evaluating the data collected in the 2019 Field Year, the UL18 and LL18 values were considered indicative of the 'typical range' of concentrations specific to the local environment (Site-wide and/or Site-specific). Therefore, samples collected during the 2019 Field Year with concentrations that were higher than the applicable UL18 concentration for that analyte in that matrix (Site-wide and/or Site-specific) were treated as 'exceedances' that warranted further consideration (**Section 3.3.2** and **Section 3.3.3**). In addition, measured concentrations of these analyte-matrix pairs (Site-wide and/or Site-specific) were compared with relevant guidelines when available. These guidelines include the rural parkland Table 1 SCS, OTR₉₈, ULN, and the PSQG.

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.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Materials and Methods

February 8, 2021

Prior to completing regression analyses, data were screened to identify only datasets with at least six samples ($n \geq 6$) collected after the start date specified in **Appendix E**. In addition, only datasets for which at least 50% of samples had measured concentrations greater than the reported detection limit after the start date specified in **Appendix E** were considered appropriate for regression analysis. The screening based on proportion of detected samples was introduced in the 2018 field-year report in order to minimize the generation of spurious or uncertain regressions that are highly influenced by non-detect samples that have been assigned the value of the full reported detection limit. Screening for number of samples and proportion of detected samples was completed on a Site-wide or Site-specific basis, depending on the linear regressions being updated (i.e., Site-wide if completing Site-wide regressions or Site-specific if completing Site-specific regressions). Only samples collected after the appropriate analyte-matrix specific start date described in **Appendix E** were included in determining suitability for regression analysis.

For each dataset identified as suitable for linear regression, a regression analysis was performed with year of sample collection as the independent variable and either concentration or log-transformed concentration as the dependent variable. In most cases, the data collected in this program have been shown to be lognormal, therefore linear regressions were completed using log-transformed concentrations. However, if data were observed to have a normal distribution, regression could be completed using un-transformed concentrations. Linear regressions were considered to be statistically significant when the regression p-value was less than 0.003 ($p < 0.003$).



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion
February 8, 2021

3.0 RESULTS AND DISCUSSION

3.1 FACTORS AFFECTING THE RESULTS

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**.
- 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, 2019a), which is approximately 15 km north of the Lambton Facility.

The Sarnia Climate weather information may provide a general indication of weather conditions during the 2019 growing season relative to the Canadian Climate Normals and Averages (1981-2010) for the region (Environment Canada, 2019b).

The 2019 growing season (April to October) experienced lower overall precipitation (458 mm) than the 30-year climate normal (572 mm). During the months of April and October, Sarnia received approximately 40.0 mm and 71.3 mm more precipitation than the 30-year climate normals. In the months of May, June, July, August, and September, Sarnia received 24.6 mm, 9.8 mm, 78.5 mm, 78.5 mm, and 33.6 mm less precipitation, respectively, than the 30-year climate normals. The mean monthly temperatures over the growing season of April to October (15.4°C) were comparable to the 30-year mean for that time period (15.1°C), confirming the overall climate conditions supported good plant growth.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion
February 8, 2021

3.2 QUALITY ASSURANCE/QUALITY CONTROL

Seven blind field duplicates were analyzed for inorganic and organic analytes. For inorganic analytes, the RPD of analytes in soil, sediment and crop tissue collected from all sites were below the acceptable ranges outlined in **Section 2.5**. For organic analytes, the RPDs of octachlorodibenzofuran (OCDF), total hexachlorodibenzo-p-dioxin and lower bound PCDD/F TEQ in natural grasses collected at E2, and the RPDs of total tetrachlorodibenzofuran and lower bound PCDD/F TEQ in natural grasses collected at N2 exceeded the acceptable ranges. The RPDs of total hexachlorodibenzo-p-dioxin and PCBs in soil collected at E2, and the RPDs of OCDF, total tetrachlorodibenzo-p-dioxin, total pentachlorodibenzo-p-dioxin, total PeCDD and PCBs in soil collected at N2 also exceeded the acceptable RPD ranges. Similarly, the RPDs of OCDF, octachlorodibenzo-p-dioxin and lower bound PCDD/F TEQ in fresh corn collected at E2, and in soybeans collected at N2 exceeded the acceptable RPD ranges. The RPDs for midpoint PCDD/F TEQ and upper bound PCDD/F TEQ in soybeans also collected at N2 exceeded the RPD ranges. 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 the field duplicates 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 H**.

Two field blanks (laboratory supplied distilled water) were collected from laboratory supplied containers to evaluate if sample handling practices would result in an artificial increase of the analytical results. In addition, in the 2019 Field Year, a rinsate sample (store bought distilled water) from every store-bought bottle of distilled water used for decontamination of field equipment was collected upon opening. The purpose of the rinsate samples is to verify that store bought distilled water used for decontaminating field equipment did not introduce detectable concentrations of confounding inorganics. The two field blanks and the two rinsate blanks (collected from newly opened bottles) were collected at Sites E1 and E6. Two trip blanks (laboratory supplied distilled water in sealed containers) were also sent for analysis. The data quality objective for field, rinsate and trip blanks are concentrations less than or near the RDL. The analytical data from field blanks, rinsate blanks and trip blanks are provided in **Table C-1e**.

The trip blanks met the data quality objective (no detectable analytes). Overall, the field blanks and the rinsate blanks met the data quality objective; however, zinc was detected at concentrations greater than the RDL in the field blank at Site E1 and in the rinsate blank at Site E6. While all analytes were non detects with the exception of zinc in the rinsate sample, the equipment rinse is not expected to have meaningfully influenced the analytical results.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion
February 8, 2021

3.3 INORGANIC ANALYTES

The analytical results for the 2019 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**.

3.3.1 Annual Findings

In 2019, the concentrations of 16 analytes (13 Group 1 analytes and 3 Group 2 analytes) exceeded their respective Site-specific UL18 within various environmental media (**Table C-3** and **Table C-4** of **Appendix C**). The concentrations of magnesium, phosphorus, cadmium and lead exceeded their Site-wide (analyte by media) UL18 (**Table C-5** of **Appendix C**).

3.3.2 Group 1 Analytes

The Group 1 analytes exceeding the UL18 are discussed below.

3.3.2.1 Boron

The boron concentrations exceeded the Site-specific UL18 in soybeans at Sites E1, E5, N2, N4 and S2. There are no guidelines available for comparison for agricultural crops. An investigation in the 2010 Field Year Annual Landfill Report reported a threshold injury level (300 mg/kg) where no visible foliar injury could be induced. The concentrations of boron in soybeans at Sites E1, E5, N2, N4 and S2 in the 2019 Field Year were less than the threshold injury level.

On a Site-wide basis, boron concentrations did not exceed the Site-wide UL18 in the media sampled.

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

3.3.2.2 Calcium

The calcium concentration exceeded the Site-specific UL18 in soil at Site S4. The concentration of calcium in soil at Site S4 was less than the OTR₉₈ guideline.

The calcium concentration exceeded the Site-specific UL18 in sediment at Site S1. The concentration of calcium in sediment at Site S1 in 2018 was less than UL18 and in 2016 and 2017 it was less than the UL15. This suggests that the exceedance of calcium concentrations in sediment is not a recurring exceedance.

The calcium concentration exceeded the Site-specific UL18 in soybeans at Site S2. The concentrations of calcium in soybeans at Site S2 in 2015 and 2017 (soybeans were not planted in 2016) were less than the Site-specific UL15 value but exceeded the Site-specific UL18 value in 2018, suggesting that this is a recurring exceedance.

On a Site-wide basis, calcium concentrations did not exceed the Site-wide UL18 in the media sampled.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion
February 8, 2021

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

3.3.2.3 Chloride

The chloride concentration exceeded the Site-specific UL18 in soil at Sites E2 and W4. There are no soil guidelines available for comparison. The exceedances at Sites E2 and W4 were also noted for 2018. This is due to the chloride RDL of 5.0 mg/kg which exceeded the corresponding UL18 values. The increased RDL was a result of a change in analytical testing facility for chloride from ALS Edmonton (RDL of 0.5 mg/kg) to ALS Vancouver in the 2018 Field Year. Additionally, concentrations of chloride in soil at Sites E6 and W4 in 2015, 2016 and 2017 were less than their UL15, suggesting that the chloride exceedances are not recurring exceedances.

On a Site-wide basis, chloride concentrations did not exceed the Site-wide UL18 in the media sampled.

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

3.3.2.4 Cobalt

The cobalt concentrations exceeded the Site-specific UL18 in soybeans at Sites S1 and S2. The cobalt concentration at Site S1 also exceeded the Site-specific UL18 in 2018; however, prior to 2018, it has not been measured above the RDL (within the recommended statistical start date for cobalt in soybeans of 2005, **Appendix E**). Given the low number of detected concentrations, monitoring should continue but no additional monitoring is warranted. With the cobalt exceedance in soybeans at Site S1 in 2018, the cobalt exceedance in soybeans at the same site in the 2019 Field Year suggests that this is a recurring exceedance. The cobalt concentrations in soybeans at Site S2 were less than the UL18 in 2018 and less than UL15 for 2015 and 2017 (soybeans were not planted in 2016), suggesting that the cobalt exceedance at S2 in 2019 Field Year is not a recurring exceedance. There are no guidelines available for comparison for agricultural crops.

On a Site-wide basis, cobalt concentrations did not exceed the Site-wide UL18 in the media sampled.

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

3.3.2.5 Magnesium

The magnesium concentration exceeded the Site-specific UL18 in soybeans at Sites E1, E5, N2, N4, S1, S2, W2 and W4. There are no guidelines available for comparison for agricultural crops. The magnesium concentrations of soybeans at Site E1, E5, N2, N4, W2 and W4 were less than the UL 18 in 2018 and less than the UL15 in 2015, 2016 and 2017, suggesting that this is not a recurring exceedance. The concentrations of magnesium in soybeans at Sites S1 and S2 did exceed their Site-specific UL18 in 2018 but were below their UL15 in 2015 and 2017. This suggests that the exceedance is not a recurring exceedance.

On a Site-wide basis, magnesium concentrations exceeded Site-wide UL18 in soybeans.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion
February 8, 2021

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

3.3.2.6 Manganese

The manganese concentration exceeded the Site-specific UL18 in natural grasses at Sites E5, N2, N4 and W4. The manganese concentrations in natural grasses at Sites E5, N2, N4 and W4 exceeded the ULN guideline. An investigation into the manganese concentrations in natural grasses was conducted 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 dry weight (Clean Harbors, 2010). The concentration of manganese in natural grasses at Sites E1, N2, N4 and W4 were less than the injury threshold level in plants.

The manganese concentration exceeded the Site-specific UL18 in soybeans at Sites E1, S2 and S4. There are no guidelines available for comparison for agricultural crops. The concentrations of manganese in soybeans at Sites E1, S2 and S4 were less than the injury threshold level in plants.

On a Site-wide basis, manganese concentrations did not exceed the Site-wide UL18 in the media sampled.

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

3.3.2.7 Molybdenum

The molybdenum concentration exceeded the Site-specific UL18 in sediment at Site N5. The concentration of molybdenum in sediment at Site N5 in 2018 was less than UL18 and in 2015, 2016 and 2017 was less than the UL15, suggesting that this is not a recurring exceedance.

On a Site-wide basis, molybdenum concentrations did not exceed the Site-wide UL18 in the media sampled.

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

3.3.2.8 Nickel

The nickel concentration exceeded the Site-specific UL18 in soybeans at Site E1. There are no guidelines available for comparison for agricultural crops. This is the first time that nickel concentrations in soybeans exceeded the UL18 as nickel concentrations in soybeans have been less than UL18 in 2018 and less than UL15 in 2015 and 2017 (soybeans were not planted in 2016), suggesting that the exceedance is not a recurring exceedance.

On a Site-wide basis, nickel concentrations did not exceed the Site-wide UL18 in the media sampled.

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



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion
February 8, 2021

3.3.2.9 Phosphorus

The phosphorus concentration exceeded the Site-specific UL18 in natural grasses at Site S4. There is no ULN guideline available for comparison for natural grasses. The phosphorus concentration in natural grasses at Site S4 did not exceed its Site-specific UL18 value in 2018 or the UL15 values in 2015, 2016 and 2017. This suggest that the phosphorus exceedance in natural grass at Site S4 is not a recurring exceedance.

The phosphorus concentration exceeded the Site-specific UL18 in soil at Site S4 but was less than the OTR₉₈ guideline.

The phosphorus concentration exceeded the Site-specific UL18 in field corn at Site E2. There is no ULN guideline available for comparison for field corn. The phosphorus concentration in field corn at Site E2 did not exceed the Site-Specific UL18 values in 2018 or the UL15 values in 2015, 2016 and 2017, suggesting that this exceedance is not a recurring exceedance.

The phosphorus concentrations exceeded the Site-specific UL18 in soybeans at Sites N2, S2 and S4. There are no guidelines available for comparison for agricultural crops. The phosphorus concentration in soybeans at Site N2 and S4 did not exceed the Site-Specific UL18 values in 2018 or the Site-specific UL15 values in 2015, 2016 and 2017. The phosphorus concentration in soybeans at Site S2 exceeded the Site-specific UL18 value in 2018 but did not exceed the UL15 value in 2015 and 2017. This suggests that the phosphorus concentration in soybeans at Site S2 is not a recurring exceedance.

On a Site-wide basis, phosphorus concentrations exceeded the Site-wide UL18 in soybeans.

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

3.3.2.10 Potassium

The potassium concentrations exceeded the Site-specific UL18 in soybeans at Sites N2, S2 and W2. There are no guidelines available for comparison for agricultural crops. The potassium concentrations in soybeans at Sites N2 and W2 did not exceed the Site-specific UL18 values in 2018 or the Site-specific UL15 values in 2015, 2016 and 2017. The potassium concentration in soybeans at Site S2 exceeded Site-specific UL18 value in 2018, suggesting that this may be a recurring exceedance.

On a Site-wide basis, potassium concentrations did not exceed the Site-wide UL18 in the media sampled.

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

3.3.2.11 Silicon

The silicon concentration exceeded the Site-specific UL18 in soil at Site W4. There is no soil SCS or OTR₉₈ guideline available for comparison. A UL15 was not calculated for silicon, so a comparison of data prior to 2018 is not available. The silicon concentration in soil at Site W4 was also less than Site-specific UL18 value in 2018, suggesting that the silicon exceedance is not a recurring exceedance.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion
February 8, 2021

On a Site-wide basis, silicon concentrations did not exceed the Site-wide UL18 in the media sampled.

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

3.3.2.12 Strontium

The strontium concentration exceeded the Site-specific UL18 in soil at Site S4. The strontium concentration in soil is less than the OTR₉₈ guideline. The strontium concentration in soil at S4 was less than the Site-specific UL18 value in 2018, suggesting that the strontium exceedance in 2019 is not a recurring exceedance.

On a Site-wide basis, strontium concentrations did not exceed the Site-wide UL18 in the media sampled.

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

3.3.2.13 Sulfur

The reported detection limit for sulfur exceeded the Site-specific UL18 in soil at 11 of 13 sites (Sites E1, E2, E5, E6, N2, N4, S1, S2, S4, W2 and W4). There is no soil SCS or OTR₉₈ guideline available for comparison. The increased RDL was a result of a change in analytical testing facility for sulfur from ALS Edmonton (RDL of 200 mg/kg) to ALS Vancouver (RDL of 1000 mg/kg) in the 2018 Field Year. The concentrations of sulfur in soil in previous years were typically measured at concentrations less than the current RDL of 1000 mg/kg. The exceedances identified in the 2019 Field Year are an artifact of this higher reporting detection limit.

On a Site-wide basis, sulfur concentrations did not exceed the Site-wide UL18 in the media sampled.

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

The RDL for sulfur in the 2019 and 2018 Field Years differed from the 2017 Field Year. The sulfur RDL for soil and sediment was 1000 mg/kg in the 2019 Field Year and 2018 Field Year, and 200 mg/kg in the 2017 Field Year. The change in RDLs from the 2017 to the 2019 and 2018 Field Years do not require additional investigation.

3.3.3 Group 2 Analytes

The Group 2 analytes exceeding the UL18 are discussed below.

3.3.3.1 Cadmium

The cadmium concentrations exceeded the Site-specific UL18 in natural grasses at Sites E5 and E6. The cadmium concentration in natural grass at Site E6 exceeded the ULN guideline. The cadmium concentrations in natural grasses at both Sites E5 and E6 did not exceed their Site-specific UL18 values in 2018 or the Site-specific UL15 values in 2015, 2016 and 2017. This suggests that the cadmium concentration exceedance is not a recurring exceedance.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion
February 8, 2021

The cadmium concentrations exceeded the Site-specific UL18 in soybeans at Sites E1 and W4. There are no guidelines available for comparison for agricultural crops. The cadmium concentrations in soybeans at Sites E1 and W4 were less than the injury threshold level of 2.5 mg/kg in plants (Henson et.al., 2013). The cadmium concentrations in soybeans at Sites E1 and W4 did not exceed their Site-specific UL18 values in 2018 or their Site-specific UL15 values in 2015, 2016 and 2017. This suggests that the cadmium concentration exceedances in soybeans at Sites E1 and W4 in 2019 Field Year are not recurring exceedances.

On a site-wide basis, cadmium concentrations exceeded the Site-wide UL18 in natural grasses but was below the ULN.

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

3.3.3.2 Lead

The lead concentration exceeded the UL18 in natural grasses at Sites E5, E6 and S2 but were less than the ULN.

On a Site-wide basis, lead concentrations exceeded the Site-wide UL18 in natural grasses but was below the ULN.

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

3.3.3.3 Zinc

The zinc concentration exceeded the Site-specific UL18 and the ULN in natural grasses at Site N4. The concentrations of zinc in natural grasses at Site N4 in 2018 was less than the Site-specific UL18 values and the zinc concentrations in natural grasses in 2015, 2016 and 2017 were less than their UL15 values, suggesting that the zinc exceedance in the 2019 Field Year is not a recurring exceedance. Furthermore, the results of a literature search indicated that plant yield is reduced when the concentration of zinc within the plant leaves reaches 300 to 1000 mg of zinc per kg dry weight (Chaney, 1993). The concentrations measured in natural grasses in the 2019 Field Year were less than this threshold.

On a Site-wide basis, zinc concentrations did not exceed the Site-wide UL18 in the media sampled.

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

3.3.4 Inorganic Analytes at Site E7

Site E7 is a new site that was added to the Biomonitoring Program in the 2019 Field Year. Since this is a new site, upper limit values have not been calculated. Thus, the laboratory analytical results for analytes in soil, natural grasses and soybean samples collected at the site were compared against applicable guidelines provided in **Tables C-1a, C-1b and C-1d** of **Appendix C**. All inorganic analytes in soil, natural grasses and soybeans, with the exception of chloride in natural grasses, were reported below the



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion
February 8, 2021

applicable MECP, OTR and ULN guidelines. Chloride concentration in natural grasses exceeded the ULN; however, the concentration was below the Site-wide UL18 value for chloride in natural grasses.

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

3.3.5 Fluoride

Fluoride analysis was added to the Biomonitoring Program in the 2018 Field Year and included in the 2019 Field Year. Fluoride was added to the program after the discontinuation of the silver maple leaf monitoring program by the MECP which included analysis of fluoride in silver maple leaves collected from trees in the vicinity of the Clean Harbors facility. Fluoride was analyzed as it is phytotoxic and can reduce growth in plants. In the 2017 maple leaf sampling program, the maximum measured fluoride concentration in unwashed and washed silver maple leaves from trees around the Clean Harbors facility was 4 mg/kg and 2.7 mg/kg. These maple leaf results from 2017 are the most recent maple leaf results reported by the MECP.

In the 2019 Field Year, fluoride was measured in soil, natural grasses, sediment and agricultural crops. A UL18 is not available for fluoride since it requires six years of data to calculate an upper limit. Fluoride concentrations were compared to available criteria which include an OTR for soil and a ULN for natural grasses.

Prior to the submission of samples to the testing laboratory for the 2019 Field Year, Stantec had requested the laboratory to lower the RDLs for analytes below their applicable guidelines. However, the laboratory could not achieve a lower RDL than 40 mg/kg for fluoride in natural grasses, which is greater than the ULN (12 mg/kg) and the measured fluoride concentration in silver maple leaves by the MECP in 2017.

Detected concentrations of fluoride in natural grasses at Sites W2 and W4 exceeded the ULN and the measured concentrations in silver maple leaves; however, there were no detected concentration at these two sites in the 2018 Field Year. This suggests that the elevated concentrations of fluoride in natural grasses are not recurring exceedances. The fluoride concentrations in agricultural crops (i.e., field corn and soybean) at Sites E1, E2, E5, E7, N2, N4, S1, S2, S4, W2 and W4 were reported less than the RDL (40 mg/kg). There are no guidelines available for comparison for agricultural crops; however, the RDLs were greater than the fluoride concentrations measured in silver maple leaves by the MECP in 2017.

Fluoride was measured at detectable concentrations in soil at all sites but was less than the OTR₉₈. Fluoride was measured at detectable concentrations in sediment at all sites where sediment was sampled (i.e., Sites E2, N2, N5, S1 and S4) but no guideline is available for comparison.

Monitoring should continue, and an additional request will be made to the analytical laboratory to lower the RDL in natural grasses and agricultural crops in future years of the Biomonitoring Program such that it allows for comparison to the ULN and/or MECP measured concentrations in maple leaves. No additional investigation is proposed at this time.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion
February 8, 2021

3.3.6 Site-Wide Inorganic Trend Lines

Of the 186 possible analyte / matrix combinations, pre-screening based on the number of collected samples and proportion of detected samples (i.e., $n \geq 6$ and $\geq 50\%$ detected samples based samples collected after the start date recommended in **Appendix E**) identified 128 datasets that were suitable for regression analysis (**Table F-1, Appendix F**). As noted in **Section 2.6**, data up to and including 2019 have been shown to be lognormally distributed; therefore, linear regressions of these datasets were carried out using year of sample collection as the independent variable and log-transformed concentration as the dependent variable. Of the resulting 128 linear regressions, 48 were found to be statistically significant ($p < 0.003$) (**Table F-2, Appendix F**). These 48 statistically significant ($p < 0.003$) linear regressions, representing 11 decreasing and 37 increasing trends, are presented in graphical form in **Appendix F (Section F.2)**. For comparison, 51 significant trends (17 decreasing and 34 increasing) were identified as meaningful in the 2016 Field-Year report.

The 11 significantly decreasing trends occurred in natural grass (5), soil (2), sediment (1), field corn (2) and soybean (1) (**Table C-6, Appendix C**). The 37 increasing trends occurred primarily in sediment (13) or soil (12), with some increasing trends also observed in natural grass (4) and soybean (8) (**Table C-6, Appendix C**). Increasing trends observed in soil were paired with an increasing trend in at least one plant tissue for calcium, magnesium, manganese, molybdenum, phosphorus, potassium, strontium, and sulfur (**Table C-6, Appendix C**).

The majority of the increasing trends reported in this 2019 Field-Year report were also identified as increasing in either the 2016 Field-Year or 2013 Field-Year report, indicating long-term stability of many of these trends (**Table C-6, Appendix C**). For example, of the 37 increasing trends shown in **Table C-6, Appendix C**, only 6 were not previously identified as increasing in either the 2016 Field-Year or 2013 Field-Year report. This includes 19 trends that have been consistently identified as increasing in each Site-wide trend analysis since the 2013 Field-Year report (**Table C-6, Appendix C**).

3.4 ORGANIC ANALYTES

The analytical results for the 2019 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**.

3.4.1 Annual Findings

3.4.1.1 OCP

The concentrations of DDE, dieldrin and mirex were measured in natural grasses greater than their respective RDLs (Sites E2, E6, E7 and N2). The concentrations of aldrin, chlordane-alpha, chlordane-gamma, DDD, DDE, DDT, dieldrin, endosulfan I, endrin, heptachlor, heptachlor epoxide, lindane, methoxychlor and mirex were measured in soil greater than their respective RDLs (Sites E2, E6, E7 and N2). The concentrations of DDD, DDE, DDT, dieldrin, endosulfan II, heptachlor and heptachlor epoxide were measured in sediment greater than their respective RDLs (Sites E2 and N2). The concentrations of dieldrin, heptachlor, heptachlor epoxide and mirex were measured in soybeans at Sites E7 and N2



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion

February 8, 2021

greater than their respective RDLs. The concentrations of endrin, heptachlor and mirex were measured in field corn at Site E2 greater than their RDLs.

Of the analytes that were detected, none exceeded the applicable guidelines for soil for analytes with available guidelines (i.e., aldrin, DDD, DDE, DDT, dieldrin, endrin, heptachlor, heptachlor epoxide, lindane and methoxychlor) and for sediment for analytes with available guidelines (i.e., dieldrin and heptachlor epoxide) (**Tables C-2a, C-2b, C-2c and C-2d of Appendix C**). None of the detected concentrations were greater than 50% of their applicable guidelines; thus, analysis of all remaining held samples was not required for OCPs. There are no standards available for comparison of vegetation. Monitoring should continue, but no additional investigation is proposed at this time.

3.4.1.2 PCBs

The concentrations of PCBs were measured in natural grasses, soil, sediment and agricultural crops greater than their respective RDLs.

The measured concentrations of PCBs in soil or sediment did not exceed the applicable guidelines. None of the detected concentrations were greater than 50% of their applicable guidelines; thus, analysis of all remaining held samples was not required for PCBs. There are no standards available for comparison of vegetation.

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

3.4.1.3 PCPs

The RDL for pentachlorophenol (PCP) varied from <0.8 ng/g to <2.9 ng/g in agricultural crops. None of the samples analyzed for PCPs had concentrations greater than the RDL in agricultural crops. There are no standards available for comparison of vegetation.

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

3.4.1.4 PCDD/DF

The concentrations of polychlorodibenzo-p-dioxin/ polychlorodibenzo-furan (PCDD/DF) analytes were compared to their respective Table 1 SCS or rural parkland OTR₉₈ (where Table 1 SCS were not available) for dioxins/furans (**Tables C-2a, C-2b, C-2c and C-2d of Appendix C**). There were no exceedances of the soil Table 1 SCS or OTR₉₈, with the exception of the concentration of total hexachlorodibenzofuran, total hexachlorodibenzo-p-dioxin, total heptachlorodibenzofuran, and total heptachlorodibenzo-p-dioxin at Site N5 which exceeded the OTR₉₈. However, the lower and upper bound PCDD/DF TEQ (5.41 and 5.41 pg/g, respectively) at Site N5 are less than the Ontario SCS Table 1 (i.e., 7.0 pg/g). Concentrations of PCDD/DF levels measured in soil were less than 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).



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion
February 8, 2021

The concentrations of various PCCD/DF analytes in natural grasses and agricultural crops were reported greater than their respective RDLs. Criteria for comparison of concentrations 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).

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

3.4.2 Long-Term Results - Site-Specific and Site-Wide Concentration Trend Lines

3.4.2.1 OCP

Of the 210 possible analyte/ matrix combinations for OCP analytes, pre-screening based on the number of collected samples and proportion of detected samples (i.e., $n \geq 6$ and $\geq 50\%$ detected samples based samples collected after the start date recommended in **Appendix E**) identified 22 datasets that were suitable for regression analysis (**Table F-3, Appendix F**). Linear regressions of these datasets were carried out using year of sample collection as the independent variable and log-transformed concentration as the dependent variable. Of the resulting 22 linear regressions, 10 were found to be statistically significant ($p < 0.003$) (**Table F-4, Appendix F**). These 10 statistically significant ($p < 0.003$) linear regressions, which were all decreasing, are presented in graphical form in **Appendix F (Section F.3)**. For comparison, 11 significant trends (all decreasing) were identified as meaningful in the 2013 Field-Year report. Only two of the decreasing trends identified using the data up to and including the 2019 Field-Year were also identified as decreasing trends in the 2013 Field-Year report (DDT (sediment) and endosulfan sulfate (Natural Grass)).

For the site-specific trend lines, there were 1555 possible analyte / matrix /site combinations based on the available data. A pre-screening based on the number of collected samples and proportion of detected samples (i.e., $n \geq 6$ and $\geq 50\%$ detected samples based samples collected after the start date recommended in **Appendix E**) identified 71 datasets that were suitable for regression analysis (**Table F-5, Appendix F**). Of the resulting 71 linear regressions, none were found to be statistically significant ($p < 0.003$) (**Table F-6, Appendix F**). Therefore, there are no significant site-specific trend lines for OCPs.

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

3.4.2.2 PCBs

Of the 6 possible analyte/ matrix combinations for polychlorinated biphenyls (PCBs), pre-screening based on the number of collected samples and proportion of detected samples (i.e., $n \geq 6$ and $\geq 50\%$ detected samples based samples collected after the start date recommended in **Appendix E**) identified 2 datasets that were suitable for regression analysis (**Table F-3, Appendix F**). Linear regressions of these datasets were carried out using year of sample collection as the independent variable and log-transformed concentration as the dependent variable. Of the resulting 2 linear regressions, none were found to be statistically significant ($p < 0.003$) (**Table F-4, Appendix F**). Linear regressions were not previously



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion
February 8, 2021

evaluated for PCBs in the 2013 Field-Year report due to the limited number of detected concentrations at that time. Specifically, only four¹² samples had a detectable concentration of PCBs (1 natural grass in 1998 and two natural grasses and 1 hay sample in 1999) between 1991 and 2013 (inclusive). Detections of PCBs continued to be infrequent after 2013, with no further detections reported between 2014 and 2017 (inclusive). However, there were samples with detectable concentrations of PCBs in both 2018 and 2019. These more recent detections appear to reflect a decrease in reported detection limits over time given that the detected concentrations from 1998 to 1999 ranged from 0.016 to 0.7 mg/kg and the detected concentrations from 2018 and 2019 range from 4.9×10^{-5} to 2.1×10^{-3} mg/kg. Given that only two years of data (2018 and 2019) are currently available that reflect these reduced detection limits, it is possible that trends over time may be detectable in the future when more data has been collected.

For the site-specific trend lines, there were 20 possible analyte / matrix /site combinations based on the available data. A pre-screening based on the number of collected samples and proportion of detected samples (i.e., $n \geq 6$ and $\geq 50\%$ detected samples based samples collected after the start date recommended in **Appendix E**) identified no datasets that were suitable for regression analysis (**Table F-5, Appendix F**). Therefore, there are no significant site-specific trend lines for PCBs.

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

3.4.2.3 PCP

PCP has only been detected in 24 samples since 1991, with the most recent detection occurring in 2015. As such, trend analysis was not conducted for PCPs due to the low number of concentrations above the reporting detection limit, which has ranged from 0.1 ng/g to 500 ng/g for various samples over time.

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

3.4.2.4 PCDD/DF

Of the 7 possible analyte/ matrix combinations for PCDD/DF analytes, pre-screening based on the number of collected samples and proportion of detected samples (i.e., $n \geq 6$ and $\geq 50\%$ detected samples based samples collected after the start date recommended in **Appendix E**) identified 5 datasets that were suitable for regression analysis (**Table F-3, Appendix F**). Linear regressions of these datasets were carried out using year of sample collection as the independent variable and log-transformed concentration as the dependent variable. Of the resulting 5 linear regressions, 5 were found to be statistically significant ($p < 0.003$) (**Table F-4, Appendix F**). These 5 statistically significant ($p < 0.003$) linear regressions, representing four decreasing and one increasing trends, are presented in graphical form in **Appendix F, (Section F.3)**. Linear trends for PCDD/DFs were not assessed in the 2013 Field-Year report.

¹² The 2013 Field-Year report stated that there were five samples with detectable concentrations between 1991 and 2013; however, one of these was a field duplicate of a parent sample which also had a detectable concentration and therefore was double counted in the 2013 Field-Year report.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Results and Discussion
February 8, 2021

For the site-specific trend lines, there were 68 possible analyte / matrix /site combinations based on the available data. A pre-screening based on the number of collected samples and proportion of detected samples (i.e., $n \geq 6$ and $\geq 50\%$ detected samples based samples collected after the start date recommended in **Appendix E**) identified 38 datasets that were suitable for regression analysis (**Table F-5, Appendix F**). Of the resulting 38 linear regressions, two were found to be statistically significant ($p < 0.003$) (**Table F-6, Appendix F**). These two statistically significant ($p < 0.003$) linear regressions, which were both decreasing, are presented in graphical form in **Appendix F (Section F.3)**.

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

3.4.3 Organic Analytes at Site E7

Site E7 is a new site that was added to the Biomonitoring Program in the 2019 Field Year. Since this is a new site, upper limit values have not been calculated. Thus, only the laboratory analytical results for organic analytes in soil collected at the site were compared against applicable guidelines provided in **Table C-2b**, whereas, laboratory analytical results for analytes in natural grasses and agricultural crops are presented in **Table C-2a** and **Table C-2d** of **Appendix C** without guidelines. The organic analytes in soil were reported below the applicable MECP, OTR and ULN guidelines as presented in **Table C-2b** of **Appendix C**.

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



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Results and Discussion
February 8, 2021

3.5 FOLLOW UP OF RECOMMENDATIONS FROM PREVIOUS BIOMONITORING REPORTS

Conclusions and recommendations presented previously in the 2018 Biomonitoring Program report which are to be address in the 2019 Field Year are listed in **Table 5** below.

Table 5: Status of Conclusions and Recommendations of the 2018 Field Year Biomonitoring Program

Conclusions and Recommendations	Discussion	Status
Monitoring of changes in the RDLs during the program should continue and impacts on the results should be reported where applicable.	The RDLs for chloride and sulfur are different from the 2017 to the 2018 and 2019 Field Years. These are discussed in Section 3.3.2.3 and 3.3.2.13.	Monitoring of changes in the RDLs during the program should continue.
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 Table 1 SCS, Ontario ULN and rural parkland OTR ₉₈ which are representative of aging databases.	Comparisons within and between sites monitored in the program are discussed in Section 3.0 along with comparisons to the Table 1 SCS, ULN and OTR ₉₈ . Where UL18s are not available comparison to available guidelines is conducted. Since fluoride was added to the Biomonitoring Program in the 2018 Field Year, a UL18 was not available to make comparisons within and between Sites, as discussed in Section 3.3.5. Similarly, Site E7 was added in 2019 Field Year and site-specific UL18s were not available for this site, as discussed in Section 3.3.4.	Ongoing.
Discussion of recurring findings should continue annually so that previous discussions are compiled and either confirmed or revised based on new results.	No discussion was required in 2019 based on the 2018 conclusions.	No discussion was required in 2019 based on the 2018 conclusions.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Conclusions
February 8, 2021

4.0 CONCLUSIONS

Overall, the majority of exceedances of the UL18 in the 2019 Field Year were identified for Group 1 inorganic analytes (i.e., boron, calcium, chloride, cobalt, magnesium, manganese, molybdenum, nickel, phosphorus, potassium, silicon, 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.

Three Group 2 analytes (i.e., cadmium, lead and zinc) exceeded the Site-specific UL18 values. While continued monitoring of these analytes is important, additional investigation is not proposed at this time.

Fluoride analysis was added to the Biomonitoring Program in the 2018 Field Year and included in the 2019 Field Year. The fluoride concentrations measured in soil were less than the OTR₉₈. A sediment guideline was not available for comparison. The fluoride RDL in plant tissue was greater than the ULN and detected concentrations at Sites W2 and W4 exceeded the ULN; however, these were not considered recurring exceedances as there were no detected fluoride concentrations in natural grasses for the 2018 Field Year. Monitoring should continue, and a request will be made to the analytical laboratory to lower the RDL in natural grasses in future years of the Biomonitoring Program such that it allows for comparison to the ULN value. No additional investigation is proposed at this time.

Overall, the Group 3 organic analytes were not detected at concentrations which exceeded the applicable guidelines (i.e., OCPs and PCBs) or the concentrations were less than the RDLs (i.e., PCPs) in each media sampled. The concentrations of PCDD/DF analytes did not exceed the applicable guideline, with the exception of select congeners at Site N5 which were greater than the OTR₉₈ however, the lower and upper bound PCDD/DF TEQ was less than the Table 1 SCS at Site N5.

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 Table 1 SCS, Ontario ULN and rural parkland OTR₉₈ 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.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Conclusions

February 8, 2021

The concentrations of the identified chemicals were generally within the expected range in comparison with baseline levels, with exceptions/qualifications discussed herein. 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.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Limitations
February 8, 2021

5.0 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. 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. The purpose of this report is to identify



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Limitations

February 8, 2021

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 Bilal Siddiqui, B.Sc., statistical analysis was conducted by Melissa Whitfield Aslund, Ph.D., and reviewed by Tereza Dan, Ph.D.

All of which is respectfully submitted,

STANTEC CONSULTING LTD.

Bilal Siddiqui, B.Sc.
Risk Assessor
Phone: 286 696 4963
Bilal.Siddiqui2@stantec.com

Tereza Dan, Ph.D.
Managing Senior Principal
Phone: 416 435 5439
Tereza.Dan@stantec.com

BS/MWA/TD/jt



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

References

February 8, 2021

6.0 REFERENCES

- ALS Laboratories Group (ALS). 2009. Personal communication "ALS-Lulea Sweden Quality Statement"
Email dated November 20, 2009.
- Birmingham, B., Gilman, A., Grant, D., Salminen, J., Boddington, M., Thorpe, B., Wile, I.,
Toft, P., Armstrong, V. 1989. PCDD/PCDF multimedia exposure analysis for the Canadian
population: Detailed exposure estimation. *Chemosphere*. Vol 19, no 1-6. pp. 637-642.
- Chaney RL. 1993. *Zinc in soils and plants*. Proceedings of the International Symposium on 'Zinc in Soils
and Plants', University of Western Australia, September 1993, Kluwer Academic Publishers.
Available online:
https://www.researchgate.net/profile/Rufus_Chaney3/publication/285246572_Zinc_Phytotoxicity/links/57accb4a08ae42ba52b266ec/Zinc-Phytotoxicity.pdf?origin=publication_detail. Accessed
August 2019.
- Clean Harbors Canada Inc. (Clean Harbors). 2010. 2009 Field Year Annual Landfill Report. Corunna, ON.
- Clean Harbors Canada Inc. (Clean Harbors). 2011. 2010 Field Year Annual Landfill Report. Corunna, ON.
- Clean Harbors Canada Inc. (Clean Harbors). 2015. 2014 Field Year Annual Landfill Report. Corunna, ON.
- Clean Harbors Canada Inc. (Clean Harbors). 2017. 2015 Field Year Annual Landfill Report. Corunna, ON.
- Clean Harbors Canada Inc. (Clean Harbors). 2018. 2016 Field Year Annual Landfill Report. Corunna, ON.
- Clean Harbors Canada Inc. (Clean Harbors). 2019. 2017 Field Year Annual Landfill Report. Corunna, ON.
- Clean Harbors Canada Inc. (Clean Harbors). 2020. 2018 Field Year Annual Landfill Report. Corunna, ON.
- Environment Canada. 2019a. Daily Data Report, Sarnia Climate, Ontario. Ottawa, ON, Environment
Canada. Available online:
http://climate.weather.gc.ca/climate_data/daily_data_e.html?StationID=48373&timeframe=2&StartYear=1840&EndYear=2019&Day=22&Year=2018&Month=7. Accessed May 2019.
- Environment Canada. 2019b. Canadian Climate Normals 1981-2010. Ottawa, ON, Environment Canada.
Available online:
http://climate.weather.gc.ca/climate_normals/results_1981_2010_e.html?searchType=stnName&txtStationName=Sarnia&searchMethod=contains&txtCentralLatMin=0&txtCentralLatSec=0&txtCentralLongMin=0&txtCentralLongSec=0&stnID=4589&dispBack=1. Accessed May 2019.
- Gupta, U., Kening, W., Siyuan, L., 2008. *Micronutrients in Soils, Crops, and Livestock*. Earth Sciences
Frontiers. 15(5): 110-125.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

References

February 8, 2021

- Henson, T. M., Cory, W., & Rutter, M. T. 2013. Extensive variation in cadmium tolerance and accumulation among populations of *Chamaecrista fasciculata*. *PLoS one*, 8(5), e63200. <https://doi.org/10.1371/journal.pone.0063200>
- Kabata Pendias, A. 2001. Trace Elements in Soils and Plants. Third Edition. CRC press LLC, Boca Raton, Florida.
- King, D. E. 1982. Principles of Control Charting. Data Quality Report Series, 1-15. Toronto, ON, Laboratory Services and Applied Research Branch, Ontario Ministry of Environment.
- Laidlaw Environmental Services Ltd. 1991. Environmental Assessment: Proposed Rotary Kiln Project. Burlington, ON, Laidlaw Environmental Services Ltd.
- Laidlaw Environmental Services Ltd. 1996. Environmental Assessment: Landfill Service Continuation. Burlington, ON, Laidlaw Environmental Services Ltd.
- Linzon SN, Temple PJ and Pearson RG. 1979. *Sulfur concentrations in plant foliage and related effects*. Journal of the Air Pollution Control Association. 29(5): 520-525.
- McGrath, S., Micó, C., Zhao, F., Stroud, J., Zhang, H., Fozard, S., 2010a. Predicting molybdenum toxicity to higher plants: Estimation of toxicity threshold values. *Environmental Pollution*. 158: 3085-3094.
- Ministry of the Environment, Conservation and Parks (MECP). 1989. Ontario Ministry of the Environment "Upper Limits of Normal" Contaminant Guidelines for Phytotoxicology Samples. ARB-138-88-Phyto, 1-8. Toronto, ON, Queen's Printer for Ontario.
- Ministry of the Environment, Conservation and Parks (MECP). 1993. Ontario Ministry of Environment and Energy. Ontario Typical Range of Chemical Parameters in Soil, Vegetation, Moss Bags and Snow.
- Ministry of the Environment, Conservation and Parks (MECP). 2008. Guidelines for Identifying, Assessing and Managing Contaminated Sediments in Ontario: An Integrated Approach. Toronto, Ontario, Queen's Printer for Ontario.
- Ministry of the Environment, Conservation and Parks (MECP). 2011. Rationale for the Development of Soil and Ground Water Standards for use at Contaminated Sites in Ontario, Standards Development Branch, April 15, 2011.
- Ministry of the Environment, Conservation and Parks (MECP), 2019. Characterisation of maple foliar fluoride and metal levels within the vicinity of Clean Harbors, Lambton County, Ontario.
- Organization for Economic Co-operation and Development (OECD). 1981. OECD Principles of Good Laboratory Practice Concerning Mutual Acceptance of Data in the Assessment of Chemicals. Annex 2 to C (81) 30 (final), OECD.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

References

February 8, 2021

Stantec Consulting Ltd. (Stantec). 2018. Revised Biomonitoring Sampling Plan. Guelph, ON. Unpublished.

Stantec Consulting Ltd. (Stantec). 2019. Raw Data File Notebook. Guelph, ON. Unpublished.

United States Environmental Protection Agency (US EPA). 1989. 40 CFR Part 160 Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Good Laboratory Practice Standards; Final Rule. Federal Register, Vol. 54, No. 158 Part IV. Washington, DC, US EPA.

Van Gestel, C., McGrath, S., Smolders, E., Diez Ortiz, M., Borgman E., Verweij, R., Buekers, J., and Oorts, K., 2012. Effect of long-term equilibration on the toxicity of molybdenum to soil organisms. Environmental Pollution. 162: 1 7.



APPENDICES

**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix A Figures
February 8, 2021

Appendix A FIGURES





Legend

- ★ Existing Sampling Locations (Approximate)
- Existing Sampling Station to be Removed (Approximate)
- Watercourse

- Building
- Lambton Facility
- Waterbody
- Wooded Area

Client/Project

Clean Harbors Environmental Services Inc.
Biomonitoring Program
Lambton Facility

Figure No.

1

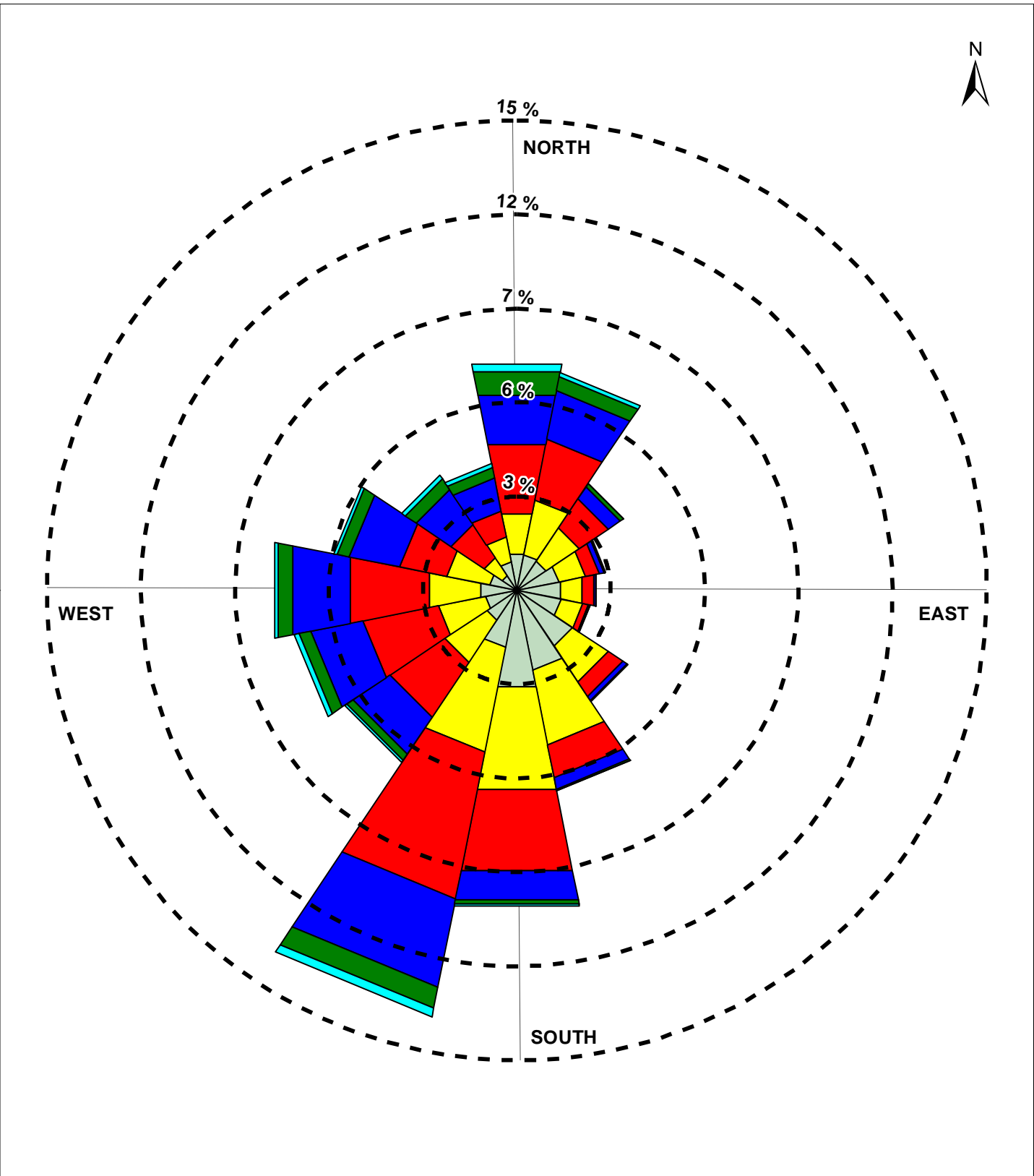
Title

**Existing and Proposed
Sampling Locations**

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.
3. Orthoimagery © Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, 2020. Imagery Date, 2018.

\\cd1220-102\work_group\01221\active\122160003\drawing\WXD\Internat\122160003_Fig0X_WindRose.mxd
 Revised: 2015-12-03 By: sverdamme



Notes
 1. Note to scale.

Legend

Wind Speed (Knots)

>= 22
17 - 21
11 - 17
7 - 11
4 - 7
1 - 4

Calms: 3.06%

January 2019
 122160003

Client/Project
 Clean Harbours Environmental Services Inc.
 Biomonitoring Program
 Lambton Facility

Figure No.
2

Title
**Wind Speed Direction
 (blowing from), July
 2014 to June 2015**

**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix B Characterization of Soils at Test Sites
February 8, 2021

Appendix B CHARACTERIZATION OF SOILS AT TEST SITES



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix B Characterization of Soils at Test Sites
February 8, 2021

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 ($\text{pH} \geq 7.0$) 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., Al^{3+} , Ca^{2+} , Mg^{2+} , K^{+} , NH_4^{+} , 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 absorbed 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



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix B Characterization of Soils at Test Sites
February 8, 2021

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 every three years 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, 2018).

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



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix B Characterization of Soils at Test Sites
February 8, 2021

- 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 (including the new Site E7) 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 proximity. 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 13 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.



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix B Characterization of Soils at Test Sites
February 8, 2021

The majority of the Sites (10 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	0 - 20	C	Imperfect	0.5	Caistor Clay Loam
	Bmgj	20 - 34	SiCL			
	Btgj	34 - 63	C			
	Ckgj	63 - 100	C			
N4	P	0 - 25	L/CL	Imperfect	1-1.5	Caistor Clay Loam
	MgJ	25 - 46	Si/CL			
	KgJ	46 - 100	Si/CL			
N5	Abk	0 - 30	SiCl	Not Applicable	<1	Disturbed (Landscape Perimeter)
	Bmgjk	30 - 55	SiCl			
	Ckgj	55 - 70+	SiCl			
E1	Ap	0 - 23	L	Imperfect	1.0	Caistor Clay Loam
	Bmgj	23 - 49	SCL			
	Btgj	49 - 92	SiCL			
	Ckgj	92 - 100	SiCL			
E2	Ap	0 - 20	SCL	Imperfect	0.5	Caistor Clay Loam
	Bmgj	20 - 31	CL			
	Btgj	31 - 46	SiCL			
	Ckgj	46 - 100	SiCL			
E5	Ap	0 - 20	L	Imperfect	1.0	Caistor Clay Loam
	AB	20 - 32	CL			
	Bmgj	32 - 47	CL			
	Btgj	47 - 81	SiC			
	Ckgj	81 - 100	SiCL			



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix B Characterization of Soils at Test Sites
February 8, 2021

Site	Horizon ^{1 2}	Depth (cm)	Texture ³	Drainage Class	Slope (%)	Soil Type
E6	Ahk Ckg	0 - 20 20 - 25 > 25	C C Dense clay & shale fragments	Not Applicable	<1	Disturbed Soil (Landfill Cap)
E7	Ap Bkgjk Ckgj	0 - 26 26 - 48 48 - 100	CL CL CL	Imperfect	<1	Caistor Clay Loam
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 and S7*	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
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

Note(s):

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).



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix B Characterization of Soils at Test Sites
February 8, 2021

B.5 SOIL AND SEDIMENT RESULTS

B.5.1 Soil Class

Soil characterization samples were last collected during the 2017 Field Year, with the exception of the samples collected at the new Site E7 during the 2019 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, 2017 Biomonitoring Program, Lambton Facility

Site	Soil	Sand	Silt	Clay
	Texture	(%)	(%)	(%)
N2	Clay Loam	30	36	34
N4	Clay Loam	27	41	32
N5	Loam	38	40	22
E1	Clay Loam	35	36	29
E2	Loam	50	36	14
E5	Loam	41	35	24
E6	Loam	47	37	16
E7 (2019)	Clay Loam	30	42	28
S1	Clay Loam	36	36	28
S2	Clay Loam	29	39	32
S4	Clay	15	38	47
S5	Clay Loam	28	37	35
S7	Loam	43	36	21
W2	Clay Loam	27	43	30
W4	Silty Clay Loam	19	42	39

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

Soil fertility samples were last collected during the 2017 Field Year, with the exception of the samples collected at the new Site E7 during the 2019 Field Year (**Table B5-2**). The 2017 and 2019 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 2011, taking into consideration natural variation.



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix B Characterization of Soils at Test Sites
February 8, 2021

Table B5-2: Nutrients (P, K, Mg, Ca), Organic Matter (OM), pH, Cation Exchange Capacity (CEC) of Soil, 2017 Biomonitoring Program, Lambton Facility

Site	P (ppm)	K (ppm)	Mg (ppm)	Ca (ppm)	OM (%)	pH	CEC (MEQ/100g)
N2	43	128	479	2856	4.9	6.7	19.8
N4	30	149	263	5031	4.2	7.8	28.9
N5	6	113	420	4367	6.0	7.7	26.8
E1	7	89	391	1993	2.6	7.8	14.7
E2	21	81	261	2593	6.0	7.4	16.5
E5	8	93	429	2917	3.5	7.6	19.6
E6	6	144	260	4015	6.0	7.6	23.8
E7 (2019)	7	115	376	3775	2.7	7.6	23.5
S1	6	81	401	2845	3.3	7.7	19.0
S2	14	102	407	2674	3.3	7.6	18.2
S4	34	212	467	4633	4.7	7.7	28.8
S5	13	106	523	3744	2.9	7.8	26.4
S7	7	198	385	2898	6.3	7.4	31.4
W2	7	94	458	3434	4.2	7.6	22.4
W4	62	161	508	2951	5.4	6.5	20.6

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

The sediment nutrients, OM, CEC, pH, clay content and surface texture are described below. Sediment was sampled under dry conditions for all Sites where drainage ditch sediment was sampled (Sites N2, N5, S1, S4, E2 and S7). Sediment fertility samples were last collected during the 2017 Field Year.

As expected, in 2017 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. 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.



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix B Characterization of Soils at Test Sites
February 8, 2021

**Table B5-3: Particle Size Distribution and Textural Class of Sediment, 2017
Biomonitoring Program, Lambton Facility**

Site	Sediment	Sand	Silt	Clay
	Texture	(%)	(%)	(%)
N2	Silt Clay	18	41	41
N5	Silty Clay Loam	19	45	36
E2	Silty Clay Loam	16	49	35
S1	Clay Loam	34	38	28
S4	Clay	21	38	41
S7	Clay Loam	27	38	35

**Table B5-4: Nutrients (P, K, Mg, Ca), Organic Matter (OM), pH, Cation Exchange
Capacity (CEC) of Sediment, 2017 Biomonitoring Program, Lambton
Facility**

Site	P	K	Mg	Ca	OM	pH	CEC
	(ppm)	(ppm)	(ppm)	(ppm)	(%)		(MEQ/100g)
N2	21	114	518	4910	7.4	7.5	30.4
N5	10	113	359	4689	2.9	8.0	27.9
E2	8	89	365	4463	1.7	8.0	26.7
S1	10	104	540	3489	6.0	7.2	23.4
S4	17	141	509	5220	4.7	7.9	31.9
S7	4	73	526	5129	2.0	7.9	31.4



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix B Characterization of Soils at Test Sites
February 8, 2021

B.6 REFERENCES

Brady, N. C. and Weil, R. R. 2002. The nature and properties of soils (thirteenth edition).
NJ, Prentice Hall.

Mathews, B. C., Richards, N. R., and Wicklund, R. E. 1957. Soil Survey of Lambton County.
Report No. 22 of Ontario Soil Survey. Guelph, ON, Ontario Agricultural College,
University of Toronto.

Ontario Centre for Soil Resource Evaluation. 1993. Field Manual for Describing Soils. Toronto, ON,
Resources Management Branch, OMAFRA.

Research Branch, Agriculture Canada. 1987. Canadian System of Soil Classification. Agriculture Canada
Expert Committee on Soil Survey (second edition). Ottawa, ON, Pub 1646. Ministry of Supply and
Service Canadian Publication Centre.

Stantec Consulting Ltd. (Stantec). 2018. Revised Biomonitoring Sampling Program, Lambton Facility.
Guelph, ON, Unpublished.



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix C Tables
February 8, 2021

Appendix C TABLES



Table C-1a
Summary of Natural Grass 2019 Analytical Results
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Sample Location			E1			E2						E5			E6						
Sample Date			9-Oct-19	9-Oct-19	9-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	9-Oct-19	9-Oct-19	9-Oct-19	14-Aug-19	14-Aug-19	14-Aug-19	
Sample ID			19-E1-NG-CH-039	19-E1-NG-CH-039	19-E1-NG-CH-039	19-E2-NG-CH-049	19-E2-NG-CH-049	19-E2-NG-CH-049	19-E2-NG-CH-049	19-D8-NG-CH-208	19-D8-NG-CH-208	19-D8-NG-CH-208	19-D8-NG-CH-208	19-D8-NG-CH-208 LR	19-E5-NG-CH-055	19-E5-NG-CH-055	19-E5-NG-CH-055	19-E6-NG-CH-061	19-E6-NG-CH-061	19-E6-NG-CH-061	
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	
Laboratory Work Order			K2000799	L2002998	L2387288	K2000799	L2002998	L2387288	L2387288	K2000799	L2002998	L2387288	L2387288	L2002998	K2000799	L2002998	L2387288	K2000799	L2002998	L2387288	
Laboratory Sample ID			K2000799-010	L2387288-18	L2387288-18	K2000799-012	L2387288-22	L2387288-22	L2387288-22	K2000799-026	L2387288-46	L2387288-46	L2387288-46	L2002998	K2000799-014	L2387288-25	L2387288-25	K2000799-016	L2387288-28	L2387288-28	
Sample Type	Units	MOE							Field Duplicate	RPD (%)	Field Duplicate	RPD (%)	Field Duplicate	RPD (%)	Lab Replicate						
General Chemistry																					
Chloride	mg/kg	10,000 ^A	-	-	3,290 DM	-	-	2,250 DM	-	-	-	-	1,970 DM	-	-	-	3,480 DM	-	-	8,770 DM	
Fluoride	mg/kg	12 ^A	<40 BL	-	-	<40 BL	-	-	<40 BL	-	-	-	-	-	-	<40 BL	-	-	<40 BL	-	
Metals, Group 1																					
Barium	mg/kg	n/v	-	-	37.2	-	-	32.1	-	-	-	-	33.9	5%	-	-	21.7	-	-	6.33	
Beryllium	mg/kg	n/v	-	-	<0.010	-	-	<0.010	-	-	-	-	<0.010	nc	-	-	<0.010	-	-	<0.010	
Boron	mg/kg	20 ^A	-	-	5.3	-	-	7.1	-	-	-	-	6.9	3%	-	-	10.1	-	-	15.9	
Calcium	mg/kg	n/v	-	-	5,890	-	-	6,050	-	-	-	-	5,980	1%	-	-	8,070	-	-	5,730	
Chromium	mg/kg	5 ^A	-	-	0.307	-	-	0.193	-	-	-	-	0.242	nc	-	-	0.436	-	-	0.457	
Cobalt	mg/kg	2 ^A	-	-	0.023	-	-	0.025	-	-	-	-	0.023	nc	-	-	0.074	-	-	0.099	
Iron	mg/kg	500 ^A	-	-	77.5	-	-	61.1	-	-	-	-	64.6	6%	-	-	106	-	-	84.9	
Magnesium	mg/kg	n/v	-	-	2,120	-	-	1,800	-	-	-	-	1,980	10%	-	-	2,440	-	-	1,720	
Manganese	mg/kg	50 ^A	-	-	20.3	-	-	26.2	-	-	-	-	30.5	15%	-	-	176 ^A	-	-	64.5 ^A	
Molybdenum	mg/kg	6 ^A	-	-	5.33	-	-	5.18	-	-	-	-	5.45	5%	-	-	8.00 ^A	-	-	9.90 ^A	
Nickel	mg/kg	5 ^A	-	-	0.35	-	-	<0.20	-	-	-	-	<0.20	nc	-	-	0.34	-	-	0.64	
Phosphorus	mg/kg	n/v	-	-	3,810	-	-	2,400	-	-	-	-	2,390	0%	-	-	1,540	-	-	625	
Potassium	mg/kg	n/v	-	-	20,100	-	-	11,400	-	-	-	-	11,900	4%	-	-	9,030	-	-	12,200	
Silicon	mg/kg	n/v	-	9,130	-	-	8,080	-	-	8,050	nc	-	-	7,270	-	6,940	-	-	7,670	-	
Silver	mg/kg	n/v	-	-	<0.0050	-	-	<0.0050	-	-	-	-	<0.0050	nc	-	-	0.0069	-	-	0.0261	
Sodium	mg/kg	n/v	-	-	29	-	-	<20	-	-	-	-	<20	nc	-	-	27	-	-	79	
Strontium	mg/kg	n/v	-	-	19.4	-	-	20.9	-	-	-	-	22.2	6%	-	-	12.5	-	-	33.1	
Sulfur	mg/kg	5,000 ^A	-	-	3,590	-	-	1,880	-	-	-	-	2,080	10%	-	-	2,810	-	-	2,270	
Titanium	mg/kg	n/v	-	-	1.02	-	-	0.88	-	-	-	-	0.70	nc	-	-	1.72	-	-	1.35	
Zirconium	mg/kg	n/v	-	-	<0.20	-	-	<0.20	-	-	-	-	<0.20	nc	-	-	<0.20	-	-	<0.20	
Metals, Group 2																					
Aluminum	mg/kg	n/v	-	-	29.4	-	-	33.3	-	-	-	-	35.2	6%	-	-	59.8	-	-	40.8	
Arsenic	mg/kg	n/v	-	-	0.035	-	-	0.024	-	-	-	-	0.032	nc	-	-	0.079	-	-	0.202	
Cadmium	mg/kg	0.5 ^A	-	-	0.0921	-	-	0.0256	-	-	-	-	0.0411	46%	-	-	0.275	-	-	0.981 ^A	
Copper	mg/kg	7 ^A	-	-	6.78	-	-	3.72	-	-	-	-	3.89	4%	-	-	5.93	-	-	3.82	
Lead	mg/kg	20 ^A	-	-	0.519	-	-	0.152	-	-	-	-	0.151	1%	-	-	1.57	-	-	6.94	
Mercury	mg/kg	n/v	-	-	0.0157	-	-	0.0133	-	-	-	-	0.0144	nc	-	-	0.0250	-	-	0.0998	
Thallium	mg/kg	n/v	-	-	<0.0020	-	-	<0.0020	-	-	-	-	<0.0020	nc	-	-	0.0027	-	-	0.0178	
Vanadium	mg/kg	6 ^A	-	-	0.10	-	-	0.10	-	-	-	-	0.11	nc	-	-	0.20	-	-	0.15	
Zinc	mg/kg	40 ^A	-	-	23.5	-	-	14.4	-	-	-	-	18.5	25%	-	-	29.4	-	-	29.4	

See notes on last page

Table C-1a
Summary of Natural Grass 2019 Analytical Results
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Sample Location			E7			N2						N4			N5					
Sample Date			9-Oct-19	9-Oct-19	9-Oct-19	8-Oct-19	8-Oct-19	8-Oct-19	8-Oct-19	8-Oct-19	8-Oct-19	8-Oct-19	12-Feb-20	8-Oct-19	8-Oct-19	8-Oct-19	14-Aug-19	14-Aug-19	14-Aug-19	
Sample ID			19-E7-NG-CH-305	19-E7-NG-CH-305	19-E7-NG-CH-305	19-N2-NG-CH-019	19-N2-NG-CH-019	19-N2-NG-CH-019	19-D3-NG-CH-203	19-D3-NG-CH-203	19-D3-NG-CH-203		Duplicate	19-N4-NG-CH-025	19-N4-NG-CH-025	19-N4-NG-CH-025	19-N5-NG-CH-035	19-N5-NG-CH-035	19-N5-NG-CH-035	
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC		ALS	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS		L2387288	ALS	ALS	ALS	ALS	ALS	ALS	
Laboratory Work Order			K2000799	L2002998	L2387288	K2000799	L2002998	L2387288	K2000799	L2002998	L2387288		L2387288	K2000799	L2002998	L2387288	K2000799	L2002998	L2387288	
Laboratory Sample ID			K2000799-017	L2387288-30	L2387288-30	K2000799-005	L2387288-9	L2387288-9	K2000799-025	L2387288-45	L2387288-45		WG3272564-2	K2000799-007	L2387288-12	L2387288-12	K2000799-009	L2387288-16	L2387288-16	
Sample Type	Units	MOE							Field Duplicate	Field Duplicate	Field Duplicate	Field Duplicate	Lab Replicate							
General Chemistry																				
Chloride	mg/kg	10,000 ^A	-	-	11,500 DM ^A	-	-	6,930 DM	-	-	-	5,360 DM	-	-	-	7,650 DM	-	-	6,440 DM	
Fluoride	mg/kg	12 ^A	<40 BL	-	-	<40 BL	-	-	<40 BL	-	-	-	-	<40 BL	-	-	<40 BL	-	-	
Metals, Group 1																				
Barium	mg/kg	n/v	-	-	10.8	-	-	8.75	-	-	-	8.54	2%	8.65	-	-	7.49	-	-	11.7
Beryllium	mg/kg	n/v	-	-	<0.010	-	-	<0.010	-	-	-	<0.010	nc	<0.01	-	-	<0.010	-	-	<0.010
Boron	mg/kg	20 ^A	-	-	9.1	-	-	6.7	-	-	-	6.5	3%	6.5	-	-	6.5	-	-	9.0
Calcium	mg/kg	n/v	-	-	5,260	-	-	4,640	-	-	-	4,780	3%	4,260	-	-	4,170	-	-	5,970
Chromium	mg/kg	5 ^A	-	-	0.391	-	-	0.246	-	-	-	0.595	nc	0.225	-	-	0.158	-	-	0.299
Cobalt	mg/kg	2 ^A	-	-	0.038	-	-	0.055	-	-	-	0.044	nc	0.054	-	-	0.039	-	-	0.036
Iron	mg/kg	500 ^A	-	-	79.9	-	-	113	-	-	-	91.2	21%	98.2	-	-	75.8	-	-	76.9
Magnesium	mg/kg	n/v	-	-	3,080	-	-	2,090	-	-	-	2,510	18%	2,110	-	-	1,960	-	-	1,940
Manganese	mg/kg	50 ^A	-	-	17.4	-	-	86.4 ^A	-	-	-	83.6 ^A	3%	84.8 ^A	-	-	86.0 ^A	-	-	13.5
Molybdenum	mg/kg	6 ^A	-	-	3.76	-	-	4.08	-	-	-	4.19	3%	3.80	-	-	3.39	-	-	2.73
Nickel	mg/kg	5 ^A	-	-	0.56	-	-	0.72	-	-	-	0.70	nc	0.70	-	-	0.71	-	-	0.26
Phosphorus	mg/kg	n/v	-	-	3,220	-	-	2,570	-	-	-	3,090	18%	2,540	-	-	2,890	-	-	1,160
Potassium	mg/kg	n/v	-	-	23,000	-	-	12,400	-	-	-	19,400	44%	12,300	-	-	11,700	-	-	13,900
Silicon	mg/kg	n/v	-	8,450	-	-	6,650	-	-	7,400	nc	-	-	-	-	8,940	-	8,590	-	
Silver	mg/kg	n/v	-	-	<0.0050	-	-	<0.0050	-	-	-	<0.0050	nc	<0.005	-	-	<0.0050	-	-	<0.0050
Sodium	mg/kg	n/v	-	-	24	-	-	<20	-	-	-	<20	nc	<20	-	-	<20	-	-	46
Strontium	mg/kg	n/v	-	-	13.8	-	-	13.5	-	-	-	13.1	3%	12.6	-	-	12.6	-	-	24.1
Sulfur	mg/kg	5,000 ^A	-	-	3,800	-	-	3,460	-	-	-	4,240	20%	3,420	-	-	3,190	-	-	3,380
Titanium	mg/kg	n/v	-	-	0.32	-	-	1.34	-	-	-	0.74	nc	1.04	-	-	0.67	-	-	1.10
Zirconium	mg/kg	n/v	-	-	<0.20	-	-	<0.20	-	-	-	<0.20	nc	<0.2	-	-	<0.20	-	-	<0.20
Metals, Group 2																				
Aluminum	mg/kg	n/v	-	-	50.4	-	-	62.8	-	-	-	40.9	42%	50.5	-	-	17.9	-	-	31.0
Arsenic	mg/kg	n/v	-	-	0.036	-	-	0.044	-	-	-	0.033	nc	0.038	-	-	0.033	-	-	0.055
Cadmium	mg/kg	0.5 ^A	-	-	0.0661	-	-	0.0416	-	-	-	0.0564	30%	0.0411	-	-	0.0522	-	-	0.164
Copper	mg/kg	7 ^A	-	-	6.13	-	-	5.46	-	-	-	5.20	5%	5.67	-	-	7.01 ^A	-	-	3.16
Lead	mg/kg	20 ^A	-	-	0.247	-	-	0.279	-	-	-	0.205	31%	0.231	-	-	0.257	-	-	0.719
Mercury	mg/kg	n/v	-	-	0.0157	-	-	0.0154	-	-	-	0.0118	nc	0.0131	-	-	0.0168	-	-	0.0202
Thallium	mg/kg	n/v	-	-	0.0022	-	-	0.0026	-	-	-	<0.0020	nc	0.0023	-	-	<0.0020	-	-	0.0041
Vanadium	mg/kg	6 ^A	-	-	0.14	-	-	0.15	-	-	-	0.10	nc	0.12	-	-	<0.10	-	-	0.10
Zinc	mg/kg	40 ^A	-	-	19.9	-	-	38.7	-	-	-	32.7	17%	43.2 ^A	-	-	57.4 ^A	-	-	15.7

See notes on last page

Table C-1a
Summary of Natural Grass 2019 Analytical Results
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Sample Location			S1			S2			S4			W2			W4			
Sample Date			10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	9-Oct-19	9-Oct-19	9-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	9-Oct-19	9-Oct-19	9-Oct-19	
Sample ID			19-S1-NG-CH-069	19-S1-NG-CH-069	19-S1-NG-CH-069	19-S2-NG-CH-075	19-S2-NG-CH-075	19-S2-NG-CH-075	19-S4-NG-CH-093	19-S4-NG-CH-093	19-S4-NG-CH-093	19-W2-NG-CH-003	19-W2-NG-CH-003	19-W2-NG-CH-003	19-W4-NG-CH-009	19-W4-NG-CH-009	19-W4-NG-CH-009	
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	
Laboratory			ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	
Laboratory Work Order			K2000799	L2002998	L2387288	K2000799	L2002998	L2387288	K2000799	L2002998	L2387288	K2000799	L2002998	L2387288	K2000799	L2002998	L2387288	
Laboratory Sample ID			K2000799-019	L2387288-34	L2387288-34	K2000799-021	L2387288-37	L2387288-37	K2000799-023	L2387288-41	L2387288-41	K2000799-001	L2387288-2	L2387288-2	K2000799-003	L2387288-5	L2387288-5	
Sample Type	Units	MOE																
General Chemistry																		
Chloride	mg/kg	10,000 ^A	-	-	5,500 DM	-	-	5,470 DM	-	-	12,500 DM ^A	-	-	2,300 DM	-	-	-	8,500 DM
Fluoride	mg/kg	12 ^A	<40 BL	-	-	<40 BL	-	-	<40 BL	-	-	91 BL ^A	-	-	46 BL ^A	-	-	-
Metals, Group 1																		
Barium	mg/kg	n/v	-	-	11.0	-	-	40.3	-	-	5.88	-	-	9.67	-	-	-	10.2
Beryllium	mg/kg	n/v	-	-	<0.010	-	-	<0.010	-	-	<0.010	-	-	<0.010	-	-	-	<0.010
Boron	mg/kg	20 ^A	-	-	9.2	-	-	6.5	-	-	4.9	-	-	11.7	-	-	-	6.3
Calcium	mg/kg	n/v	-	-	5,100	-	-	4,570	-	-	5,350	-	-	8,190	-	-	-	4,410
Chromium	mg/kg	5 ^A	-	-	0.431	-	-	0.494	-	-	0.290	-	-	0.644	-	-	-	0.290
Cobalt	mg/kg	2 ^A	-	-	0.082	-	-	0.064	-	-	0.059	-	-	0.029	-	-	-	0.096
Iron	mg/kg	500 ^A	-	-	186	-	-	189	-	-	120	-	-	111	-	-	-	122
Magnesium	mg/kg	n/v	-	-	2,170	-	-	1,770	-	-	2,720	-	-	2,270	-	-	-	2,520
Manganese	mg/kg	50 ^A	-	-	20.4	-	-	17.2	-	-	28.2	-	-	28.3	-	-	-	90.1 ^A
Molybdenum	mg/kg	6 ^A	-	-	3.17	-	-	1.83	-	-	5.17	-	-	5.58	-	-	-	5.94
Nickel	mg/kg	5 ^A	-	-	0.68	-	-	0.35	-	-	0.81	-	-	0.61	-	-	-	1.29
Phosphorus	mg/kg	n/v	-	-	2,700	-	-	3,380	-	-	4,150	-	-	2,440	-	-	-	3,760
Potassium	mg/kg	n/v	-	-	12,100	-	-	16,600	-	-	25,100	-	-	11,900	-	-	-	24,400
Silicon	mg/kg	n/v	-	6,340	-	-	9,000	-	-	7,650	-	-	7,900	-	-	8,740	-	-
Silver	mg/kg	n/v	-	-	<0.0050	-	-	0.0053	-	-	<0.0050	-	-	0.0055	-	-	-	0.0052
Sodium	mg/kg	n/v	-	-	29	-	-	<20	-	-	<20	-	-	27	-	-	-	68
Strontium	mg/kg	n/v	-	-	8.24	-	-	16.5	-	-	9.51	-	-	13.6	-	-	-	7.42
Sulfur	mg/kg	5,000 ^A	-	-	1,950	-	-	2,270	-	-	2,650	-	-	2,350	-	-	-	3,110
Titanium	mg/kg	n/v	-	-	1.98	-	-	3.40	-	-	2.12	-	-	1.44	-	-	-	1.32
Zirconium	mg/kg	n/v	-	-	<0.20	-	-	<0.20	-	-	<0.20	-	-	<0.20	-	-	-	<0.20
Metals, Group 2																		
Aluminum	mg/kg	n/v	-	-	158	-	-	154	-	-	101	-	-	47.5	-	-	-	62.0
Arsenic	mg/kg	n/v	-	-	0.062	-	-	0.076	-	-	0.032	-	-	0.046	-	-	-	0.138
Cadmium	mg/kg	0.5 ^A	-	-	0.127	-	-	0.150	-	-	0.0674	-	-	0.0937	-	-	-	0.180
Copper	mg/kg	7 ^A	-	-	4.42	-	-	7.17 ^A	-	-	5.03	-	-	9.28 ^A	-	-	-	8.25 ^A
Lead	mg/kg	20 ^A	-	-	0.393	-	-	0.739	-	-	0.108	-	-	0.835	-	-	-	0.234
Mercury	mg/kg	n/v	-	-	0.0164	-	-	0.0170	-	-	0.0102	-	-	0.0292	-	-	-	0.0115
Thallium	mg/kg	n/v	-	-	0.0031	-	-	0.0036	-	-	<0.0020	-	-	<0.0020	-	-	-	0.0026
Vanadium	mg/kg	6 ^A	-	-	0.38	-	-	0.37	-	-	0.21	-	-	0.17	-	-	-	0.17
Zinc	mg/kg	40 ^A	-	-	20.4	-	-	17.2	-	-	18.4	-	-	26.7	-	-	-	29.3

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.
- BL There is a potential low bias in this matrix, see narrative for more information
- DM Detection limit adjusted due to sample matrix effects.
- RPD Relative Percent Difference.
- 61% RPD exceeds data quality objective of 60%.
- nc RPD is not calculated if one or more values is non detect or if one or more values is less than five times the reportable detection limit.

Table C-1b
Summary of Soil 2019 Analytical Results
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Sample Location				E1				E2				E5		E6		E7			
Sample Date				9-Oct-19	9-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	9-Oct-19	9-Oct-19	11-Feb-20	14-Aug-19	14-Aug-19	9-Oct-19	9-Oct-19	11-Feb-20
Sample ID				19-E1-SS-CH-037	19-E1-SS-CH-037	19-E2-SS-CH-043	19-E2-SS-CH-043	19-D2-SS-CH-201	19-D2-SS-CH-201	19-D2-SS-CH-201	19-E5-SS-CH-053	19-E5-SS-CH-053	Duplicate	19-E6-SS-CH-059	19-E6-SS-CH-059	19-E7-SS-CH-303	19-E7-SS-CH-303	Duplicate	
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	ALS	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	
Laboratory				ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	
Laboratory Work Order				L2002997	L2387288	L2002997	L2387288	L2002997	L2387288	L2387288-44	L2002997	L2387288	L2387288-24	L2387288	L2002997	L2387288	L2002997	L2387288	
Laboratory Sample ID				L2387288-17	L2387288-17	L2387288-20	L2387288-20	L2387288-44	L2387288-44	L2387288-44	L2387288-24	L2387288-24	WG3272652-4	L2387288-27	L2387288-27	L2387288-29	L2387288-29	WG3272669-3	
Sample Type	Units	Ontario SCS	MOE *					Field Duplicate	RPD (%)	Field Duplicate	RPD (%)		Lab Replicate					Lab Replicate	
General Chemistry																			
Chloride	mg/kg	n/a ^A	35 ^B	-	<5.0	-	<5.0	-	-	<5.0	nc	-	<5.0	<5	-	<5.0	-	14.1	13.5
Fluoride	mg/kg	n/v	84 ^B	-	1.61	-	2.57	-	-	2.30	11%	-	4.17	-	-	3.58	-	3.85	-
Metals, Group 1																			
Barium	mg/kg	210 ^A	170 ^B	-	55.0	-	79.6	-	-	76.5	4%	-	58.3	-	-	73.7	-	89.7	-
Beryllium	mg/kg	2.5 ^A	1.1 ^B	-	0.53	-	0.58	-	-	0.60	3%	-	0.50	-	-	0.65	-	0.77	-
Boron	mg/kg	36 ^A	30 ^B	-	7.5	-	8.4	-	-	8.6	nc	-	7.0	-	-	11.7	-	10.7	-
Calcium	mg/kg	n/v	54,000 ^B	-	3,140	-	5,790	-	-	6,280	8%	-	6,970	-	-	20,200	-	5,770	-
Chromium	mg/kg	67 ^A	58 ^B	-	18.6	-	21.9	-	-	22.0	0%	-	20.2	-	-	25.2	-	26.8	-
Cobalt	mg/kg	19 ^A	16 ^B	-	5.67	-	8.66	-	-	7.94	9%	-	7.02	-	-	7.88	-	9.88	-
Iron	mg/kg	n/v	36,000 ^B	-	13,400	-	19,100	-	-	18,500	3%	-	17,000	-	-	19,500	-	21,800	-
Magnesium	mg/kg	n/v	19,000 ^B	-	3,280	-	4,910	-	-	4,950	1%	-	5,410	-	-	10,200	-	6,300	-
Manganese	mg/kg	n/v	1,900 ^B	-	284	-	400	-	-	347	14%	-	316	-	-	378	-	365	-
Molybdenum	mg/kg	2 ^A	0.984 ^B	-	1.03	-	1.70	-	-	1.63	4%	-	1.51	-	-	2.33 ^A	-	1.68	-
Nickel	mg/kg	37 ^A	34 ^B	-	15.8	-	19.0	-	-	19.5	3%	-	17.3	-	-	23.4	-	25.1	-
Phosphorus	mg/kg	n/v	830 ^B	-	668	-	748	-	-	778	4%	-	332	-	-	438	-	537	-
Potassium	mg/kg	n/v	6,500 ^B	-	1,610	-	2,440	-	-	2,320	5%	-	1,500	-	-	2,290	-	2,500	-
Silicon	mg/kg	n/v	n/v	356,000	-	305,000	-	332,000	nc	-	-	324,000	-	-	302,000	-	317,000	-	
Silver	mg/kg	0.5 ^A	0.27 ^B	-	<0.10	-	<0.10	-	-	<0.10	nc	-	<0.10	-	-	<0.10	-	<0.10	-
Sodium	mg/kg	n/a ^A	690 ^B	-	<50	-	54	-	-	50	nc	-	53	-	-	80	-	60	-
Strontium	mg/kg	n/v	63 ^B	-	10.6	-	19.3	-	-	19.9	3%	-	14.3	-	-	36.2	-	18.4	-
Sulfur	mg/kg	n/v	790 ^B	-	<1,000	-	<1,000	-	-	<1,000	nc	-	<1,000	-	-	<1,000	-	<1,000	-
Titanium	mg/kg	n/v	5,500 ^B	-	92.7	-	76.0	-	-	100	27%	-	128	-	-	143	-	142	-
Zirconium	mg/kg	n/v	n/v	-	2.6	-	1.9	-	-	2.4	nc	-	1.2	-	-	2.1	-	1.9	-
Metals, Group 2																			
Aluminum	mg/kg	n/v	30,000 ^B	-	12,100	-	15,700	-	-	15,400	2%	-	13,700	-	-	16,000	-	19,400	-
Arsenic	mg/kg	11 ^A	11 ^B	-	4.39	-	5.20	-	-	5.17	1%	-	5.09	-	-	5.90	-	6.35	-
Cadmium	mg/kg	1 ^A	0.7 ^B	-	0.339	-	0.387	-	-	0.371	4%	-	0.317	-	-	0.449	-	0.332	-
Copper	mg/kg	62 ^A	46 ^B	-	13.1	-	17.1	-	-	16.5	4%	-	9.73	-	-	15.4	-	14.1	-
Lead	mg/kg	45 ^A	34 ^B	-	10.8	-	22.7	-	-	23.7	4%	-	12.8	-	-	14.2	-	14.1	-
Mercury	mg/kg	0.16 ^A	0.13 ^B	-	0.0431	-	0.0670	-	-	0.0716	7%	-	0.0295	-	-	0.0548	-	0.0355	-
Thallium	mg/kg	1 ^A	n/v	-	0.160	-	0.196	-	-	0.198	nc	-	0.172	-	-	0.221	-	0.231	-
Vanadium	mg/kg	86 ^A	86 ^B	-	28.4	-	32.2	-	-	31.6	2%	-	32.6	-	-	35.6	-	40.1	-
Zinc	mg/kg	290 ^A	160 ^B	-	48.4	-	66.4	-	-	65.8	1%	-	48.4	-	-	63.0	-	55.5	-

See notes on last page

**Table C-1b
 Summary of Soil 2019 Analytical Results
 Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
 2019 Field Year**

Sample Location Sample Date Sample ID Sample Depth Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type	Units	Ontario SCS	MOE *	N2						12-Feb-20 Duplicate 15 cm ALS WG3272817-2 Lab Replicate	N4		N5		S1		S2		S4	
				8-Oct-19 19-N2-SS-CH-013 15 cm STANTEC ALS L2002997 L2387288-7	8-Oct-19 19-N2-SS-CH-013 15 cm STANTEC ALS L2387288	8-Oct-19 19-D1-SS-CH-200 15 cm STANTEC ALS L2002997 L2387288-43 Field Duplicate	RPD (%)	8-Oct-19 19-D1-SS-CH-200 15 cm STANTEC ALS L2387288	RPD (%)		8-Oct-19 19-N4-SS-CH-023 15 cm STANTEC ALS L2002997 L2387288-11	8-Oct-19 19-N4-SS-CH-023 15 cm STANTEC ALS L2387288	14-Aug-19 19-N5-SS-CH-029 15 cm STANTEC ALS L2002997 L2387288-14	14-Aug-19 19-N5-SS-CH-029 15 cm STANTEC ALS L2387288	10-Oct-19 19-S1-SS-CH-063 15 cm STANTEC ALS L2002997 L2387288-32	10-Oct-19 19-S1-SS-CH-063 15 cm STANTEC ALS L2387288	10-Oct-19 19-S2-SS-CH-073 15 cm STANTEC ALS L2002997 L2387288-36	10-Oct-19 19-S2-SS-CH-073 15 cm STANTEC ALS L2387288	9-Oct-19 19-S4-SS-CH-087 15 cm STANTEC ALS L2002997 L2387288-39	9-Oct-19 19-S4-SS-CH-087 15 cm STANTEC ALS L2387288
General Chemistry																				
Chloride	mg/kg	n/a ^A	35 ^B	-	<5.0	-	-	<5.0	nc	-	-	<5.0	-	<5.0	-	5.3	-	<5.0	-	8.8
Fluoride	mg/kg	n/v	84 ^B	-	2.43	-	-	2.41	1%	-	-	4.97	-	2.70	-	4.43	-	4.05	-	3.87
Metals, Group 1																				
Barium	mg/kg	210 ^A	170 ^B	-	120	-	-	117	3%	124	-	77.2	-	65.1	-	115	-	110	-	122
Beryllium	mg/kg	2.5 ^A	1.1 ^B	-	1.16	-	-	1.21	4%	1.18	-	0.68	-	0.59	-	0.95	-	0.94	-	1.17
Boron	mg/kg	36 ^A	30 ^B	-	15.6	-	-	18.4	nc	18.7	-	7.5	-	11.8	-	16.6	-	12.6	-	20.1
Calcium	mg/kg	n/v	54,000 ^B	-	5,550	-	-	5,610	1%	5,740	-	5,020	-	19,800	-	15,500	-	7,730	-	10,900
Chromium	mg/kg	67 ^A	58 ^B	-	38.2	-	-	42.3	10%	39.2	-	22.7	-	22.6	-	32.2	-	32.0	-	38.9
Cobalt	mg/kg	19 ^A	16 ^B	-	11.2	-	-	11.5	3%	11.3	-	8.31	-	7.55	-	13.0	-	13.3	-	11.4
Iron	mg/kg	n/v	36,000 ^B	-	25,000	-	-	26,100	4%	25,100	-	18,400	-	17,800	-	24,900	-	26,600	-	29,600
Magnesium	mg/kg	n/v	19,000 ^B	-	7,320	-	-	7,790	6%	7,440	-	4,920	-	9,700	-	11,000	-	7,360	-	9,480
Manganese	mg/kg	n/v	1,900 ^B	-	339	-	-	365	7%	351	-	409	-	287	-	766	-	585	-	368
Molybdenum	mg/kg	2 ^A	0.984 ^B	-	1.35	-	-	1.38	2%	1.32	-	1.83	-	1.71	-	1.34	-	2.16 ^A	-	0.80
Nickel	mg/kg	37 ^A	34 ^B	-	36.1	-	-	37.3 ^A	3%	36.5	-	20.1	-	18.9	-	33.5	-	28.4	-	29.6
Phosphorus	mg/kg	n/v	830 ^B	-	959 ^B	-	-	953 ^B	1%	963 ^B	-	590	-	394	-	619	-	497	-	771
Potassium	mg/kg	n/v	6,500 ^B	-	4,010	-	-	4,350	8%	4,460	-	1,730	-	1,940	-	3,280	-	3,000	-	4,430
Silicon	mg/kg	n/v	n/v	289,000	-	287,000	nc	-	nc	-	316,000	-	286,000	-	284,000	-	310,000	-	253,000	-
Silver	mg/kg	0.5 ^A	0.27 ^B	-	<0.10	-	-	<0.10	nc	<0.1	-	<0.10	-	<0.10	-	<0.10	-	<0.10	-	<0.10
Sodium	mg/kg	n/a ^A	690 ^B	-	64	-	-	68	nc	70	-	<50	-	88	-	88	-	68	-	81
Strontium	mg/kg	n/v	63 ^B	-	21.8	-	-	23.5	8%	22.2	-	15.2	-	40.9	-	24.8	-	22.0	-	33.7
Sulfur	mg/kg	n/v	790 ^B	-	<1,000	-	-	<1,000	nc	<1,000	-	<1,000	-	<1,000	-	<1,000	-	<1,000	-	<1,000
Titanium	mg/kg	n/v	5,500 ^B	-	128	-	-	166	26%	164	-	84.3	-	109	-	193	-	155	-	122
Zirconium	mg/kg	n/v	n/v	-	6.4	-	-	5.8	10%	6.1	-	2.9	-	1.6	-	2.8	-	2.6	-	3.1
Metals, Group 2																				
Aluminum	mg/kg	n/v	30,000 ^B	-	26,200	-	-	27,500	5%	27,500	-	15,800	-	14,200	-	22,300	-	22,900	-	29,600
Arsenic	mg/kg	11 ^A	11 ^B	-	4.94	-	-	5.17	5%	5.05	-	5.78	-	5.75	-	7.70	-	7.18	-	5.19
Cadmium	mg/kg	1 ^A	0.7 ^B	-	0.473	-	-	0.463	2%	0.501	-	0.499	-	0.560	-	0.464	-	0.417	-	0.280
Copper	mg/kg	62 ^A	46 ^B	-	31.3	-	-	31.6	1%	32.1	-	15.0	-	14.6	-	16.5	-	15.1	-	17.7
Lead	mg/kg	45 ^A	34 ^B	-	15.4	-	-	16.1	4%	15.8	-	14.0	-	22.0	-	14.4	-	15.4	-	15.9
Mercury	mg/kg	0.16 ^A	0.13 ^B	-	0.0635	-	-	0.0620	2%	0.0647	-	0.0572	-	0.0761	-	0.0411	-	0.0443	-	0.0450
Thallium	mg/kg	1 ^A	n/v	-	0.228	-	-	0.242	nc	0.246	-	0.194	-	0.231	-	0.255	-	0.259	-	0.247
Vanadium	mg/kg	86 ^A	86 ^B	-	44.3	-	-	49.8	12%	46.5	-	33.3	-	32.2	-	48.0	-	45.6	-	49.7
Zinc	mg/kg	290 ^A	160 ^B	-	82.9	-	-	82.9	0%	82.2	-	59.8	-	74.6	-	63.7	-	66.4	-	77.8

See notes on last page

Table C-1b
Summary of Soil 2019 Analytical Results
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Sample Location				W2			W4		
Sample Date				10-Oct-19	10-Oct-19	11-Feb-20	9-Oct-19	9-Oct-19	11-Feb-20
Sample ID				19-W2-SS-CH-001	19-W2-SS-CH-001	Duplicate	19-W4-SS-CH-007	19-W4-SS-CH-007	Duplicate
Sample Depth				15 cm	15 cm	15 cm	15 cm	15 cm	15 cm
Sampling Company				STANTEC	STANTEC		STANTEC	STANTEC	
Laboratory				ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order				L2002997	L2387288	L2387288	L2002997	L2387288	L2387288
Laboratory Sample ID				L2387288-1	L2387288-1	WG3272809-3	L2387288-4	L2387288-4	WG3268526-3
Sample Type	Units	Ontario SCS	MOE *			Lab Replicate			Lab Replicate
General Chemistry									
Chloride	mg/kg	n/a ^A	35 ^B	-	<5.0	-	-	<5.0	-
Fluoride	mg/kg	n/v	84 ^B	-	3.49	3.62	-	1.45	1.33
Metals, Group 1									
Barium	mg/kg	210 ^A	170 ^B	-	59.6	-	-	94.3	-
Beryllium	mg/kg	2.5 ^A	1.1 ^B	-	0.59	-	-	0.98	-
Boron	mg/kg	36 ^A	30 ^B	-	7.6	-	-	16.3	-
Calcium	mg/kg	n/v	54,000 ^B	-	3,680	-	-	4,530	-
Chromium	mg/kg	67 ^A	58 ^B	-	20.3	-	-	32.8	-
Cobalt	mg/kg	19 ^A	16 ^B	-	7.11	-	-	8.66	-
Iron	mg/kg	n/v	36,000 ^B	-	17,700	-	-	24,000	-
Magnesium	mg/kg	n/v	19,000 ^B	-	3,710	-	-	6,370	-
Manganese	mg/kg	n/v	1,900 ^B	-	416	-	-	268	-
Molybdenum	mg/kg	2 ^A	0.984 ^B	-	1.87	-	-	1.50	-
Nickel	mg/kg	37 ^A	34 ^B	-	17.6	-	-	29.1	-
Phosphorus	mg/kg	n/v	830 ^B	-	484	-	-	989 ^B	-
Potassium	mg/kg	n/v	6,500 ^B	-	1,480	-	-	4,070	-
Silicon	mg/kg	n/v	-	325,000	-	-	344,000	-	-
Silver	mg/kg	0.5 ^A	0.27 ^B	-	<0.10	-	-	<0.10	-
Sodium	mg/kg	n/a ^A	690 ^B	-	52	-	-	64	-
Strontium	mg/kg	n/v	63 ^B	-	11.5	-	-	18.2	-
Sulfur	mg/kg	n/v	790 ^B	-	<1,000	-	-	<1,000	-
Titanium	mg/kg	n/v	5,500 ^B	-	139	-	-	112	-
Zirconium	mg/kg	n/v	n/v	-	1.8	-	-	3.3	-
Metals, Group 2									
Aluminum	mg/kg	n/v	30,000 ^B	-	14,800	-	-	23,300	-
Arsenic	mg/kg	11 ^A	11 ^B	-	5.91	-	-	5.22	-
Cadmium	mg/kg	1 ^A	0.7 ^B	-	0.447	-	-	0.472	-
Copper	mg/kg	62 ^A	46 ^B	-	12.2	-	-	23.3	-
Lead	mg/kg	45 ^A	34 ^B	-	14.4	-	-	15.4	-
Mercury	mg/kg	0.16 ^A	0.13 ^B	-	0.0471	-	-	0.0482	-
Thallium	mg/kg	1 ^A	n/v	-	0.202	-	-	0.277	-
Vanadium	mg/kg	86 ^A	86 ^B	-	35.1	-	-	42.7	-
Zinc	mg/kg	290 ^A	160 ^B	-	50.5	-	-	87.6	-

- Notes:**
- Ontario SCS Soil, Ground Water and Sediment Standards for Use under Part XV.I of the Environmental Protection Act (MOE, 2011) Site Condition Standards (SCS)
 - ^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)
 - * Results are only compared to the MOE OTR value in the absence of an Ontario SCS value
 - 6.5^A Concentration exceeds standard A.
 - 6.5^B Concentration exceeds standard B.
 - 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.
 - RPD Relative Percent Difference.
 - 61% RPD exceeds data quality objective of 40%.
 - nc RPD is not calculated if one or more values is non detect or if one or more values is less than five times the reportable detection limit.

Table C-1d
Summary of Agricultural Crops 2019 Analytical Results
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Sample Location		E1			E2							E5			E7					
Sample Date		9-Oct-19	9-Oct-19	9-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	9-Oct-19	9-Oct-19	9-Oct-19	1-Oct-19	1-Oct-19	1-Oct-19	
Sample ID		19-E1-SB-CH-042	19-E1-SB-CH-042	19-E1-SB-CH-042	19-E2-FC-CH-051	19-E2-FC-CH-051	19-E2-FC-CH-051	19-D6-FC-CH-207	19-D6-FC-CH-207	19-D6-FC-CH-207	Duplicate	19-E5-SB-CH-057	19-E5-SB-CH-057	19-E5-SB-CH-057	19-E7-SB-CH-300	19-E7-SB-CH-300	19-E7-SB-CH-300			
Sampling Company		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	ALS	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC			
Laboratory		ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS			
Laboratory Work Order		K2000799	L2002998	L2387288	K2000799	L2002998	L2387288	K2000799	L2002998	L2387288	L2387288-49	K2000799	L2002998	L2387288	K2000799	L2002998	L2387288-31			
Laboratory Sample ID		K2000799-011	L2387288-19	L2387288-19	K2000799-013	L2387288-23	L2387288-23	K2000799-028	L2387288-49	L2387288-49	WG3270945-2	K2000799-015	L2387288-26	L2387288-26	K2000799-018	L2387288-31	L2387288-31			
Sample Type	Units							Field Duplicate	Field Duplicate	Field Duplicate	Field Duplicate	Lab Replicate								
General Chemistry																				
Chloride	mg/kg	-	-	35 DM	-	-	436 DM	-	-	-	404 DM	-	-	-	-	62 DM	-	-	66 DM	
Fluoride	mg/kg	<40 BL	-	-	<40 BL	-	-	<40 BL	-	-	-	-	-	-	<40 BL	-	<40 BL	-	-	
Metals, Group 1																				
Barium	mg/kg	-	-	0.967	-	-	<0.050	-	-	-	nc	<0.050	nc	<0.05	-	-	0.469	-	-	0.901
Beryllium	mg/kg	-	-	<0.010	-	-	<0.010	-	-	-	nc	<0.010	nc	<0.01	-	-	<0.010	-	-	<0.010
Boron	mg/kg	-	-	40.1	-	-	3.1	-	-	-	nc	3.6	nc	2.5	-	-	39.4	-	-	33.2
Calcium	mg/kg	-	-	2,460	-	-	43	-	-	-	nc	53	nc	45	-	-	2,790	-	-	2,630
Chromium	mg/kg	-	-	<0.050	-	-	<0.050	-	-	-	nc	<0.050	nc	<0.05	-	-	<0.050	-	-	<0.050
Cobalt	mg/kg	-	-	0.058	-	-	<0.020	-	-	-	nc	<0.020	nc	<0.02	-	-	0.103	-	-	0.138
Iron	mg/kg	-	-	62.8	-	-	18.5	-	-	-	4%	19.3	4%	15.9	-	-	66.9	-	-	57.1
Magnesium	mg/kg	-	-	2,980	-	-	1,260	-	-	-	2%	1,240	2%	1,110	-	-	3,270	-	-	3,070
Manganese	mg/kg	-	-	30.6	-	-	3.82	-	-	-	11%	4.25	11%	3.49	-	-	24.9	-	-	25.9
Molybdenum	mg/kg	-	-	5.86	-	-	0.472	-	-	-	18%	0.394	18%	0.306	-	-	20.8	-	-	16.6
Nickel	mg/kg	-	-	4.15	-	-	0.24	-	-	-	nc	0.29	nc	0.22	-	-	1.23	-	-	1.05
Phosphorus	mg/kg	-	-	6,360	-	-	3,830	-	-	-	1%	3,860	1%	3,310	-	-	7,090	-	-	6,640
Potassium	mg/kg	-	-	18,600	-	-	4,860	-	-	-	2%	4,960	2%	3,980	-	-	20,500	-	-	20,100
Silicon	mg/kg	-	176	-	-	77.6	-	-	77.5	-	nc	-	nc	-	77.1	-	-	78.9	-	-
Silver	mg/kg	-	-	<0.0050	-	-	<0.0050	-	-	-	nc	<0.0050	nc	<0.005	-	-	<0.0050	-	-	<0.0050
Sodium	mg/kg	-	-	<20	-	-	<20	-	-	-	nc	<20	nc	<20	-	-	<20	-	-	<20
Strontium	mg/kg	-	-	1.97	-	-	0.095	-	-	-	nc	0.097	nc	0.077	-	-	2.12	-	-	3.93
Sulfur	mg/kg	-	-	3,710	-	-	1,030	-	-	-	5%	1,080	5%	850	-	-	4,220	-	-	3,520
Titanium	mg/kg	-	-	<0.1	-	-	<0.1	-	-	-	nc	<0.1	nc	<0.1	-	-	<0.1	-	-	<0.1
Zirconium	mg/kg	-	-	<0.20	-	-	<0.20	-	-	-	nc	<0.20	nc	<0.2	-	-	<0.20	-	-	<0.20
Metals, Group 2																				
Aluminum	mg/kg	-	-	<2.0	-	-	<2.0	-	-	-	nc	<2.0	nc	<2	-	-	<2.0	-	-	<2.0
Arsenic	mg/kg	-	-	<0.020	-	-	<0.020	-	-	-	nc	<0.020	nc	<0.02	-	-	<0.020	-	-	<0.020
Cadmium	mg/kg	-	-	0.0806	-	-	<0.0050	-	-	-	nc	<0.0050	nc	<0.005	-	-	0.0361	-	-	0.0587
Copper	mg/kg	-	-	13.0	-	-	1.24	-	-	-	2%	1.26	2%	1.03	-	-	14.9	-	-	10.1
Lead	mg/kg	-	-	<0.020	-	-	<0.020	-	-	-	nc	<0.020	nc	<0.02	-	-	<0.020	-	-	<0.020
Mercury	mg/kg	-	-	<0.0050	-	-	<0.0050	-	-	-	nc	<0.0050	nc	<0.005	-	-	<0.0050	-	-	<0.0050
Thallium	mg/kg	-	-	0.0023	-	-	<0.0020	-	-	-	nc	<0.0020	nc	<0.002	-	-	0.0036	-	-	<0.0020
Vanadium	mg/kg	-	-	<0.10	-	-	<0.10	-	-	-	nc	<0.10	nc	<0.1	-	-	<0.10	-	-	<0.10
Zinc	mg/kg	-	-	39.9	-	-	19.1	-	-	-	11%	21.4	11%	18.3	-	-	43.8	-	-	30.7

See notes on last page

Table C-1d
Summary of Agricultural Crops 2019 Analytical Results
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Sample Location		N2										N4			S1			S2		
Sample Date		8-Oct-19	8-Oct-19	8-Oct-19	8-Oct-19		8-Oct-19		8-Oct-19		8-Oct-19	8-Oct-19	8-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19	10-Oct-19
Sample ID		19-N2-SB-CH-021	19-N2-SB-CH-021	19-N2-SB-CH-021	19-D5-SB-CH-206		19-D5-SB-CH-206		19-D5-SB-CH-206	Duplicate	19-N4-SB-CH-027	19-N4-SB-CH-027	19-N4-SB-CH-027	19-S1-SB-CH-071	19-S1-SB-CH-071	19-S1-SB-CH-071	19-S2-SB-CH-077	19-S2-SB-CH-077	19-S2-SB-CH-077	
Sampling Company		STANTEC	STANTEC	STANTEC	STANTEC		STANTEC		STANTEC	ALS	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	
Laboratory		ALS	ALS	ALS	ALS		ALS		ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	ALS	
Laboratory Work Order		K2000799	L2002998	L2387288	K2000799		L2002998		L2387288	L2387288	K2000799	L2002998	L2387288	K2000799	L2002998	L2387288	K2000799	L2002998	L2387288	
Laboratory Sample ID		K2000799-006	L2387288-10	L2387288-10	K2000799-027	RPD (%)	L2387288-48	RPD (%)	L2387288-48	RPD (%)	WG3273887-2	K2000799-008	L2387288-13	L2387288-13	K2000799-020	L2387288-35	L2387288-35	K2000799-022	L2387288-38	
Sample Type	Units				Field Duplicate		Field Duplicate		Field Duplicate		Lab Replicate									
General Chemistry																				
Chloride	mg/kg	-	-	49 DM	-	-	-	-	51 DM	-	51	-	-	46 DM	-	-	66 DM	-	-	61 DM
Fluoride	mg/kg	<40 BL	-	-	<40 BL	-	-	-	-	-	-	<40 BL	-	-	<40 BL	-	-	<40 BL	-	-
Metals, Group 1																				
Barium	mg/kg	-	-	1.19	-	-	-	6%	1.12	6%	-	-	-	0.530	-	-	0.728	-	-	1.16
Beryllium	mg/kg	-	-	<0.010	-	-	-	nc	<0.010	nc	-	-	-	<0.010	-	-	<0.010	-	-	<0.010
Boron	mg/kg	-	-	36.0	-	-	-	0%	36.1	0%	-	-	-	33.1	-	-	34.1	-	-	35.5
Calcium	mg/kg	-	-	2,400	-	-	-	4%	2,500	4%	-	-	-	1,990	-	-	2,640	-	-	3,110
Chromium	mg/kg	-	-	<0.050	-	-	-	nc	<0.050	nc	-	-	-	<0.050	-	-	<0.050	-	-	<0.050
Cobalt	mg/kg	-	-	0.084	-	-	-	nc	0.084	nc	-	-	-	0.081	-	-	0.171	-	-	0.161
Iron	mg/kg	-	-	81.8	-	-	-	12%	91.9	12%	-	-	-	74.7	-	-	68.3	-	-	82.8
Magnesium	mg/kg	-	-	3,130	-	-	-	10%	3,470	10%	-	-	-	3,180	-	-	2,850	-	-	3,320
Manganese	mg/kg	-	-	26.8	-	-	-	7%	28.7	7%	-	-	-	25.0	-	-	25.9	-	-	31.6
Molybdenum	mg/kg	-	-	7.30	-	-	-	5%	7.68	5%	-	-	-	18.7	-	-	9.63	-	-	7.98
Nickel	mg/kg	-	-	3.30	-	-	-	7%	3.55	7%	-	-	-	2.03	-	-	1.80	-	-	1.53
Phosphorus	mg/kg	-	-	8,290	-	-	-	11%	9,240	11%	-	-	-	8,500	-	-	7,330	-	-	8,420
Potassium	mg/kg	-	-	24,500	-	-	-	13%	28,000	13%	-	-	-	23,000	-	-	21,000	-	-	25,200
Silicon	mg/kg	-	34.9	-	-	-	56.3	nc	-	nc	-	59.5	-	-	57.3	-	-	112	-	-
Silver	mg/kg	-	-	<0.0050	-	-	-	nc	<0.0050	nc	-	-	-	<0.0050	-	-	<0.0050	-	-	<0.0050
Sodium	mg/kg	-	-	<20	-	-	-	nc	<20	nc	-	-	-	<20	-	-	<20	-	-	<20
Strontium	mg/kg	-	-	1.84	-	-	-	0%	1.84	0%	-	-	-	1.62	-	-	2.35	-	-	3.39
Sulfur	mg/kg	-	-	4,730	-	-	-	8%	5,100	8%	-	-	-	4,700	-	-	3,900	-	-	4,380
Titanium	mg/kg	-	-	<0.1	-	-	-	nc	<0.1	nc	-	-	-	<0.1	-	-	<0.1	-	-	<0.1
Zirconium	mg/kg	-	-	<0.20	-	-	-	nc	<0.20	nc	-	-	-	<0.20	-	-	<0.20	-	-	<0.20
Metals, Group 2																				
Aluminum	mg/kg	-	-	<2.0	-	-	-	nc	<2.0	nc	-	-	-	<2.0	-	-	<2.0	-	-	<2.0
Arsenic	mg/kg	-	-	<0.020	-	-	-	nc	<0.020	nc	-	-	-	<0.020	-	-	<0.020	-	-	<0.020
Cadmium	mg/kg	-	-	0.0810	-	-	-	15%	0.0942	15%	-	-	-	0.0642	-	-	0.0537	-	-	0.0369
Copper	mg/kg	-	-	15.6	-	-	-	10%	17.3	10%	-	-	-	14.8	-	-	12.3	-	-	12.5
Lead	mg/kg	-	-	<0.020	-	-	-	nc	<0.020	nc	-	-	-	<0.020	-	-	<0.020	-	-	<0.020
Mercury	mg/kg	-	-	<0.0050	-	-	-	nc	<0.0050	nc	-	-	-	<0.0050	-	-	<0.0050	-	-	<0.0050
Thallium	mg/kg	-	-	<0.0020	-	-	-	nc	<0.0020	nc	-	-	-	<0.0020	-	-	<0.0020	-	-	<0.0020
Vanadium	mg/kg	-	-	<0.10	-	-	-	nc	<0.10	nc	-	-	-	<0.10	-	-	<0.10	-	-	<0.10
Zinc	mg/kg	-	-	45.3	-	-	-	7%	48.4	7%	-	-	-	42.6	-	-	34.9	-	-	38.2

See notes on last page

Table C-1d
Summary of Agricultural Crops 2019 Analytical Results
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Sample Location	Sample Date	S4			W2				W4		
		1-Oct-19 19-S4-SB-CH-095	1-Oct-19 19-S4-SB-CH-095	1-Oct-19 19-S4-SB-CH-095	10-Oct-19 19-W2-SB-CH-005	10-Oct-19 19-W2-SB-CH-005	10-Oct-19 19-W2-SB-CH-005	10-Oct-19 Duplicate	9-Oct-19 19-W4-SB-CH-011	9-Oct-19 19-W4-SB-CH-011	9-Oct-19 19-W4-SB-CH-011
Sample ID	Units	STANTEC ALS K2000799 K2000799-024	STANTEC ALS L2002998 L2387288-42	STANTEC ALS L2387288 L2387288-42	STANTEC ALS K2000799 K2000799-002	STANTEC ALS L2002998 L2387288-3	STANTEC ALS L2387288 L2387288-3	ALS L2387288 WG3273428-4 Lab Replicate	STANTEC ALS K2000799 K2000799-004	STANTEC ALS L2002998 L2387288-6	STANTEC ALS L2387288 L2387288-6
General Chemistry											
Chloride	mg/kg	-	-	104 DM	-	-	44 DM	45	-	-	38 DM
Fluoride	mg/kg	<40 BL	-	-	<40 BL	-	-	-	<40 BL	-	-
Metals, Group 1											
Barium	mg/kg	-	-	0.761	-	-	1.05	-	-	-	1.10
Beryllium	mg/kg	-	-	<0.010	-	-	<0.010	-	-	-	<0.010
Boron	mg/kg	-	-	33.5	-	-	32.4	-	-	-	34.0
Calcium	mg/kg	-	-	2,940	-	-	2,810	-	-	-	2,610
Chromium	mg/kg	-	-	<0.050	-	-	<0.050	-	-	-	<0.050
Cobalt	mg/kg	-	-	0.111	-	-	0.121	-	-	-	0.101
Iron	mg/kg	-	-	55.3	-	-	72.2	-	-	-	78.9
Magnesium	mg/kg	-	-	2,660	-	-	3,240	-	-	-	3,200
Manganese	mg/kg	-	-	24.6	-	-	28.7	-	-	-	24.0
Molybdenum	mg/kg	-	-	5.30	-	-	10.6	-	-	-	8.82
Nickel	mg/kg	-	-	1.66	-	-	1.49	-	-	-	3.50
Phosphorus	mg/kg	-	-	7,550	-	-	7,370	-	-	-	7,990
Potassium	mg/kg	-	-	21,200	-	-	23,900	-	-	-	23,400
Silicon	mg/kg	-	76.9	-	-	56.1	-	-	47.2	-	-
Silver	mg/kg	-	-	<0.0050	-	-	<0.0050	-	-	-	<0.0050
Sodium	mg/kg	-	-	<20	-	-	<20	-	-	-	<20
Strontium	mg/kg	-	-	3.41	-	-	2.35	-	-	-	2.28
Sulfur	mg/kg	-	-	3,790	-	-	4,210	-	-	-	4,820
Titanium	mg/kg	-	-	<0.1	-	-	<0.1	-	-	-	<0.1
Zirconium	mg/kg	-	-	<0.20	-	-	<0.20	-	-	-	<0.20
Metals, Group 2											
Aluminum	mg/kg	-	-	<2.0	-	-	<2.0	-	-	-	<2.0
Arsenic	mg/kg	-	-	<0.020	-	-	<0.020	-	-	-	<0.020
Cadmium	mg/kg	-	-	0.0223	-	-	0.0380	-	-	-	0.282
Copper	mg/kg	-	-	10.8	-	-	12.4	-	-	-	16.7
Lead	mg/kg	-	-	<0.020	-	-	<0.020	-	-	-	<0.020
Mercury	mg/kg	-	-	<0.0050	-	-	<0.0050	-	-	-	<0.0050
Thallium	mg/kg	-	-	<0.0020	-	-	<0.0020	-	-	-	<0.0020
Vanadium	mg/kg	-	-	<0.10	-	-	<0.10	-	-	-	<0.10
Zinc	mg/kg	-	-	35.3	-	-	34.9	-	-	-	51.7

Notes:

- 15.2 Measured concentration.
- <0.03 Analyte was not detected at a concentration greater than the laboratory reporting limit.
- Parameter not analyzed / not available.
- BL There is a potential low bias in this matrix, see narrative for more information
- DM Detection limit adjusted due to sample matrix effects.
- RPD Relative Percent Difference.
- 61%** RPD exceeds data quality objective of 60%.
- nc RPD is not calculated if one or more values is non detect or if one or more values is less than five times the reportable detection limit.

Table C-1e
Summary of Quality Control 2019 Analytical Results
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Sample Location		Field Blank (E1)	Field Blank (E6)	Rinsate Blank (E1)	Rinsate Blank (E6)	Trip Blank (E1)	Trip Blank (E6)
Sample Date		9-Oct-19	14-Aug-19	9-Oct-19	14-Aug-19	9-Oct-19	14-Aug-19
Sample ID		19-E1-FB-CH-213	19-E6-FB-CH-211	19-E1-RB-CH-216	19-E6-RB-CH-215	19-E1-TB-CH-221	19-E6-TB-CH-220
Sampling Company		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory		ALS	ALS	ALS	ALS	ALS	ALS
Laboratory Work Order		L2387288	L2387288	L2387288	L2387288	L2387288	L2387288
Laboratory Sample ID		L2387288-51	L2387288-50	L2387288-53	L2387288-52	L2387288-55	L2387288-54
Sample Type	Units	Field Blank	Field Blank	Material Rinse Blank	Material Rinse Blank	Trip Blank	Trip Blank
Metals, Group 1							
Barium	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Beryllium	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Boron	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Calcium	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chromium	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Iron	mg/L	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Magnesium	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Manganese	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Molybdenum	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nickel	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Potassium	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silicon	mg/L	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
Silver	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Sulfur	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Titanium	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Metals, Group 2							
Aluminum	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Arsenic	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cadmium	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Copper	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Lead	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Mercury	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Thallium	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Vanadium	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc	mg/L	0.0113 RV	<0.0050	<0.0050	0.0092 RV	<0.0050	<0.0050

Notes:

- 15.2 Measured concentration.
- <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 2019 Organic Analytical Results
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Notes:

15.2	Measured concentration.
<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.
61%	RPD exceeds data quality objective of 60%.
nc	RPD is not calculated if one or more values is non detect or if one or more values is less than five times the reportable detection limit.

Table C-2b
Summary of Soil 2019 Organic Analytical Results
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Sample Location	Sample Date	Sample ID	Sample Depth	Sampling Company	Laboratory	Laboratory Work Order	W2			W4		
							10-Oct-19 19-W2-SS-CH-001	10-Oct-19 Duplicate	10-Oct-19 Duplicate	9-Oct-19 19-W4-SS-CH-007	9-Oct-19 Duplicate	
Laboratory Sample ID	Units	Ontario SCS Table 1 Agr	Rural OTR	Rural ULN	L2387288-1	WG3253377-4	WG3253380-3	L2387288-4	WG3273551-3			
Sample Type		A	B	C		Lab Replicate	Lab Replicate		Lab Replicate			
General Chemistry												
Moisture Content	%	n/v	n/v	n/v	17.1, 16.7	-	16.5	22.2, 22.5	22.1			
Dioxins/Furans (PCDD/DF)												
Tetrachlorodibenzofuran, 2,3,7,8-	pg/g	n/v	n/v	n/v	0.295 XM JA	0.32 JA	-	0.530 XM JA	-			
Tetrachlorodibenzo-p-Dioxin, 2,3,7,8-	pg/g	n/v	0.9	n/v	0.226 XM JA	0.225 XM JA	-	0.600 XM JA	-			
Pentachlorodibenzofuran, 1,2,3,7,8- (PeCDF)	pg/g	n/v	n/v	n/v	0.252 XM JA	0.216 XM JA	-	0.339 XM JA	-			
Pentachlorodibenzofuran, 2,3,4,7,8-	pg/g	n/v	n/v	n/v	0.720 JA	0.634 JA	-	0.687 JA	-			
Pentachlorodibenzo-p-Dioxin, 1,2,3,4,7,8-	pg/g	n/v	n/v	n/v	0.244 XM JA	0.229 XM JA	-	0.411 XM JA	-			
Octachlorodibenzofuran (OCDF)	pg/g	n/v	n/v	n/v	2.91 JA	2.52 JA	-	16.1	-			
Octachlorodibenzo-p-dioxin	pg/g	n/v	n/v	n/v	37.4	31.7	-	116	-			
Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	pg/g	n/v	n/v	n/v	2.30 JA	1.94 XM JA	-	8.93	-			
Heptachlorodibenzofuran, 1,2,3,4,7,8,9-	pg/g	n/v	n/v	n/v	0.160 XM JA EN	0.122 JA	-	0.386 JA	-			
Heptachlorodibenzo-p-Dioxin, 1,2,3,4,6,7,8-	pg/g	n/v	n/v	n/v	6.75	6.04	-	25.6	-			
Hexachlorodibenzofuran, 1,2,3,4,7,8-	pg/g	n/v	n/v	n/v	0.476 XM JA	0.384 XM JA B	-	0.588 XM JA	-			
Hexachlorodibenzofuran, 1,2,3,6,7,8-	pg/g	n/v	n/v	n/v	0.310 XM JA EN	0.289 XM JA	-	0.476 XM JA	-			
Hexachlorodibenzofuran, 1,2,3,7,8,9-	pg/g	n/v	n/v	n/v	0.16 XM JA EN	0.113 JA	-	0.15 XM JA	-			
Hexachlorodibenzofuran, 2,3,4,6,7,8-	pg/g	n/v	n/v	n/v	0.565 XM JA	0.512 JA	-	0.794 JA	-			
Hexachlorodibenzo-p-Dioxin, 1,2,3,4,7,8-	pg/g	n/v	n/v	n/v	0.258 XM JA	0.230 XM JA	-	0.397 JA	-			
Hexachlorodibenzo-p-Dioxin, 1,2,3,6,7,8-	pg/g	n/v	n/v	n/v	0.386 XM JA	0.399 XM JA	-	1.28 JA	-			
Hexachlorodibenzo-p-Dioxin, 1,2,3,7,8,9-	pg/g	n/v	n/v	n/v	0.400 XM JA EN	0.440 XM JA	-	0.891 XM JA	-			
Total Tetrachlorodibenzofuran	pg/g	n/v	12	n/v	7.06	5.15	-	10.9	-			
Total Tetrachlorodibenzo-p-dioxin	pg/g	n/v	6.6	n/v	0.226	0.958	-	2.42	-			
Total Pentachlorodibenzofuran	pg/g	n/v	19	n/v	11.2	9.74	-	10.3	-			
Total Pentachlorodibenzo-p-dioxin	pg/g	n/v	16	n/v	1.87	2.48	-	4.06	-			
Total Hexachlorodibenzofuran	pg/g	n/v	28	n/v	5.48	4.58	-	10.1	-			
Total Hexachlorodibenzo-p-dioxin	pg/g	n/v	13	n/v	4.99	4.20	-	9.57	-			
Total Heptachlorodibenzofuran	pg/g	n/v	32	n/v	3.68	3.20	-	20.4	-			
Total Heptachlorodibenzo-p-dioxin	pg/g	n/v	55	n/v	13.0	11.4	-	40.3	-			
Total HpCDD # Homologues	none	n/v	n/v	n/v	2	-	-	2	-			
Total HpCDF # Homologues	none	n/v	n/v	n/v	2	-	-	3	-			
Total HxCDD # Homologues	none	n/v	n/v	n/v	4	-	-	5	-			
Total HxCDF # Homologues	none	n/v	n/v	n/v	7	-	-	8	-			
Total PeCDD # Homologues	none	n/v	n/v	n/v	5	-	-	5	-			
Total PeCDF # Homologues	none	n/v	n/v	n/v	11	-	-	10	-			
Total TCDD # Homologues	none	n/v	n/v	n/v	1	-	-	5	-			
Total TCDF # Homologues	none	n/v	n/v	n/v	11	-	-	15	-			
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	7	4.8	n/v	0.994	-	-	2.13	-			
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	7	4.8	n/v	1.08	-	-	2.13	-			
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	7	4.8	n/v	1.08	-	-	2.13	-			
Organochlorinated pesticides (OCP)												
Aldrin	ng/g	50	1 _p	n/v	-	-	-	-	-			
BHC, alpha-	ng/g	n/v	n/v	n/v	-	-	-	-	-			
BHC, beta-	ng/g	n/v	n/v	n/v	-	-	-	-	-			
BHC, delta-	ng/g	n/v	n/v	n/v	-	-	-	-	-			
Chlordane, alpha-	ng/g	n/v	2 _p	n/v	-	-	-	-	-			
Chlordane, trans- (gamma-Chlordane)	ng/g	n/v	n/v	n/v	-	-	-	-	-			
DDD (p,p'-DDD)	ng/g	50 _{s4}	n/v	n/v	-	-	-	-	-			
DDE (p,p'-DDE)	ng/g	50 _{s4}	n/v	n/v	-	-	-	-	-			
DDT (p,p'-DDT)	ng/g	78 _{s4}	75	n/v	-	-	-	-	-			
Dieldrin	ng/g	50	4 _p	n/v	-	-	-	-	-			
Endosulfan I	ng/g	n/v	n/v	n/v	-	-	-	-	-			
Endosulfan II	ng/g	n/v	n/v	n/v	-	-	-	-	-			
Endosulfan Sulfate	ng/g	n/v	n/v	n/v	-	-	-	-	-			
Endrin	ng/g	40	4 _p	n/v	-	-	-	-	-			
Endrin Aldehyde	ng/g	n/v	n/v	n/v	-	-	-	-	-			
Heptachlor	ng/g	50	1 _p	n/v	-	-	-	-	-			
Heptachlor Epoxide	ng/g	50	1 _p	n/v	-	-	-	-	-			
Lindane (Hexachlorocyclohexane, gamma)	ng/g	10	1 _p	n/v	-	-	-	-	-			
Methoxychlor (4,4'-Methoxychlor)	ng/g	50	5 _p	n/v	-	-	-	-	-			
Mirex	ng/g	n/v	n/v	n/v	-	-	-	-	-			
Polychlorinated biphenyls (PCB)												
Polychlorinated Biphenyls (PCBs)	ng/g	300 _{s14}	15 _s	n/v	-	-	-	-	-			

Notes:

- Ontario SCS^A Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act (MOE, 2011) Site Condition Standards (SCS)
- Table 1 - Agricultural or Other Property Use
- MOE^B Ontario Ministry of the Environment
- Ontario Typical Range (OTR) values for Rural Parks, Ontario Ministry of Environment and Energy (OMEE, 1993)
- Ontario Ministry of the Environment Rural "upper limit of normal" contaminant guidelines for phytotoxicology samples (1989)
- Results are only compared to the Rural OTR or Rural ULN values in the absence of an Ontario SCS value
- 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.
- ^p Provisional
- ^{s4} Standard is applicable to total sum of isomers, individual isomers must be summed for comparison.
- ^{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.
- 61% RPD exceeds data quality objective of 40%.
- nc RPD is not calculated if one or more values is non detect or if one or more values is less than five times the reportable detection limit.

Table C-2c
Summary of Sediment 2019 Organic Analytical Results
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Sample Location				E2		N2		N5	S1	S4
Sample Date				10-Oct-19	8-Oct-19	8-Oct-19		14-Aug-19	10-Oct-19	9-Oct-19
Sample ID				19-E2-SD-CH-045	19-N2-SD-CH-015	19-D4-SD-CH-204		19-N5-SD-CH-031	19-S1-SD-CH-065	19-S4-SD-CH-089
Sampling Company				STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC
Laboratory				ALS	ALS	ALS		ALS	ALS	ALS
Laboratory Work Order		Ontario SCS	PSQG	L2387288	L2387288	L2387288		L2387288	L2387288	L2387288
Laboratory Sample ID		Table 1	Table 1 - LEL	L2387288-21	L2387288-8	L2387288-47	RPD	L2387288-15	L2387288-33	L2387288-40
Sample Type	Units	A	B			Field Duplicate	(%)			
General Chemistry										
Moisture Content	%	n/v	n/v	24.0, 24.2	21.1, 21.2	26.1, 19.4	-	65.4	29.4	41.0
Organochlorinated pesticides (OCP)										
Aldrin	ng/g	2	n/v	<0.0023	<0.0015	<0.0012	nc	-	-	-
BHC, alpha-	ng/g	n/v	n/v	<0.011	<0.011	<0.0099	nc	-	-	-
BHC, beta-	ng/g	n/v	n/v	<0.015	<0.014	<0.013	nc	-	-	-
BHC, delta-	ng/g	n/v	n/v	<0.017	<0.015	<0.014	nc	-	-	-
Chlordane, alpha-	ng/g	n/v	n/v	<0.010	<0.015	<0.0070	nc	-	-	-
Chlordane, trans- (gamma-Chlordane)	ng/g	n/v	n/v	<0.011	<0.016	<0.0073	nc	-	-	-
DDD (p,p'-DDD)	ng/g	8 _{s4}	n/v	<0.013	0.0210 XM JA EN	<0.0040	nc	-	-	-
DDE (p,p'-DDE)	ng/g	5 _{s4}	n/v	0.0187 XM JA	0.0404 XM JA	<0.0045	nc	-	-	-
DDT (p,p'-DDT)	ng/g	7 _{s4}	n/v	<0.017	0.012 XM JA EN	<0.0037	nc	-	-	-
Dieldrin	ng/g	2	n/v	0.0100 XM JA EN	0.0084 XM JA EN	<0.0050 XM	nc	-	-	-
Endosulfan I	ng/g	n/v	n/v	<0.011	<0.0082	<0.0044	nc	-	-	-
Endosulfan II	ng/g	n/v	n/v	<0.037 XM	<0.020 XM	0.0085 XM JA EN	nc	-	-	-
Endosulfan Sulfate	ng/g	n/v	n/v	<0.0043	<0.0053	<0.0033	nc	-	-	-
Endrin	ng/g	3	n/v	<0.020 XM	<0.019 XM	<0.015 XM	nc	-	-	-
Endrin Aldehyde	ng/g	n/v	n/v	<0.011	<0.011	<0.0089	nc	-	-	-
Heptachlor	ng/g	n/v	n/v	0.00470 XM JA EN	0.00180 XM JA EN	<0.00051 EN JA XM	nc	-	-	-
Heptachlor Epoxide	ng/g	5	n/v	0.0045 XM JA EN	<0.0032 XM	<0.0015	nc	-	-	-
Lindane (Hexachlorocyclohexane, gamma)	ng/g	n/v	n/v	<0.015	<0.014	<0.013	nc	-	-	-
Methoxychlor (4,4'-Methoxychlor)	ng/g	n/v	n/v	<0.0095	<0.013	<0.0032	nc	-	-	-
Mirex	ng/g	n/v	n/v	<0.00057	<0.00069	<0.00039	nc	-	-	-
Polychlorinated biphenyls (PCB)										
Polychlorinated Biphenyls (PCBs)	ng/g	70 _{s14}	n/v	<0.013	0.363	<0.013	nc	-	-	-

Notes:

Ontario SCS	Soil, Ground Water and Sediment Standards for Use under Part XV.I of the Environmental Protection Act (MOE, 2011) Site Condition Standards (SCS)
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
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.
s4	Standard is applicable to total sum of isomers, individual isomers must be summed for comparison.
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.
61%	RPD exceeds data quality objective of 40%.
nc	RPD is not calculated if one or more values is non detect or if one or more values is less than five times the reportable detection limit.

Table C-2d
Summary of Agricultural Crop 2019 Organic Analytical Results
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Notes:
15.2 Measured concentration.
<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.
61% RPD exceeds data quality objective of 60%.
nc RPD is not calculated if one or more values is non detect or if one or more values is less than five times the reportable detection limit.

**Table C-3: Concentrations of Analytes in Environmental Media That Exceeded Upper Control Limits on a Site-Specific Basis
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year**

Analyte Group Number	Analyte	Matrix	Site	Sample ID	Sample Type	Detected Conc. (mg/kg)	MDL (mg/kg)	Value Compared to UL18 (mg/kg)	UL18 (mg/kg)	Conc. as % of UL18	LL18 (mg/kg)	Rural OTR98 MOE 2011 (mg/kg)	Rural ULN (mg/kg)	MOE O. Reg. 153/04 Table 1 Sediment (1) (mg/kg)	PSQG - Table 1 - LEL (mg/kg)	MOE O. Reg. 153/04 Table 1 Agricultural/ Other Property Use	Exceedance
Group1	Boron	SB	E1	19-E1-SB-CH-042	N	40.1	1.0	40.1	38	106	20						>UL18
Group1	Boron	SB	E5	19-E5-SB-CH-057	N	39.4	1.0	39.4	35	111	18						>UL18
Group1	Boron	SB	N2	19-N2-SB-CH-021	N	36	1.0	36	35	102	18						>UL18
Group1	Boron	SB	N4	19-N4-SB-CH-027	N	33.1	1.0	33.1	29	113	15						>UL18
Group1	Boron	SB	S2	19-S2-SB-CH-077	N	35.5	1.0	35.5	35	101	18						>UL18
Group1	Calcium	SD	S1	19-S1-SD-CH-065	N	77000	50	77000	74399	103	17516						>UL18
Group1	Calcium	SS	S4	19-S4-SS-CH-087	N	10900	50	10900	6026	181	2704	54000					>UL18
Group1	Calcium	SB	S2	19-S2-SB-CH-077	N	3110	20	3110	3000	104	1192						>UL18
Group1	Chloride	SS	E2	19-E2-SS-CH-043	N		5.0	5.0	4.8	103	1	35					>UL18
Group1	Chloride	SS	W4	19-W4-SS-CH-007	N		5.0	5.0	4.6	109	1	35					>UL18
Group1	Cobalt	SB	S1	19-S1-SB-CH-071	N	0.171	0.020	0.171	0.12	137	0						>UL18
Group1	Cobalt	SB	S2	19-S2-SB-CH-077	N	0.161	0.020	0.161	0.13	127	0						>UL18
Group1	Magnesium	SB	E1	19-E1-SB-CH-042	N	2980	2.0	2980	2671	112	1518						>UL18
Group1	Magnesium	SB	E5	19-E5-SB-CH-057	N	3270	2.0	3270	2758	119	1567						>UL18
Group1	Magnesium	SB	N2	19-N2-SB-CH-021	N	3130	2.0	3130	2885	108	1639						>UL18
Group1	Magnesium	SB	N4	19-N4-SB-CH-027	N	3180	2.0	3180	2916	109	1657						>UL18
Group1	Magnesium	SB	S1	19-S1-SB-CH-071	N	2850	2.0	2850	2819	101	1602						>UL18
Group1	Magnesium	SB	S2	19-S2-SB-CH-077	N	3320	2.0	3320	2686	124	1526						>UL18
Group1	Magnesium	SB	W2	19-W2-SB-CH-005	N	3240	2.0	3240	2698	120	1533						>UL18
Group1	Magnesium	SB	W4	19-W4-SB-CH-011	N	3200	2.0	3200	3155	101	1793						>UL18
Group1	Manganese	NG	E5	19-E5-NG-CH-055	N	176	0.050	176	56	315	17		50				>UL18, >ULN
Group1	Manganese	NG	N2	19-N2-NG-CH-019	N	86.4	0.050	86.4	74	117	22		50				>UL18, >ULN
Group1	Manganese	NG	N4	19-N4-NG-CH-025	N	86	0.050	86	66	129	20		50				>UL18, >ULN
Group1	Manganese	NG	W4	19-W4-NG-CH-009	N	90.1	0.050	90.1	72	125	22		50				>UL18, >ULN
Group1	Manganese	SB	E1	19-E1-SB-CH-042	N	30.6	0.050	30.6	28	107	12						>UL18
Group1	Manganese	SB	S2	19-S2-SB-CH-077	N	31.6	0.050	31.6	29	111	12						>UL18
Group1	Manganese	SB	S4	19-S4-SB-CH-095	N	24.6	0.050	24.6	23	105	10						>UL18
Group1	Molybdenum	SD	N5	19-N5-SD-CH-031	N	5.98	0.10	5.98	5.0	121	1						>UL18
Group1	Nickel	SB	E1	19-E1-SB-CH-042	N	4.15	0.20	4.15	2.7	152	1						>UL18
Group1	Phosphorus	NG	S4	19-S4-NG-CH-093	N	4150	10	4150	3774	110	1520						>UL18
Group1	Phosphorus	SS	S4	19-S4-SS-CH-087	N	771	50	771	748	103	395	830					>UL18
Group1	Phosphorus	FC	E2	19-E2-FC-CH-051	N	3830	10	3830	3468	110	1321						>UL18
Group1	Phosphorus	SB	N2	19-N2-SB-CH-021	N	8290	10	8290	7407	112	2957						>UL18
Group1	Phosphorus	SB	S2	19-S2-SB-CH-077	N	8420	10	8420	7486	112	2988						>UL18
Group1	Phosphorus	SB	S4	19-S4-SB-CH-095	N	7550	10	7550	7066	107	2821						>UL18
Group1	Potassium	SB	N2	19-N2-SB-CH-021	N	24500	20	24500	23588	104	12553						>UL18
Group1	Potassium	SB	S2	19-S2-SB-CH-077	N	25200	20	25200	22075	114	11748						>UL18
Group1	Potassium	SB	W2	19-W2-SB-CH-005	N	23900	20	23900	21028	114	11191						>UL18
Group1	Silicon	SS	W4	19-W4-SS-CH-007	N	344000		344000	338641	102	251920						>UL18
Group1	Strontium	SS	S4	19-S4-SS-CH-087	N	33.7	0.50	33.7	30	111	13	63					>UL18
Group1	Sulfur	SS	E1	19-E1-SS-CH-037	N		1000	1000	610	164	141	790	1000				>UL18, >OTR
Group1	Sulfur	SS	E2	19-E2-SS-CH-043	N		1000	1000	771	130	178	790	1000				>UL18, >OTR
Group1	Sulfur	SS	E5	19-E5-SS-CH-053	N		1000	1000	512	195	118	790	1000				>UL18, >OTR
Group1	Sulfur	SS	E6	19-E6-SS-CH-059	N		1000	1000	763	131	176	790	1000				>UL18, >OTR
Group1	Sulfur	SS	N2	19-N2-SS-CH-013	N		1000	1000	643	155	148	790	1000				>UL18, >OTR
Group1	Sulfur	SS	N4	19-N4-SS-CH-023	N		1000	1000	546	183	126	790	1000				>UL18, >OTR
Group1	Sulfur	SS	S1	19-S1-SS-CH-063	N		1000	1000	546	183	126	790	1000				>UL18, >OTR
Group1	Sulfur	SS	S2	19-S2-SS-CH-073	N		1000	1000	479	209	110	790	1000				>UL18, >OTR
Group1	Sulfur	SS	S4	19-S4-SS-CH-087	N		1000	1000	406	246	94	790	1000				>UL18, >OTR
Group1	Sulfur	SS	W2	19-W2-SS-CH-001	N		1000	1000	536	186	124	790	1000				>UL18, >OTR
Group1	Sulfur	SS	W4	19-W4-SS-CH-007	N		1000	1000	693	144	160	790	1000				>UL18, >OTR

See notes on last page.

Table C-3: Concentrations of Analytes in Environmental Media That Exceeded Upper Control Limits on a Site-Specific Basis
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Analyte Group Number	Analyte	Matrix	Site	Sample ID	Sample Type	Detected Conc. (mg/kg)	MDL (mg/kg)	Value Compared to UL18 (mg/kg)	UL18 (mg/kg)	Conc. as % of UL18	LL18 (mg/kg)	Rural OTR98 MOE 2011 (mg/kg)	Rural ULN (mg/kg)	MOE O. Reg. 153/04 Table 1 Sediment (1) (mg/kg)	PSQG - Table 1 - LEL (mg/kg)	MOE O. Reg. 153/04 Table 1 Agricultural/ Other Property Use	Exceedance
Group2	Cadmium	NG	E5	19-E5-NG-CH-055	N	0.275	0.0050	0.275	0.21	129	0		0.5				>UL18
Group2	Cadmium	NG	E6	19-E6-NG-CH-061	N	0.981	0.0050	0.981	0.36	274	0		0.5				>UL18, >ULN
Group2	Cadmium	SB	E1	19-E1-SB-CH-042	N	0.0806	0.0050	0.0806	0.07	112	0						>UL18
Group2	Cadmium	SB	W4	19-W4-SB-CH-011	N	0.282	0.0050	0.282	0.12	231	0						>UL18
Group2	Lead	NG	E5	19-E5-NG-CH-055	N	1.57	0.020	1.57	0.72	218	0		20				>UL18
Group2	Lead	NG	E6	19-E6-NG-CH-061	N	6.94	0.020	6.94	1.7	404	0		20				>UL18
Group2	Lead	NG	S2	19-S2-NG-CH-075	N	0.739	0.020	0.739	0.66	113	0		20				>UL18
Group2	Zinc	NG	N4	19-N4-NG-CH-025	N	57.4	0.50	57.4	44	130	15		40				>UL18, >ULN

- Notes:
- Rural OTR98 Rural parkland Ontario Typical Range
 - Rural ULN Rural Upper Limit of the Normal
 - MOE O. Reg 153/04 Table 1 Ontario Regulation 153/04 Table 1 site condition standards
 - PSQG Provincial Sediment Quality Guideline
 - MDL Method Detection Limit
 - UL18 Upper Limit 2018
 - LL18 Lower Limit 2018
 - SS Soil
 - NG Natural grasses
 - SB Soybean
 - N/A Not applicable
 - N/V No value

**Table C-4: List of Sites and Matrices Where the Concentrations of Analytes in Environmental Media Exceeded Upper Control Limits on a Site-Specific Basis
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year**

Site	FC	NG	SB	SD	SS	Total Exceedances of UL18
E1	N/A	0	Boron, Cadmium , Magnesium, Manganese, Nickel	N/A	Sulfur	6
E2	Phosphorus	0	N/A	0	Chloride, Sulfur	3
E5	N/A	Cadmium, Lead , Manganese	Boron, Magnesium	N/A	Sulfur	6
E6	N/A	Cadmium, Lead	N/A	N/A	Sulfur	3
N2	N/A	Manganese	Boron, Magnesium, Phosphorus, Potassium	0	Sulfur	6
N4	N/A	Manganese, Zinc	Boron, Magnesium	N/A	Sulfur	5
N5	N/A	0	N/A	Molybdenum	0	1
S1	N/A	0	Cobalt, Magnesium	Calcium	Sulfur	4
S2	N/A	Lead	Boron, Calcium, Cobalt, Magnesium, Manganese, Phosphorus, Potassium	N/A	Sulfur	9
S4	N/A	Phosphorus	Manganese, Phosphorus	0	Calcium, Phosphorus, Strontium, Sulfur	7
W2	N/A	0	Magnesium, Potassium	N/A	Sulfur	3
W4	N/A	Manganese	Cadmium , Magnesium	N/A	Chloride, Silicon, Sulfur	6
Total	1	11	28	2	17	59

Notes:
 N/A Not Available
 Chloride Group 1 Analyte
 Mercury Group 2 Analyte



**Table C-5: Inorganic Analytes Where Concentrations of Analytes in Environmental Media Exceeded Upper Control Limits on a Site-Wide Basis
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year**

Analyte Group Number	Analyte	Matrix	No. Samples (n)	MDL (mg/kg)	Mean Conc. (mg/kg)	LL18 (mg/kg)	UL18 (mg/kg)	Conc. as % of UL18	Rural ULN (mg/kg)	Exceedances
Group1	Magnesium	SB	10	2.0	3107.0	1598.6	2813.4	110	n/v	>UL18
Group1	Phosphorus	SB	10	10	7601.5	3020.6	7567.1	100	n/v	>UL18
Group2	Cadmium	NG	13	0.0050	0.2	0.0	0.2	109	0.5	>UL18
Group2	Lead	NG	13	0.020	1.0	0.1	0.7	141	20	>UL18

Notes:

Rural ULN Rural Upper Limit of the Normal
MDL Method Detection Limit
UL18 Upper Limit 2018
LL18 Lower Limit 2018
NG Natural grasses
n/v No value

Table C-6
Site-Wide Trend Lines for Inorganic Analytes (p<0.003)
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Analyte	Matrix	Trend from 2019 Field Year	Trend from 2016 Field Year	Trend from 2013 Field Year
Aluminum	SD	Increasing	Increasing	Increasing
	SS	Increasing	No trend	Increasing
Arsenic	SD	Increasing	No trend	No trend
	SS	Increasing	Increasing	Increasing
Barium	NG	Decreasing	No trend	Increasing
	SD	Increasing	Increasing	Increasing
Beryllium	SD	Increasing	Increasing	Increasing
Boron	SD	Increasing	No trend	Increasing
Cadmium	NG	Decreasing	No trend	Increasing
Calcium	FC	Decreasing	No trend	No trend
	SB	Increasing	Increasing	No trend
	SS	Increasing	Increasing	Increasing
Chloride	NG	Increasing	No trend	Increasing
	SB	Increasing	Decreasing	No trend
Chromium	NG	Decreasing	No trend	No trend
	SD	Increasing	No trend	No trend
	SS	Increasing	Increasing	Increasing
Iron	SD	Increasing	Increasing	Increasing
Magnesium	NG	Increasing	Increasing	Increasing
	SB	Increasing	Increasing	No trend
	SS	Increasing	Increasing	Increasing
Manganese	NG	Increasing	No trend	Increasing
	SB	Increasing	No trend	No trend
	SS	Increasing	Increasing	Increasing
Mercury	NG	Decreasing	Decreasing	Decreasing
Molybdenum	NG	Increasing	Increasing	Increasing
	SD	Increasing	No trend	No trend
	SS	Increasing	Increasing	No trend
Phosphorus	SB	Increasing	Increasing	No trend
	SD	Increasing	Increasing	Increasing
	SS	Increasing	Increasing	Increasing
Potassium	SB	Increasing	No trend	Increasing
	SD	Increasing	Increasing	Increasing
	SS	Increasing	No trend	Increasing
Silicon	FC	Decreasing	Decreasing	No trend
	NG	Decreasing	Decreasing	No trend
	SB	Decreasing	Decreasing	No trend
Sodium	SD	Increasing	Increasing	Increasing
	SS	Decreasing	Decreasing	Increasing
Strontium	SB	Increasing	No trend	Increasing
	SS	Increasing	Increasing	Increasing
Sulfur	SB	Increasing	Increasing	No trend
	SS	Increasing	No trend	No trend
Thallium	SD	Decreasing	Decreasing	Decreasing
	SS	Decreasing	Decreasing	Decreasing
Vanadium	SD	Increasing	Increasing	Increasing
	SS	Increasing	Increasing	Increasing
Zinc	SD	Increasing	Increasing	Increasing

**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix D Photo Log
February 8, 2021

Appendix D PHOTO LOG





Photo 1: Soybean collection area at Site E7.



Photo 2: Collecting soil samples at Site N4.



Photo 3: Sediment sampling area at Site N2.



Photo 4: Collecting soybean samples at Site E1.



Photo 5: Collecting soil samples at Site E1.



Photo 6: Collecting soil samples at Site E5.

Filepath:\ea0220-pblss01\work_group\01221\active\122160003\2019_field_year\05_report_deliv\draft_doc\app_d_photo log\pr_122160003_2019-field-yr_3_20200902.docx





Photo 7: Collecting soil samples at Site S4.



Photo 8: Soybean collection area at Site W2.



Photo 9: Collecting soil samples at Site W2.



Photo 10: Collecting sediment samples at Site S1.



Photo 11: Field corn collection area at Site E2.



Photo 12: Soybean collection area at Site S2.

Filepath:\ea0220-pplss01\work_group\01221\active\122160003\2019_field_year\05_report_deliv\draft_doc\app_d_photo log\pr_122160003_2019-field-yr_3_20200902.docx





Photo 133: Natural Grass collection area at Site E7.



Photo 14: Collecting soil samples at Site W4.



Photo 15: Natural Grass collection area at Site E6.



Photo 16: Natural Grass collection area at Site N5.

**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

**Appendix E ASSESSMENT OF APPROPRIATE START DATE FOR
STATISTICAL ANALYSIS**



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

E.1 RATIONALE AND DISCUSSION

As noted in prior reports, RDLs have shifted since 1991 for certain analyte-matrix pairs due to changes in analytical methods. In most cases, RDLs have decreased because of increased sensitivity of the analytical method. However, in other cases, RDLs have increased, generally as a trade-off for greater sensitivity for other analytes. For analyte-matrix pairs that have large proportions of non-detect data, these changes in RDL can have major impacts on statistical results for analyses that consider all data collected throughout the Biomonitoring Program (e.g., linear regressions and calculations of upper and lower limits).

Therefore, prior to analyses carried out in the present report, analytical data were reviewed for each analyte-matrix pair to determine the appropriate start date for statistical analyses. To facilitate this review, scatterplots of available analytical data for these analyte-matrix pairs since 1991 were plotted on a Site-wide basis. The plots for inorganic analytes are provided in **Section E.2** of this appendix and the plots for organic analytes are provided in **Section E.4** of this appendix. As noted elsewhere, values reported as less than the RDL were assigned the full RDL value in these plots. As such, areas of these graphs with points that form a horizontal line are indicative of several years of data points reported as less than the RDL with a stable RDL. Therefore, a visual analysis was applied to identify datasets where results over time appear to be influenced by instability in the analytical method rather than actual meaningful changes in measured analyte concentrations and the appropriate start date was identified accordingly. For example, see the scatterplot for aluminum in soybean in **Section E.2.5** of this appendix. In this dataset, reported values were largely less than the RDL, but the RDL has fluctuated from 30 mg/kg from 1991 to 2001, down to 10 mg/kg in 2001 to 2002, further down to 4 mg/kg in 2003 and 2004, and then back up to 10 mg/kg from 2005 to 2017. For this dataset, truncating the dataset to 2005 onwards will create a dataset with a consistent detection limit and avoid statistical artefacts related to RDL fluctuations.

The assessed appropriate start dates for statistical analysis (control charts and linear regression) for each analyte-matrix pair on a Site-wide basis are indicated by a dashed vertical line on the figures in **Section E.2** and **Section E.4** of this appendix, with summary tables provided in **Section E.3** and **Section E.5** of this appendix for inorganic and organic analytes, respectively.

Statistical analyses (e.g., linear regression and calculation of upper and lower limits) that rely on data collected over time in this report and future reports will adopt the analyte-matrix specific start dates described herein unless future analysis identifies a more suitable approach. Historical data will be retained for historical comparison purposes only.



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

**E.2 SCATTERPLOTS OF SITE-WIDE ANALYTICAL DATA AVAILABLE FOR
EACH ANALYTE-MATRIX PAIR SINCE 1991 (INORGANIC)**

This appendix provides scatterplots of available analytical data for each analyte-matrix pair for inorganic analytes on a Site-wide basis. The assessed appropriate start dates for statistical analysis (control charts and linear regression) for each analyte-matrix pair on a Site-wide basis are indicated by a dashed vertical line on the figures.

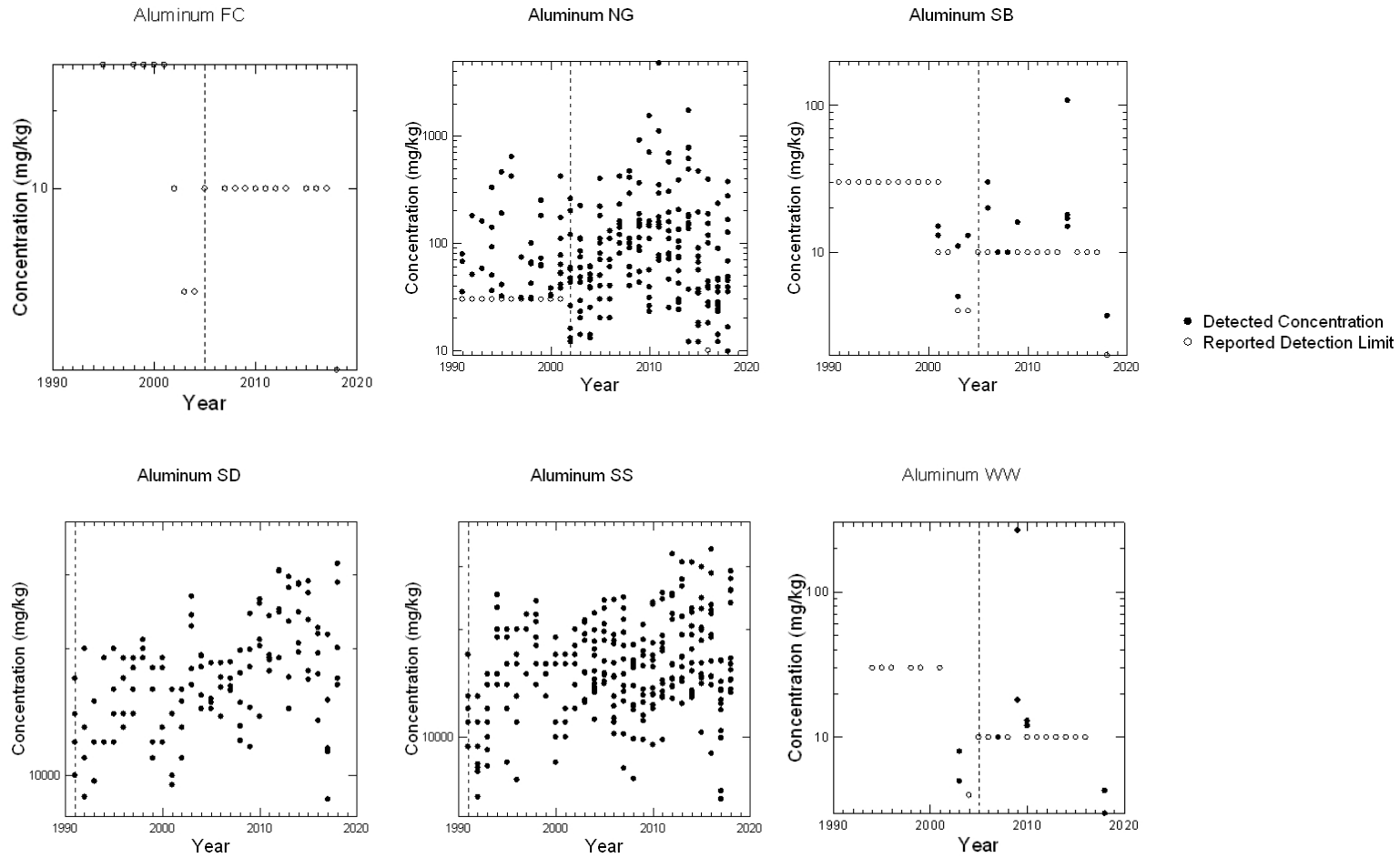
Note, the monitoring of fluoride was initiated in the 2018 Field Year as per the MECP approved changes. Therefore, fluoride has been exempted from the assessment of appropriate start date due to the limited amount of available data. A review of the appropriate start date for fluoride analysis will be considered when there are at least six years of available data, as this is the minimum data requirement set in this biomonitoring program for the calculation of an upper limit. In the interim, regression analyses for fluoride will be evaluated with a start date of 2018.



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

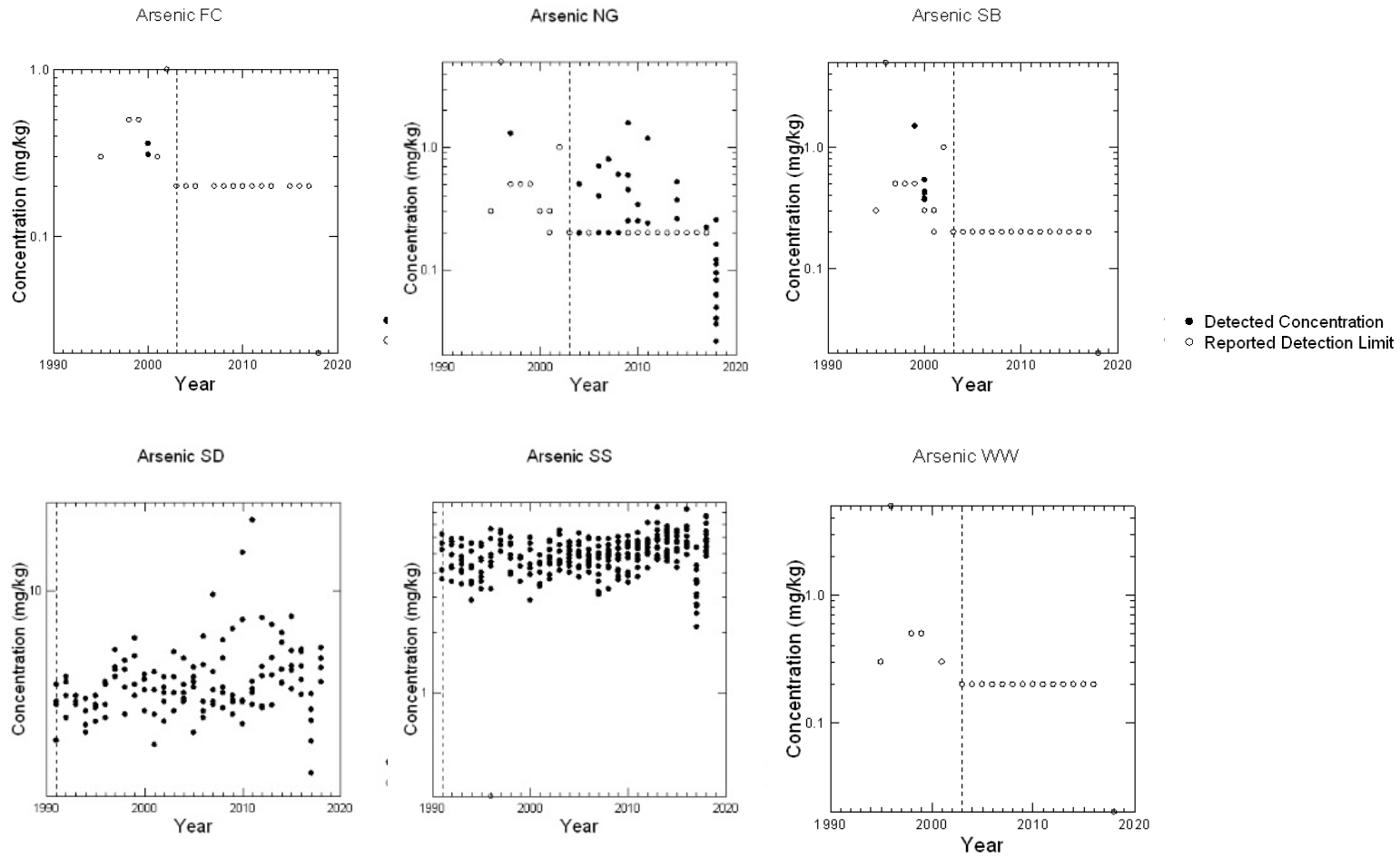
E.2.5 Aluminum



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

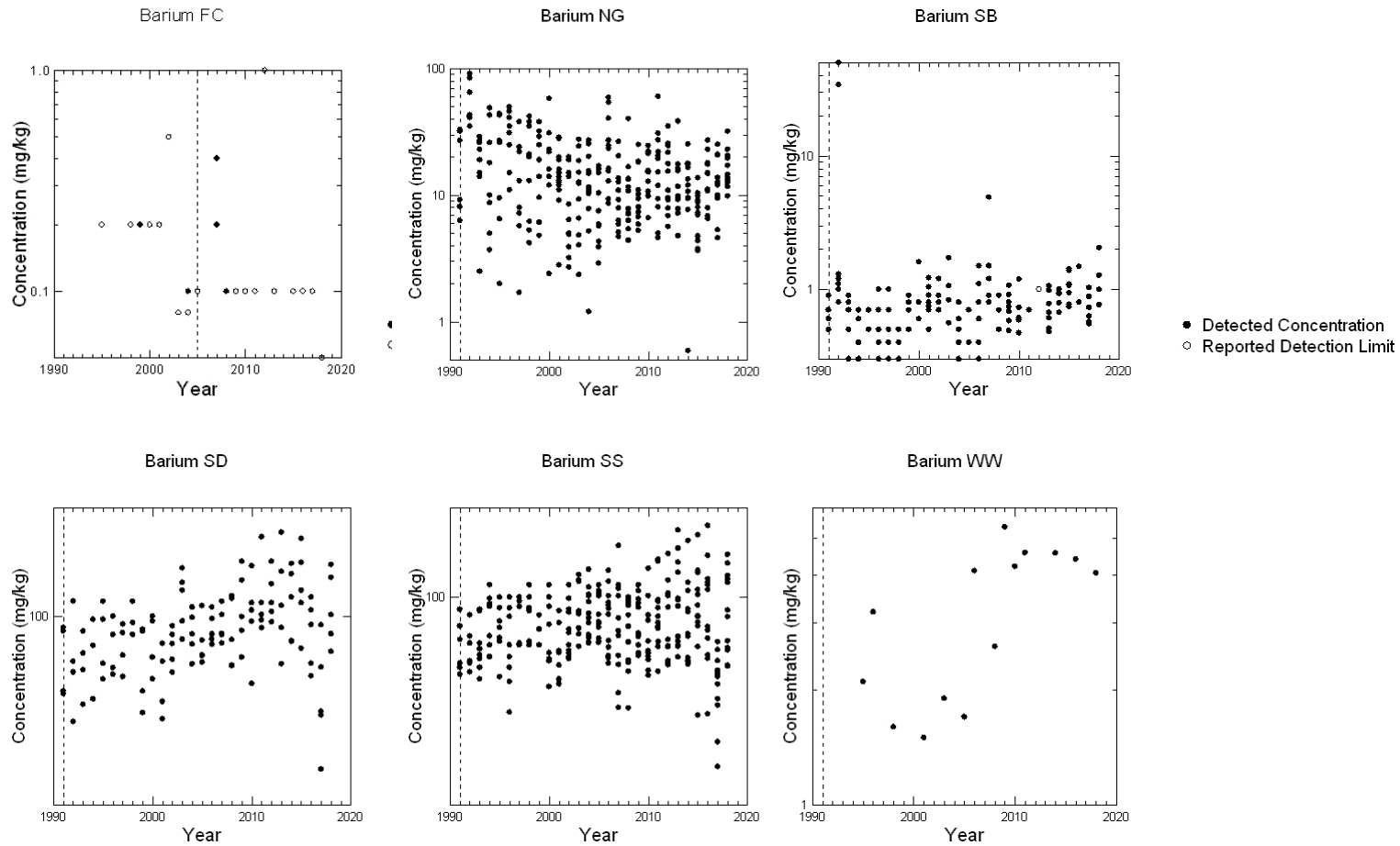
E.2.6 Arsenic



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

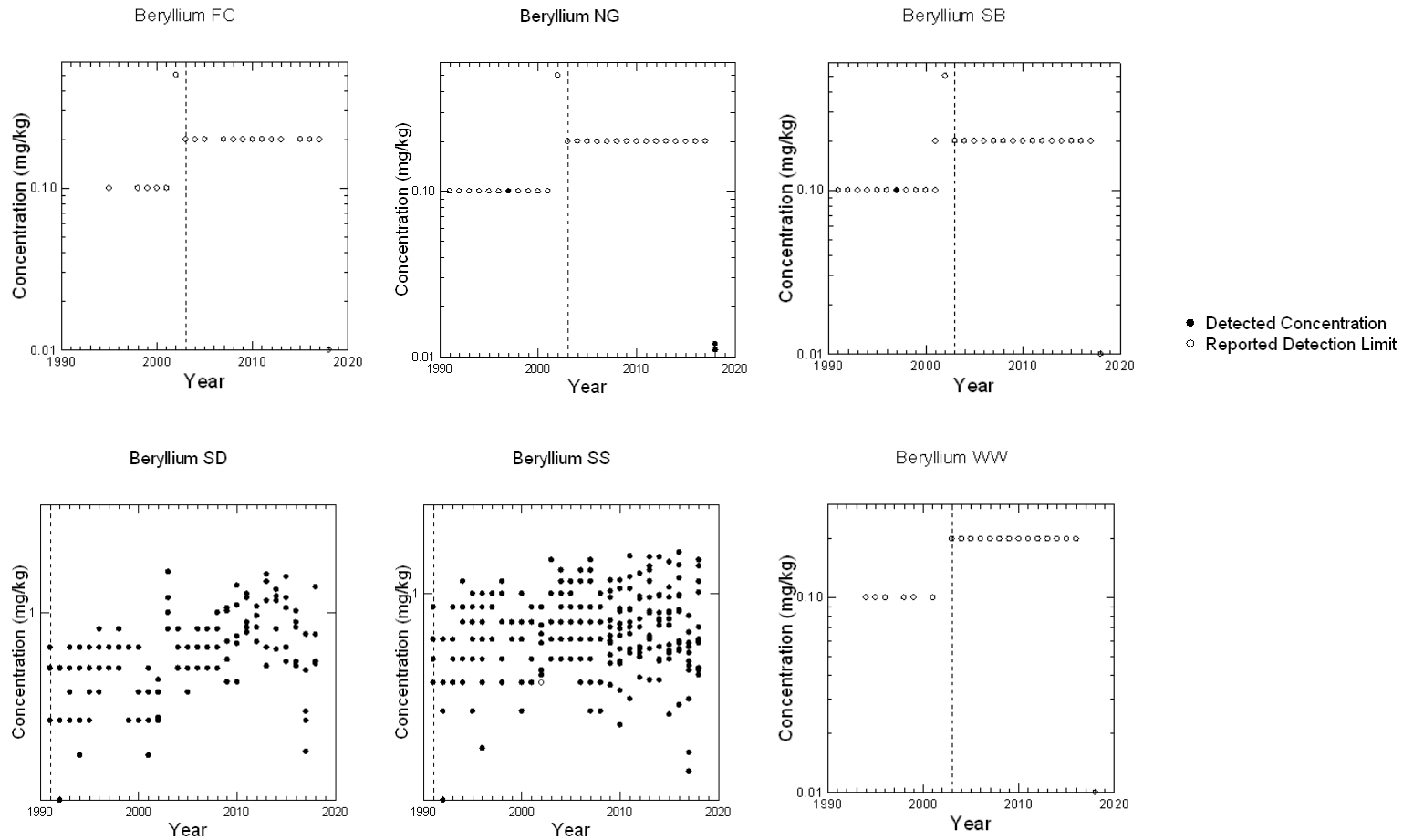
E.2.7 Barium



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

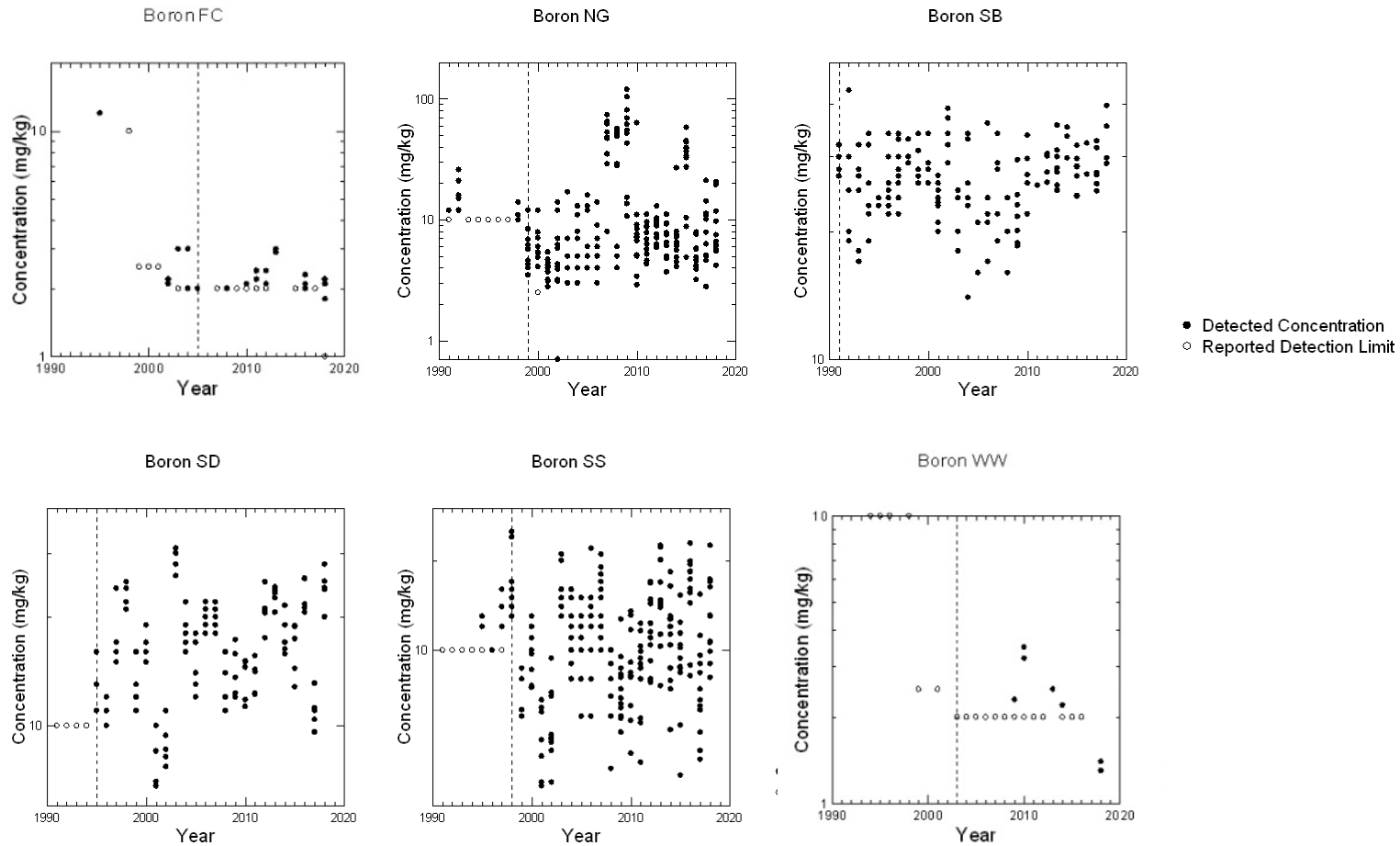
E.2.8 Beryllium



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

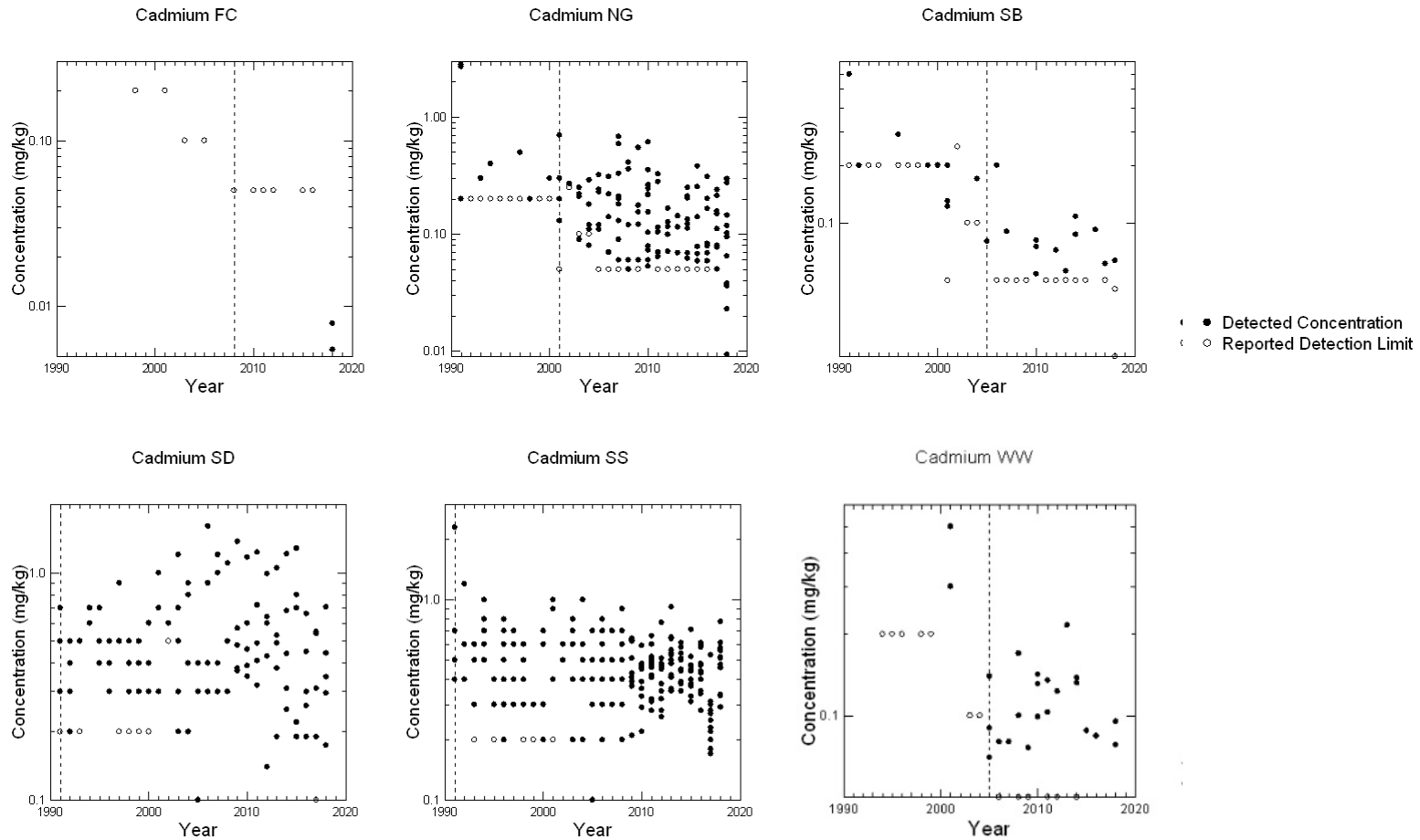
E.2.9 Boron



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

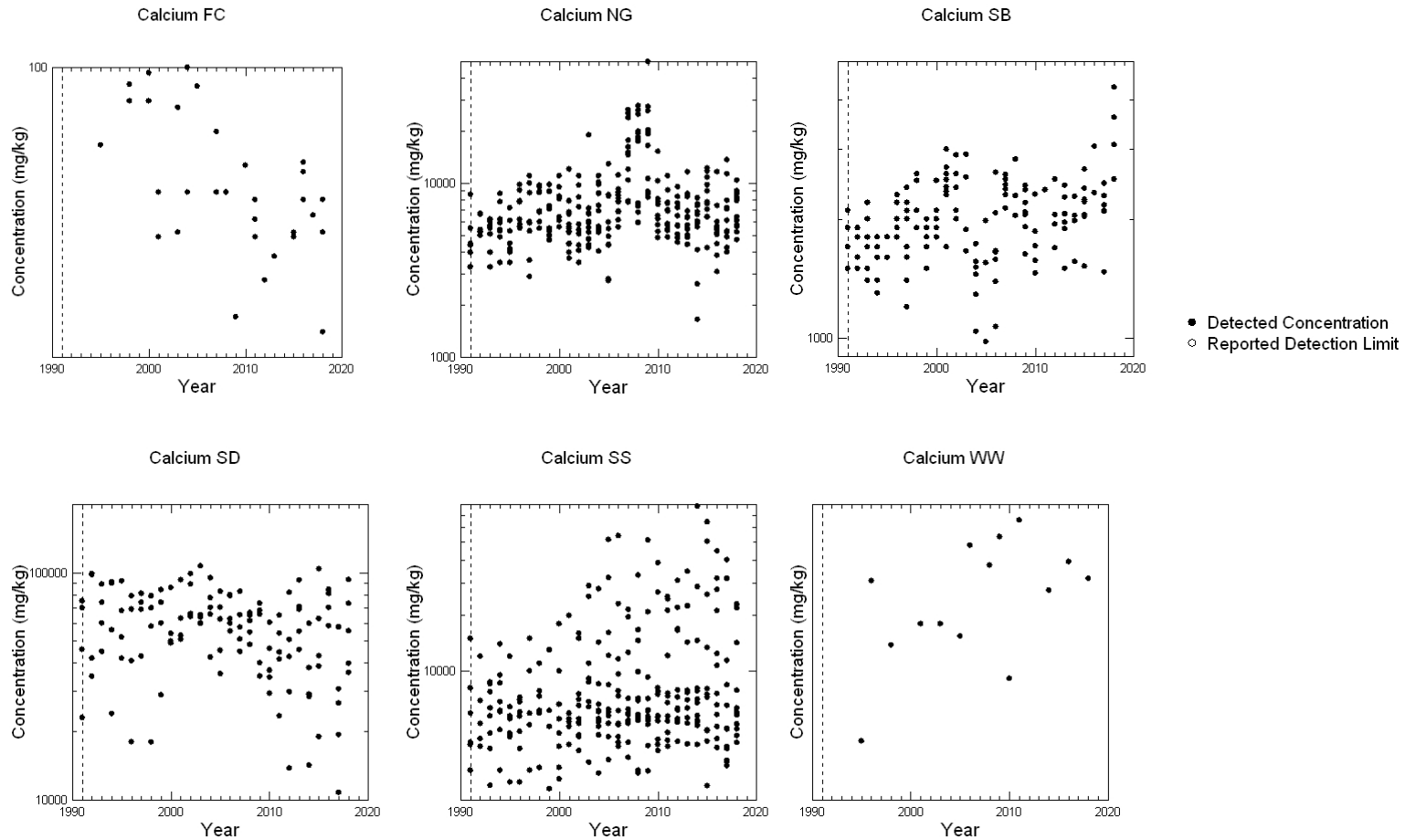
E.2.10 Cadmium



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

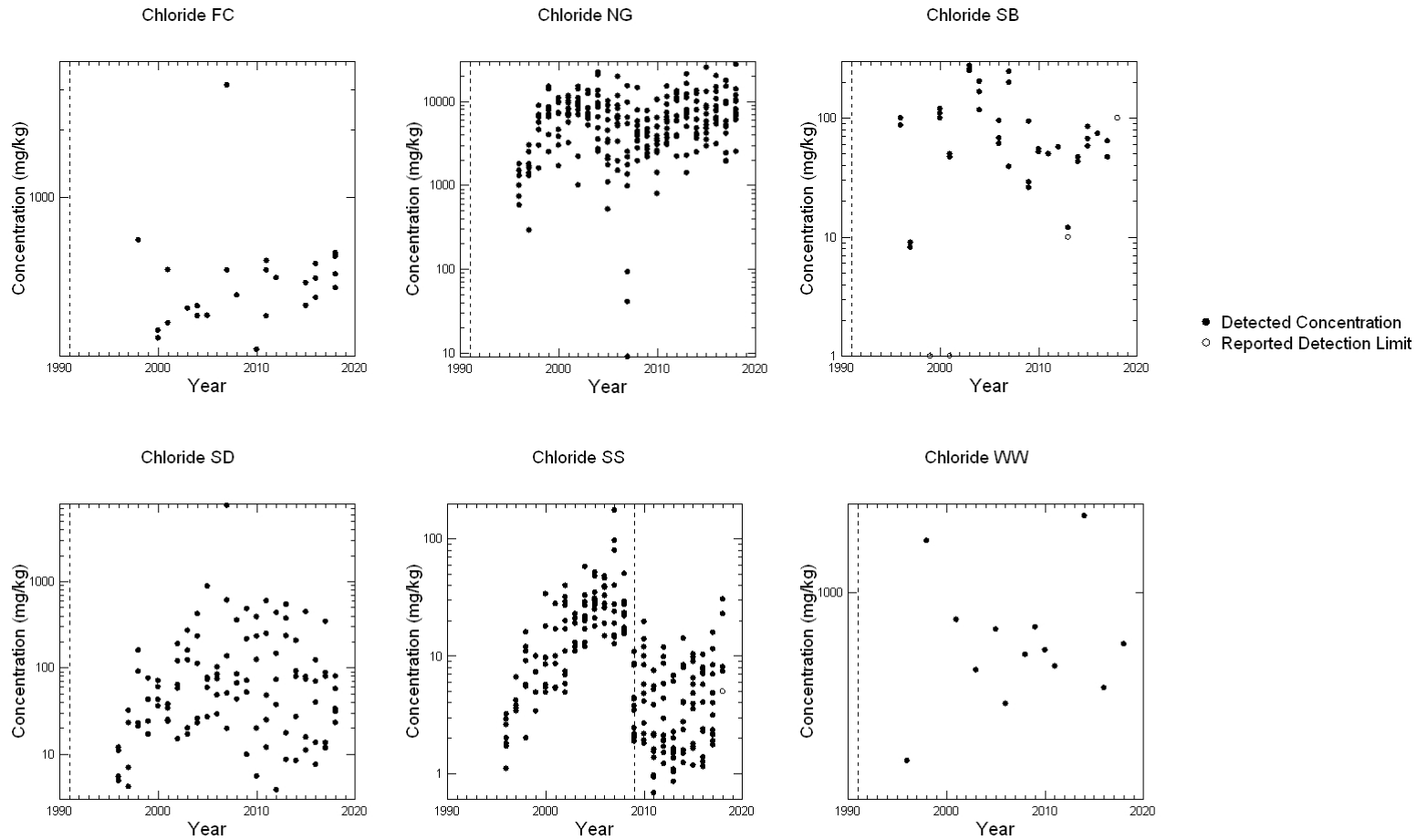
E.2.11 Calcium



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

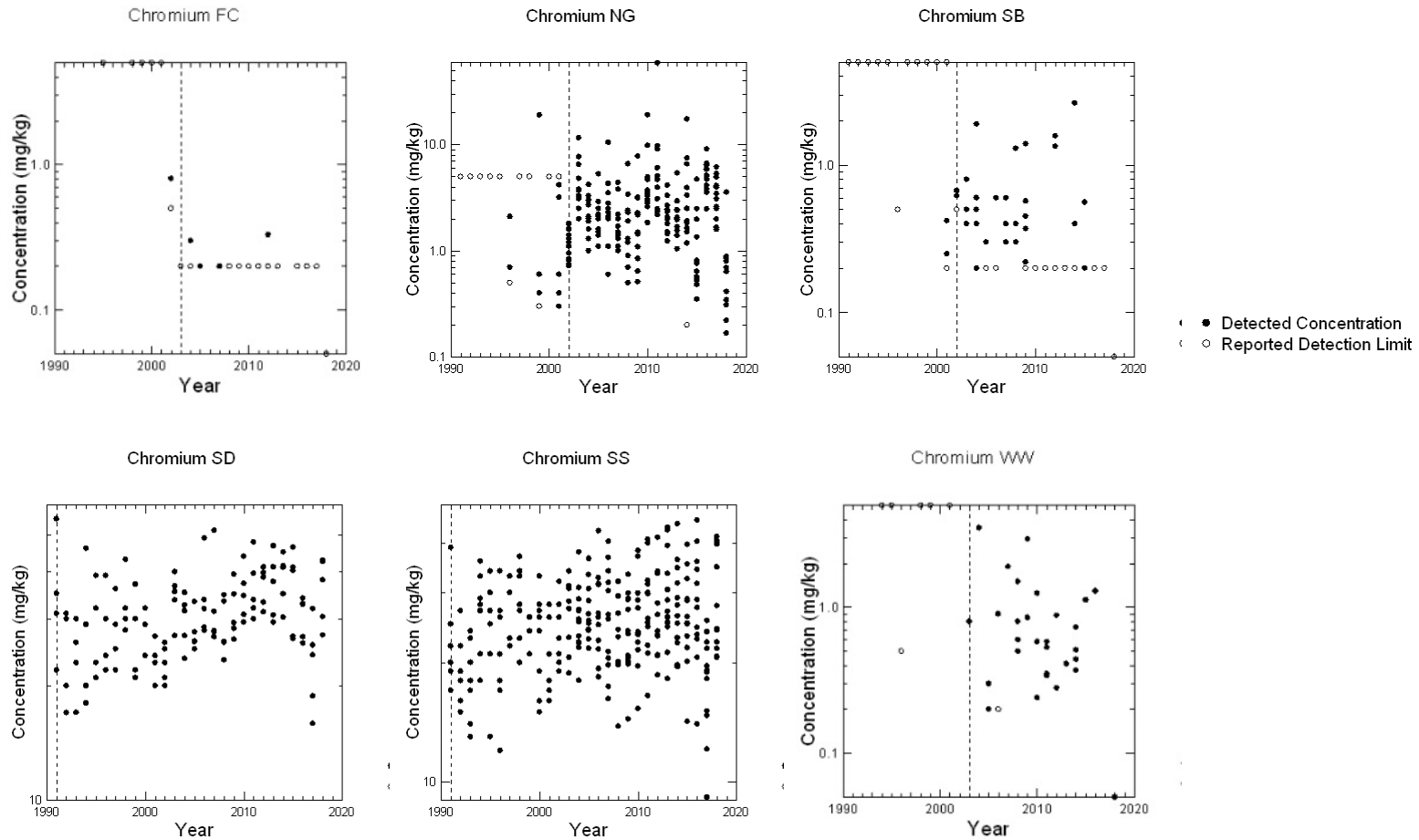
E.2.12 Chloride



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

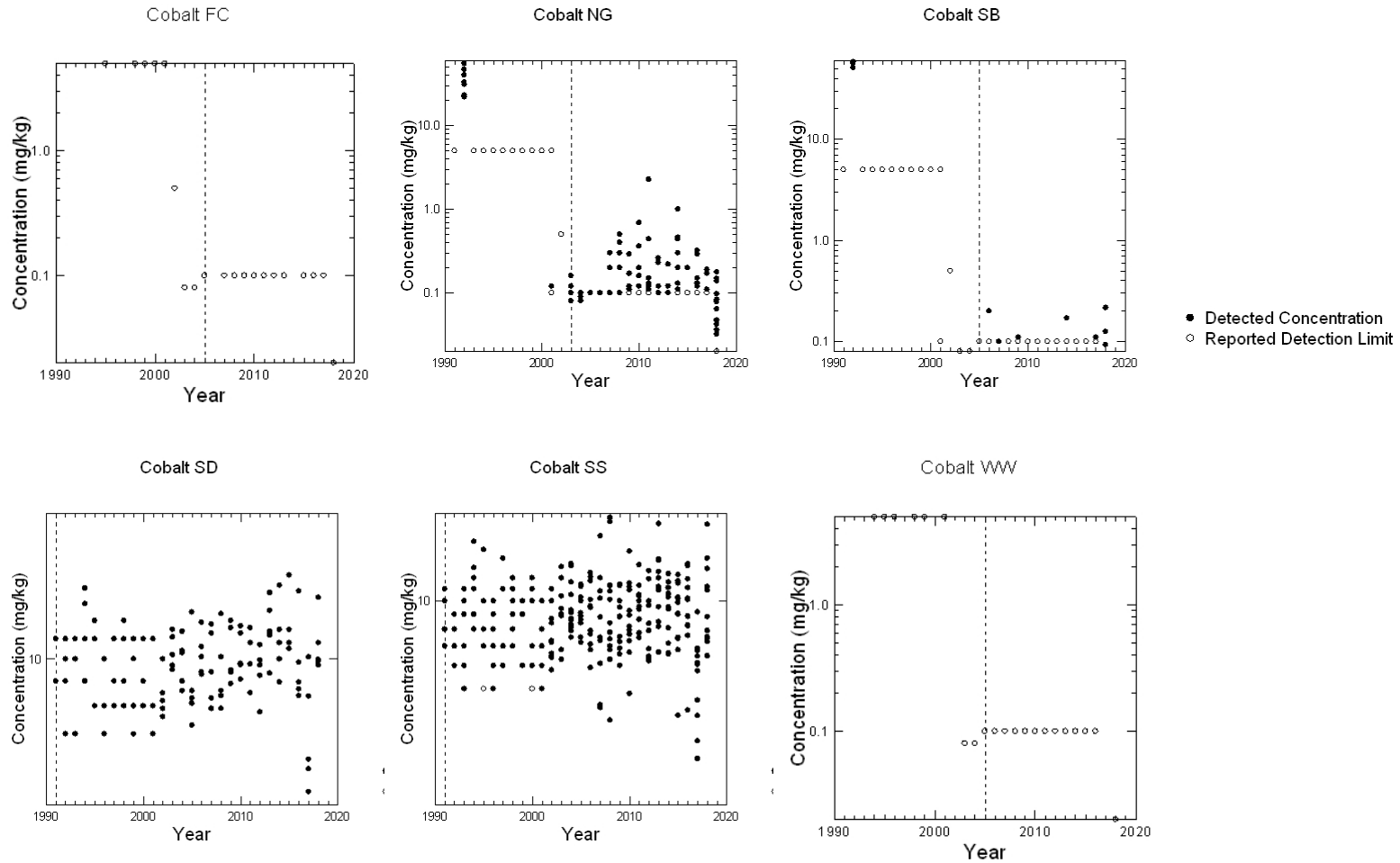
E.2.13 Chromium



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

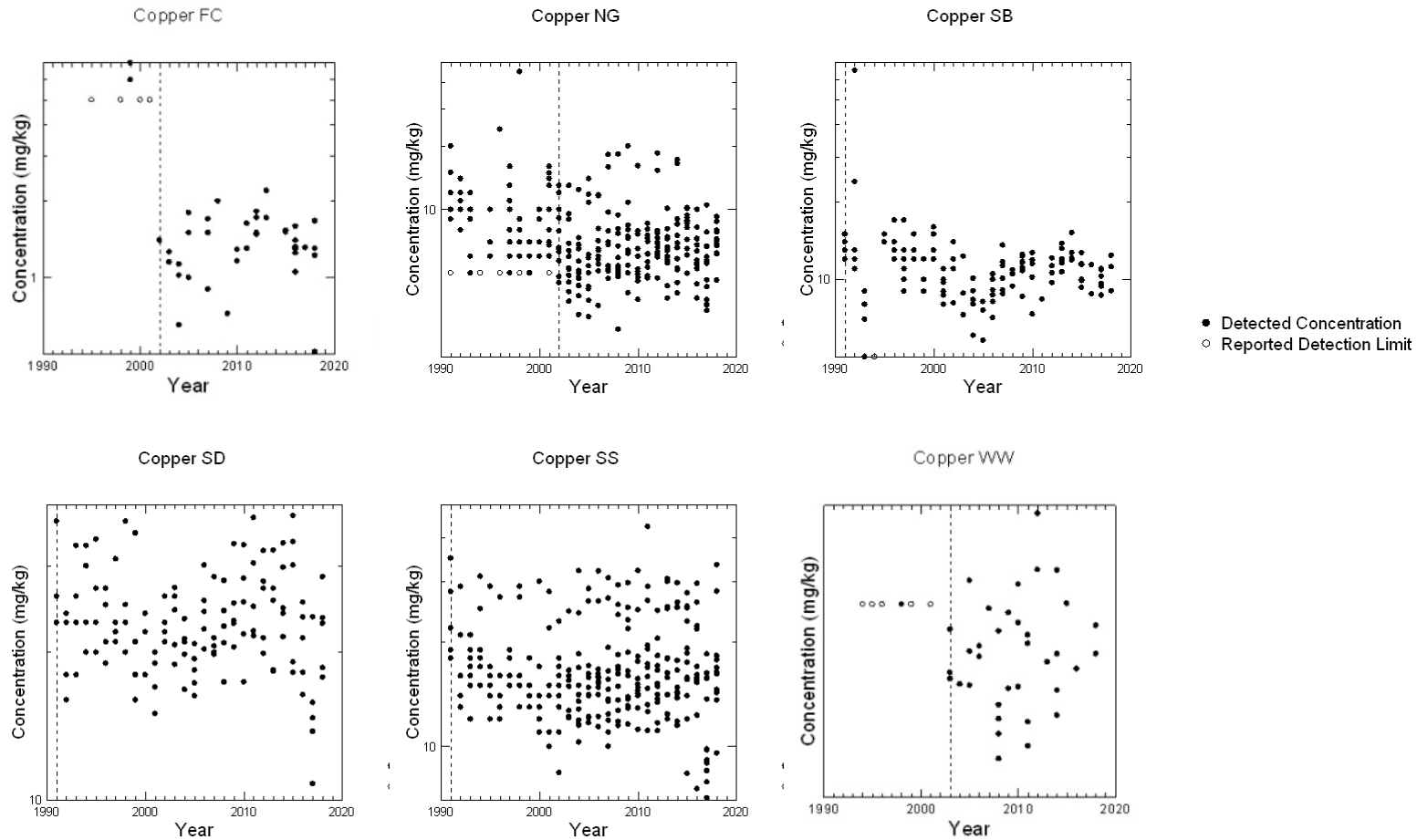
E.2.14 Cobalt



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

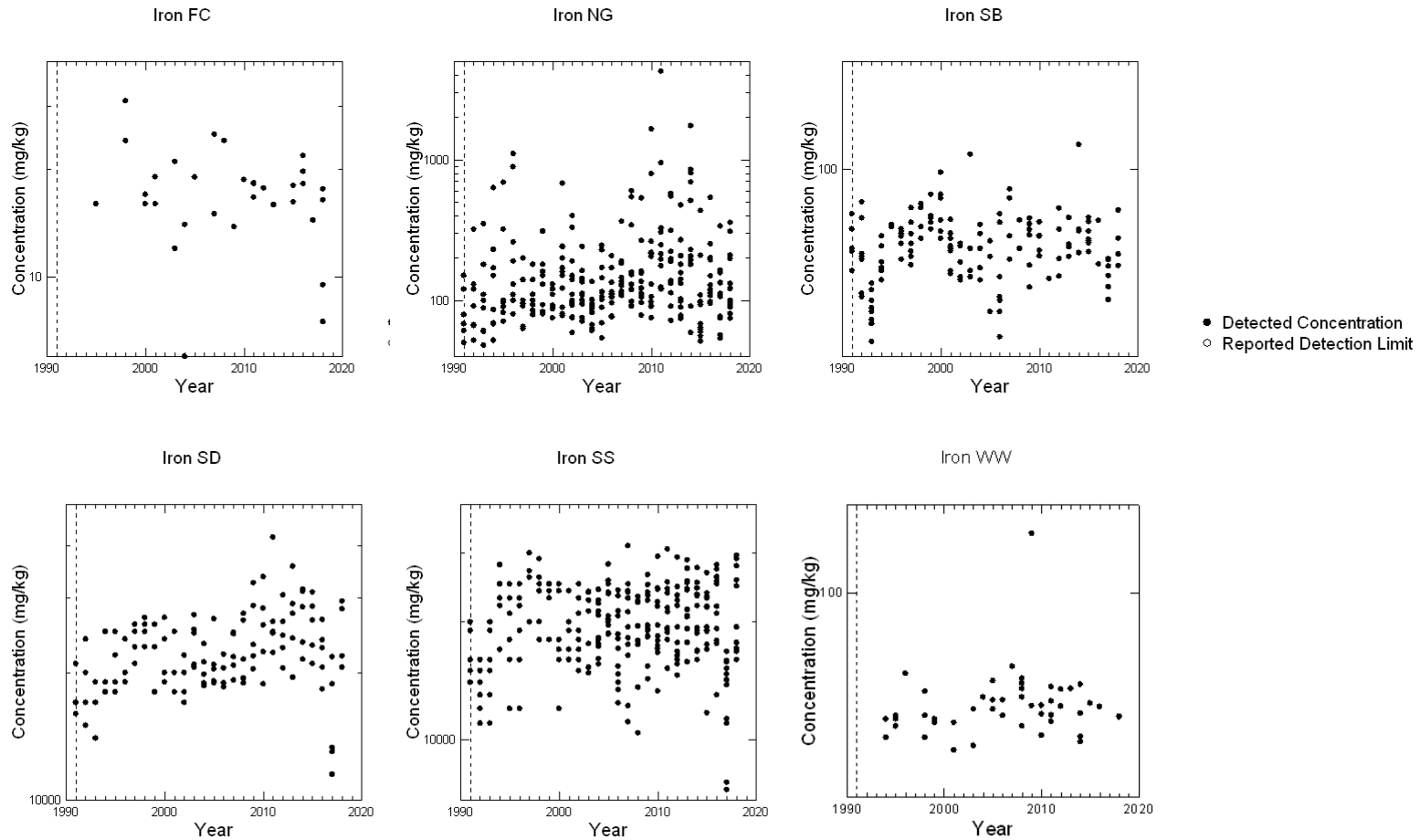
E.2.15 Copper



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

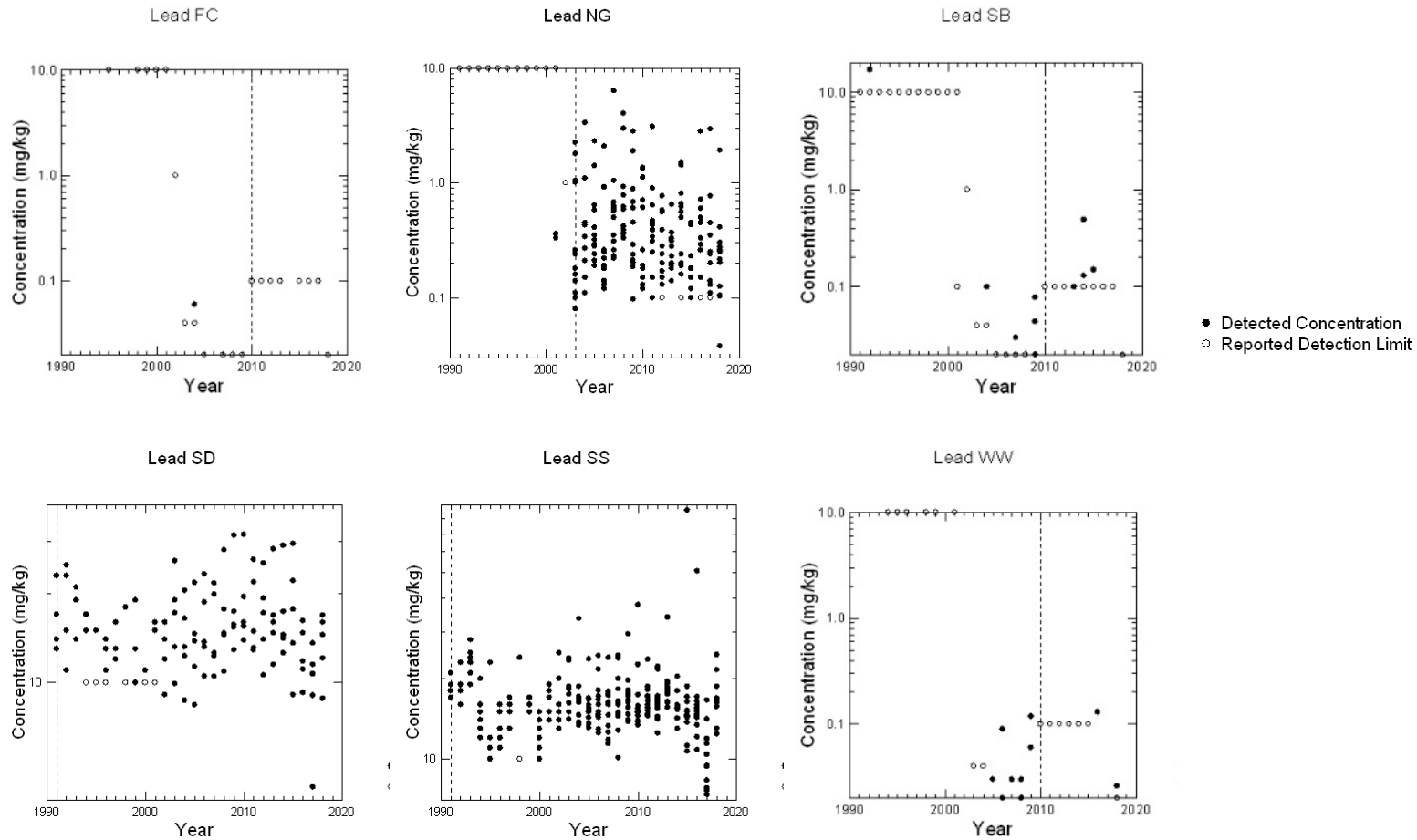
E.2.16 Iron



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

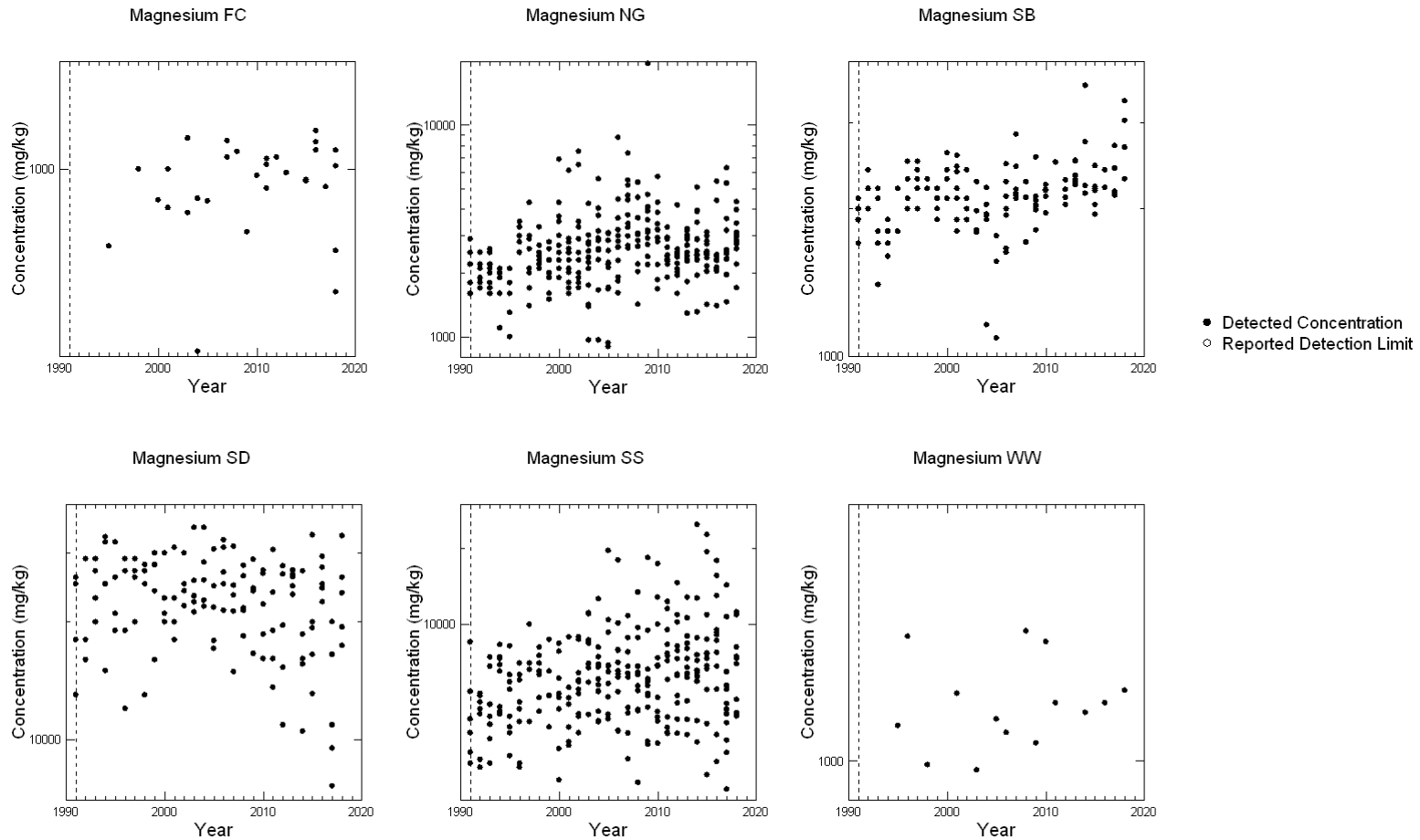
E.2.17 Lead



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

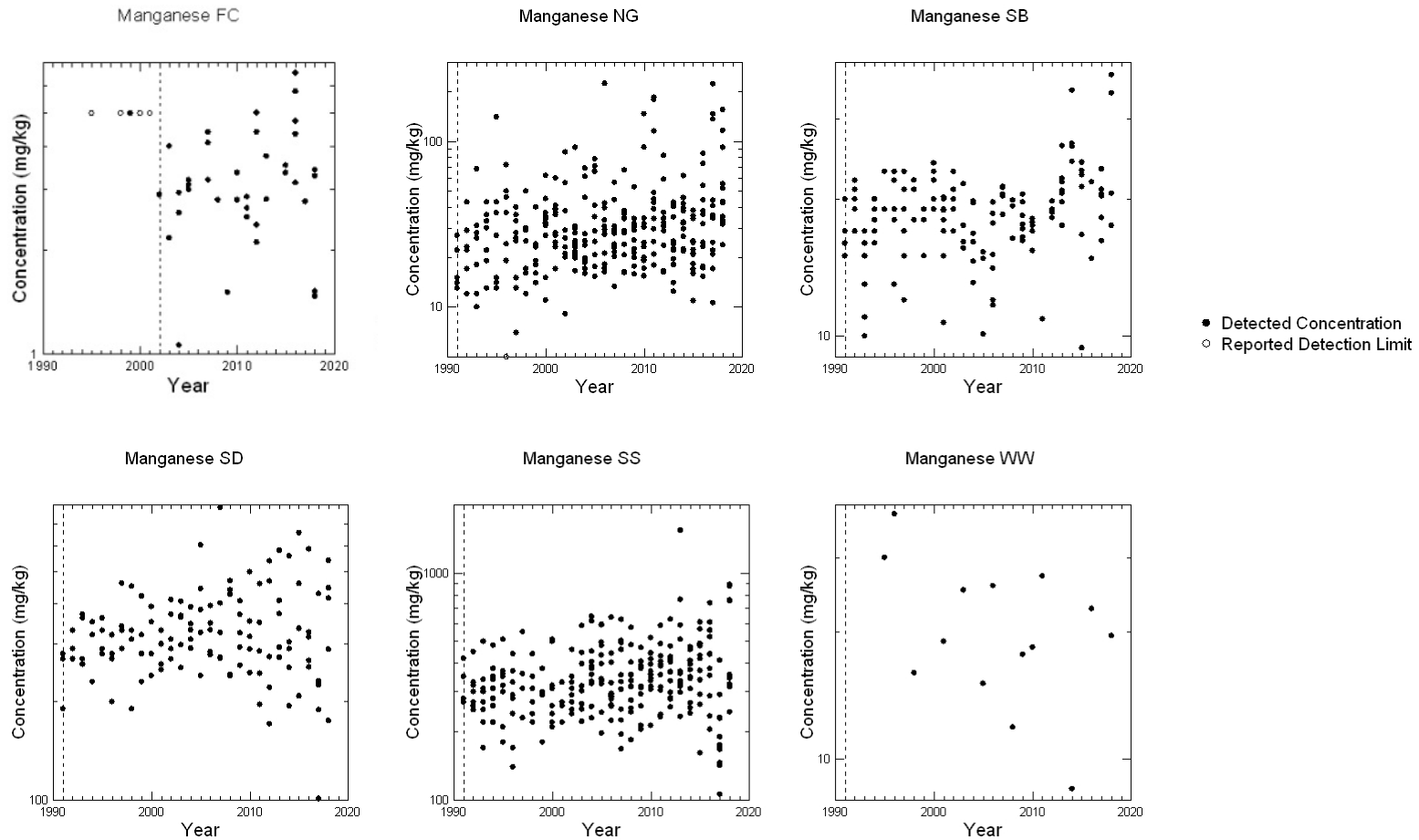
E.2.18 Magnesium



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

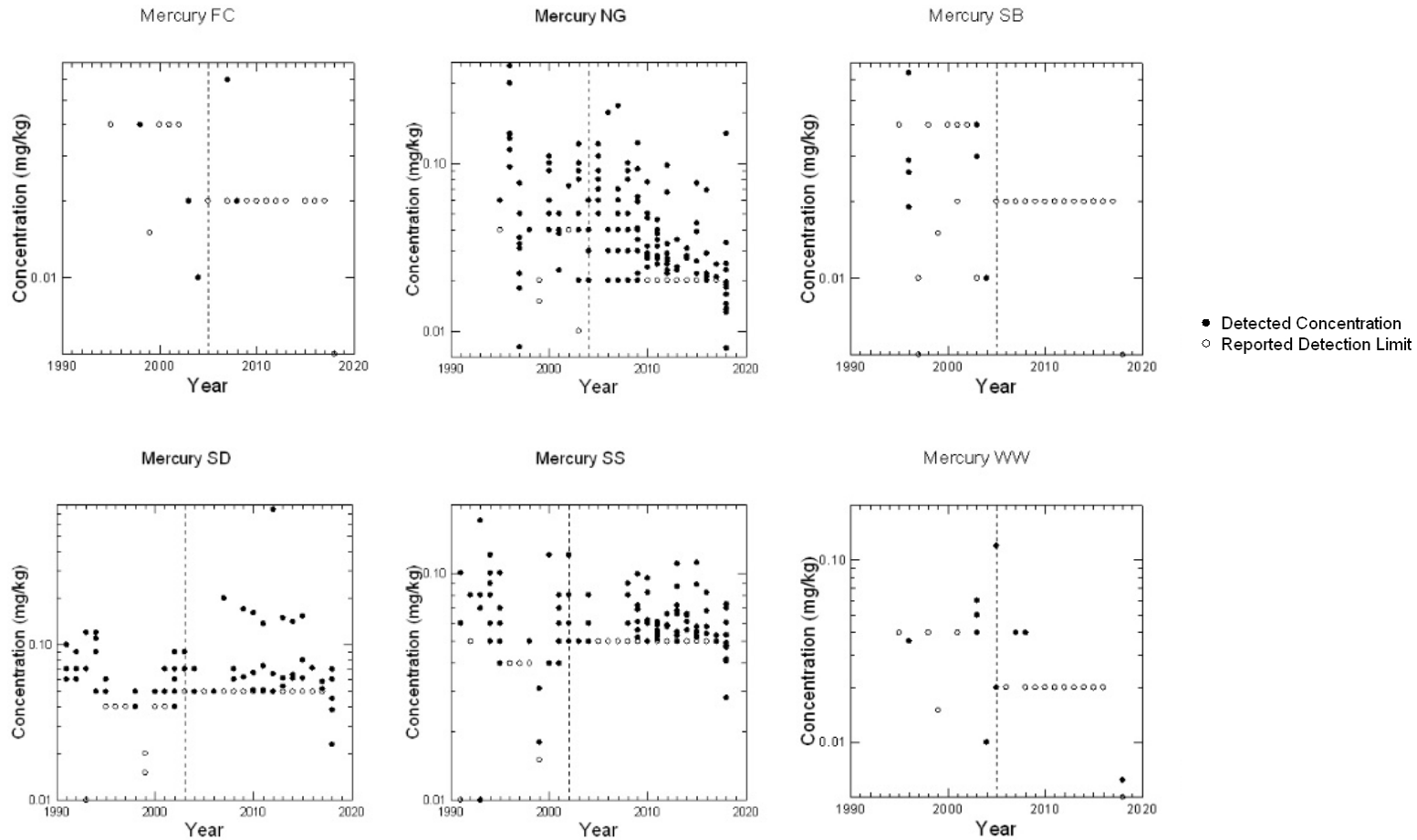
E.2.19 Manganese



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

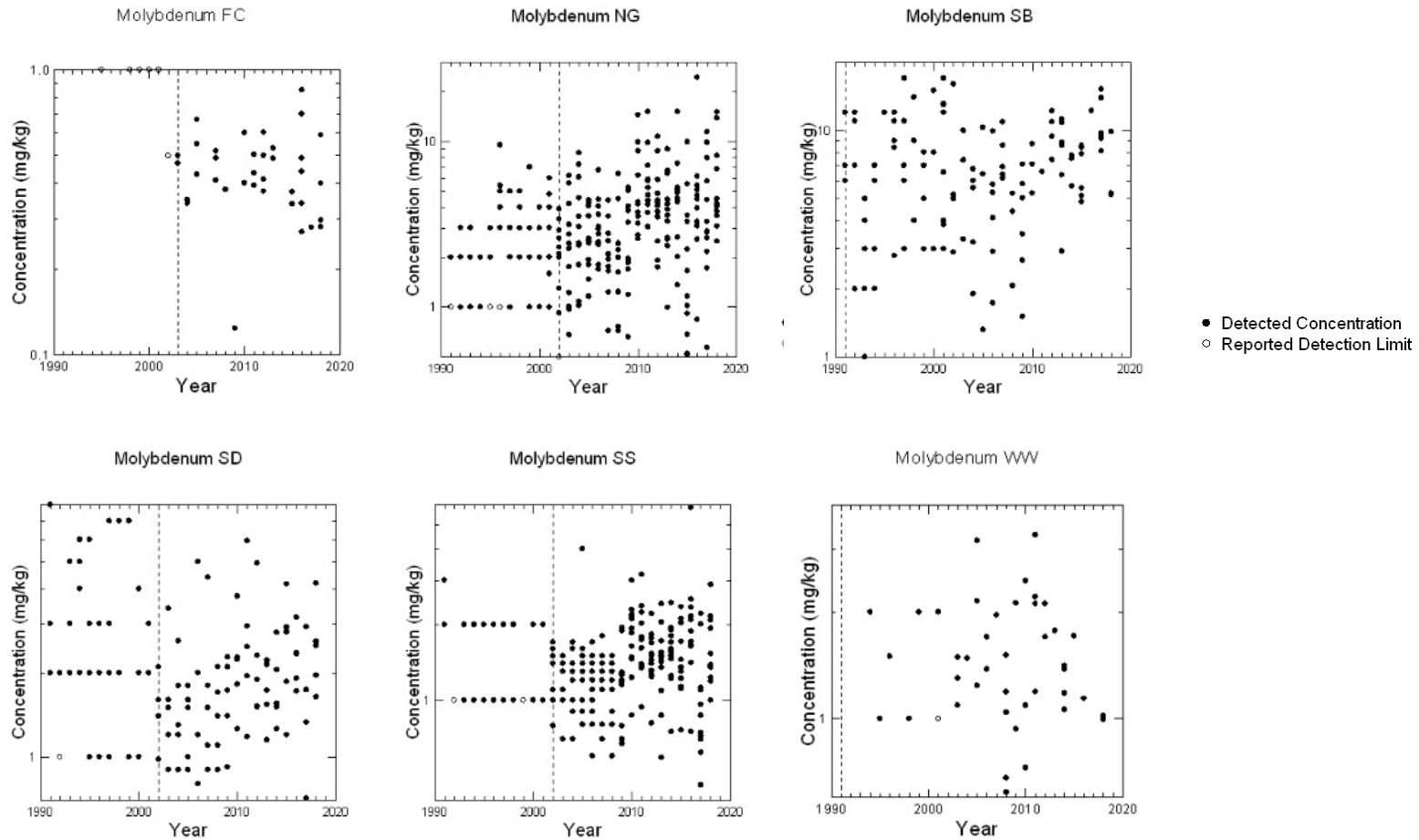
E.2.20 Mercury



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

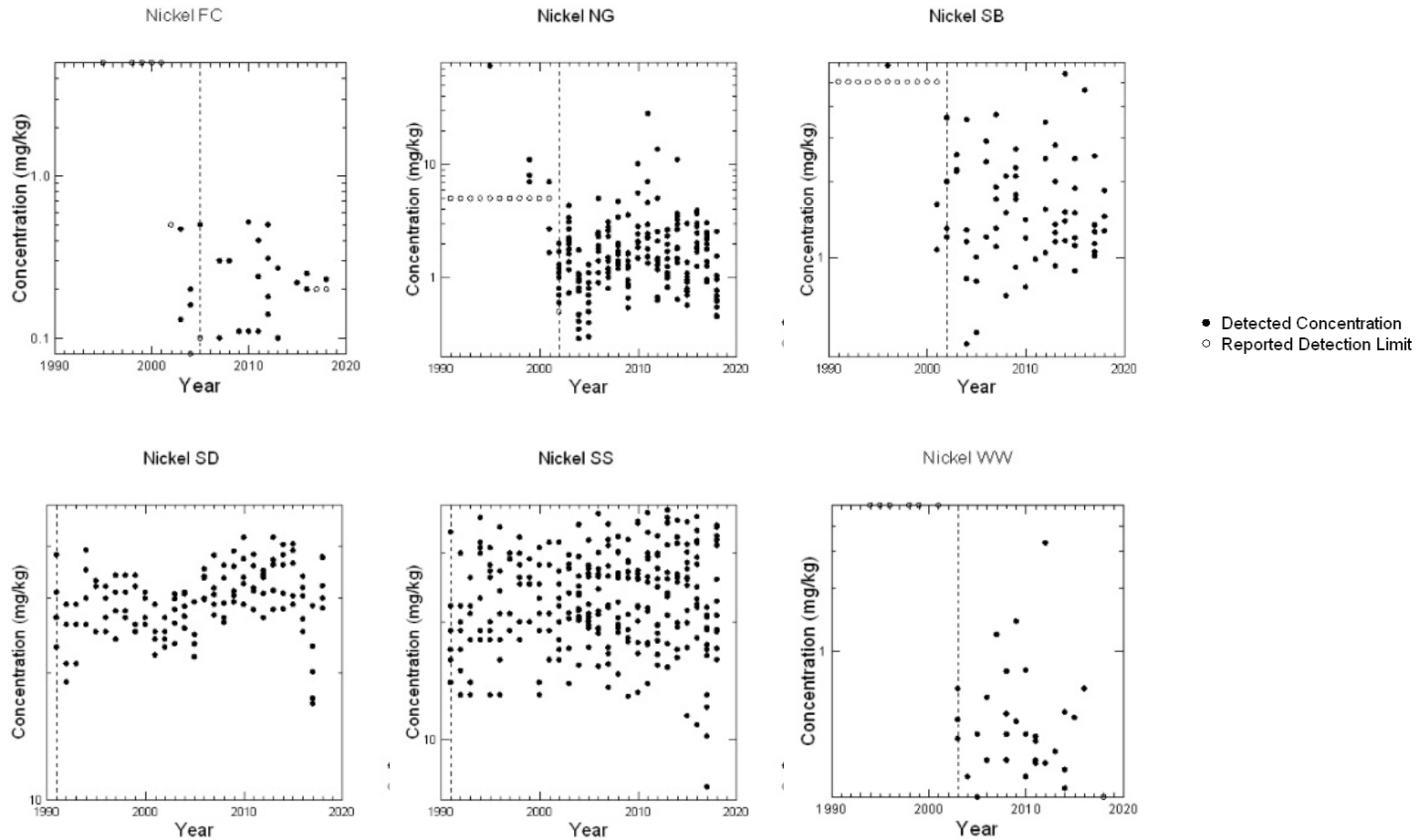
E.2.21 Molybdenum



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

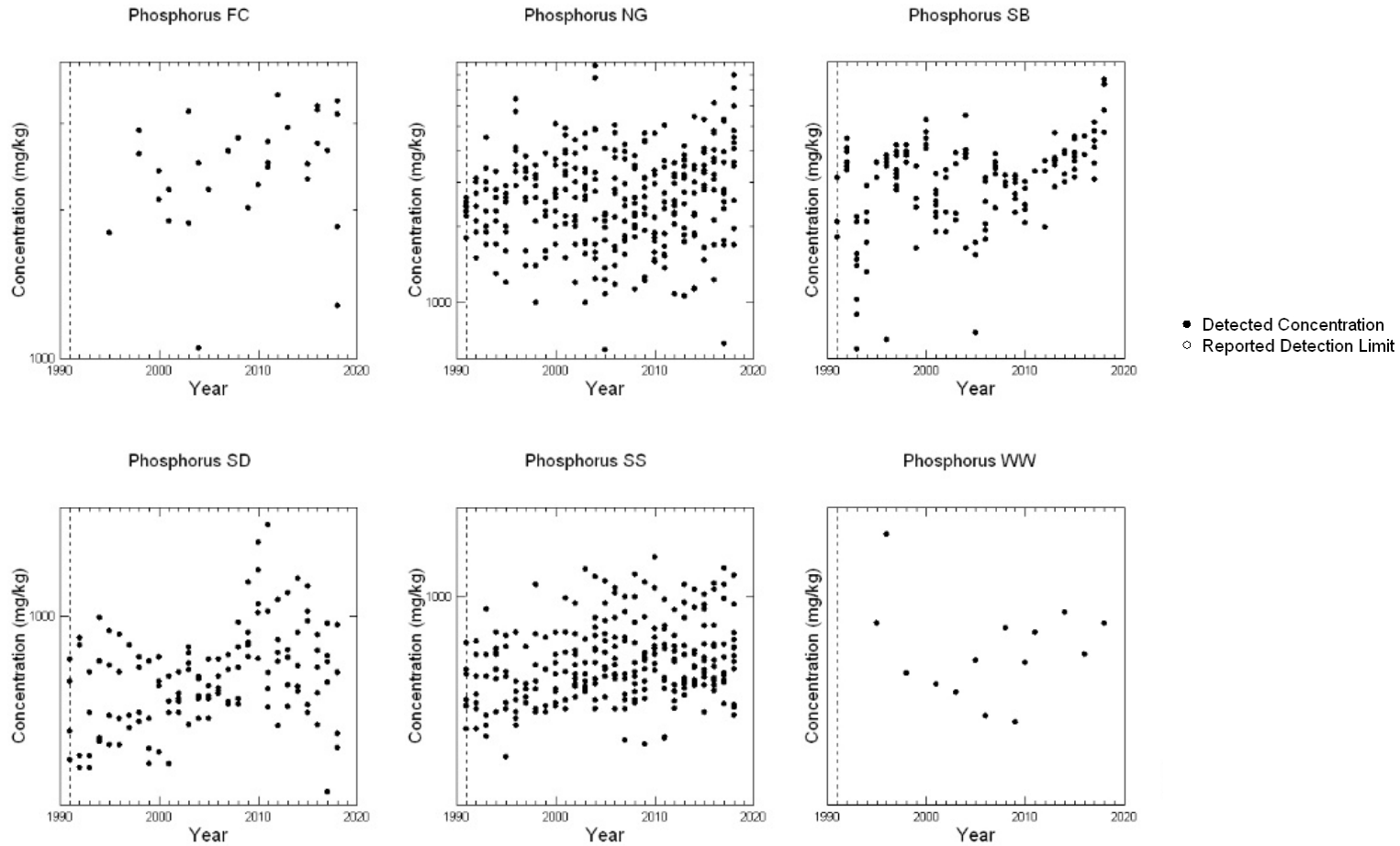
E.2.22 Nickel



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

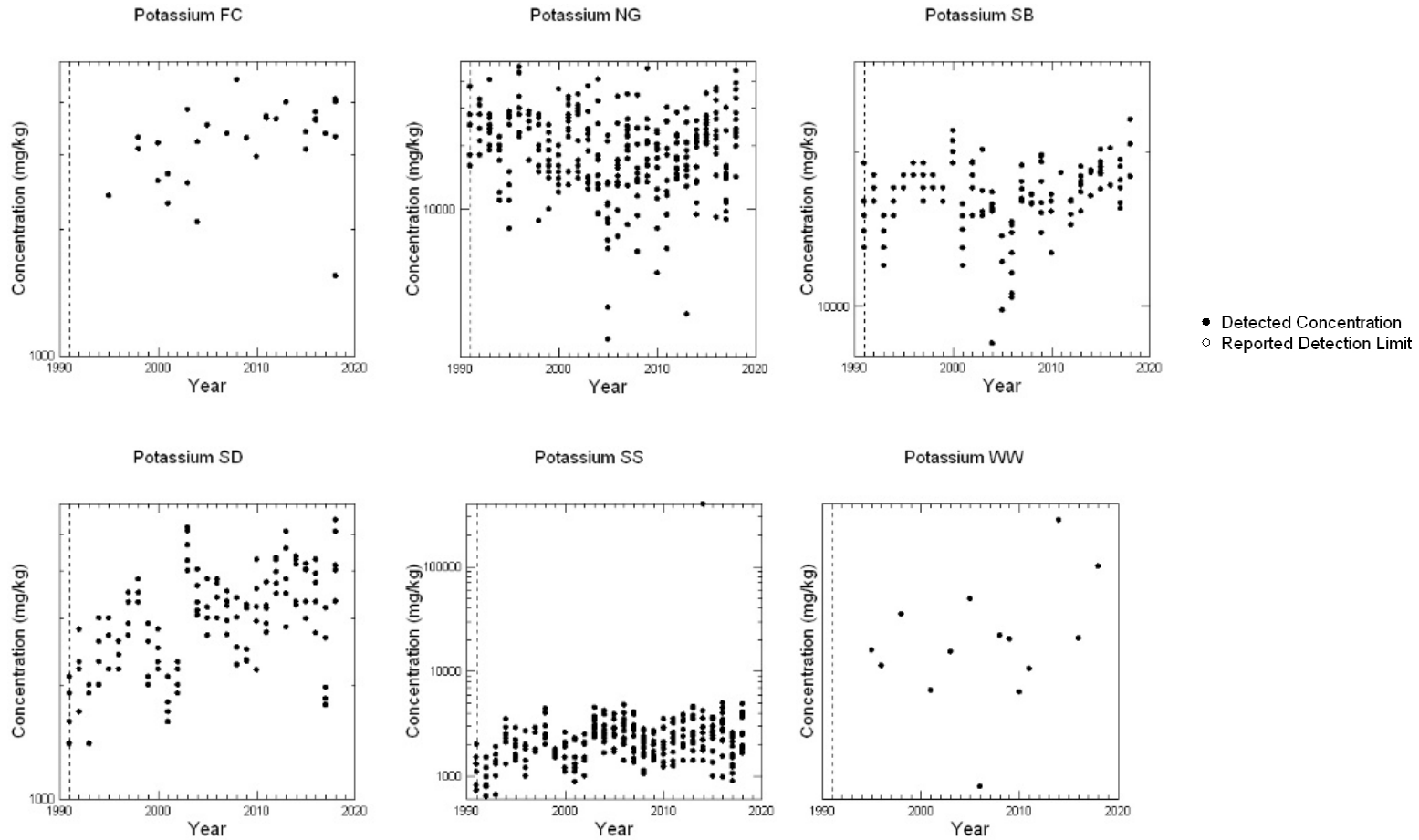
E.2.23 Phosphorus



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

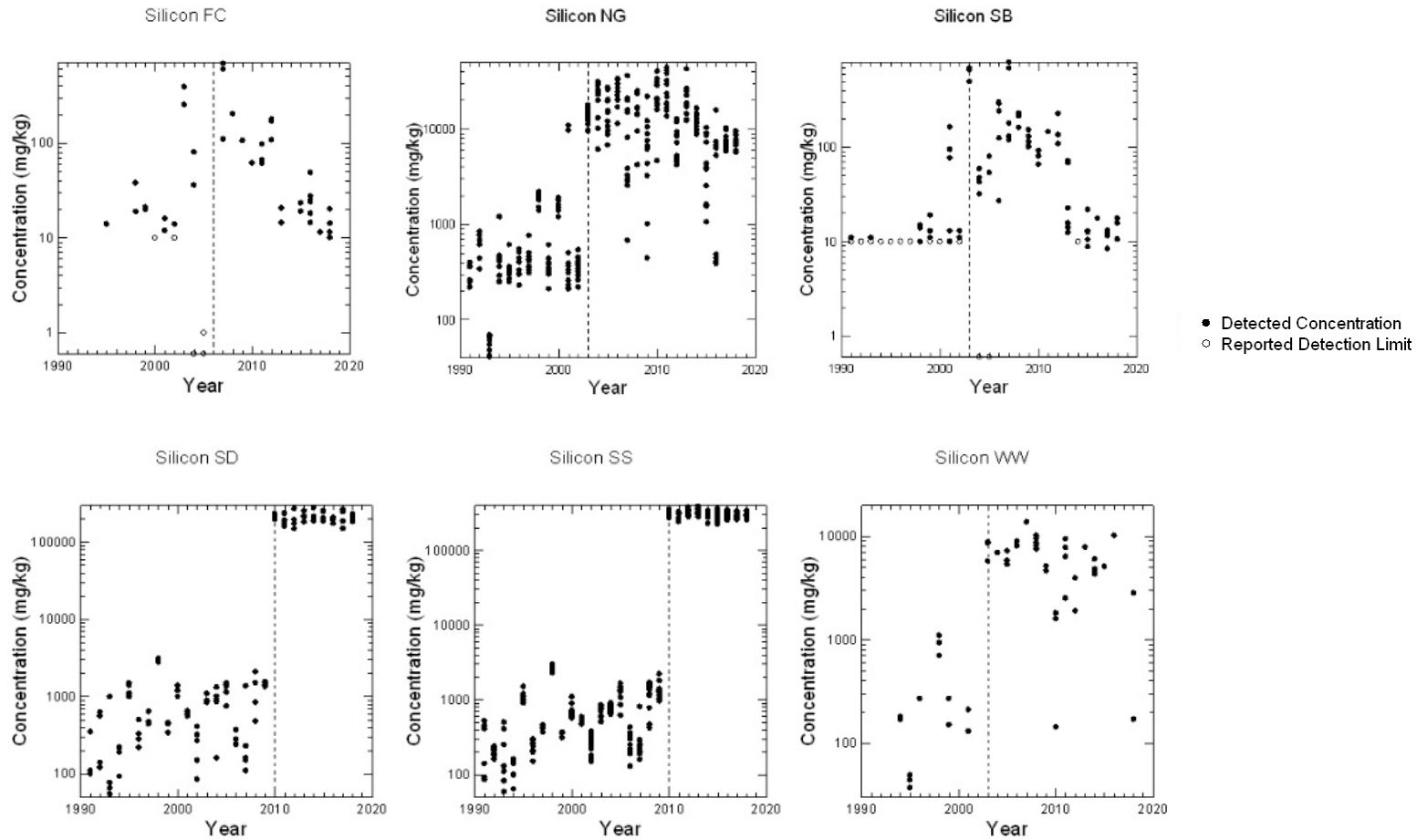
E.2.24 Potassium



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

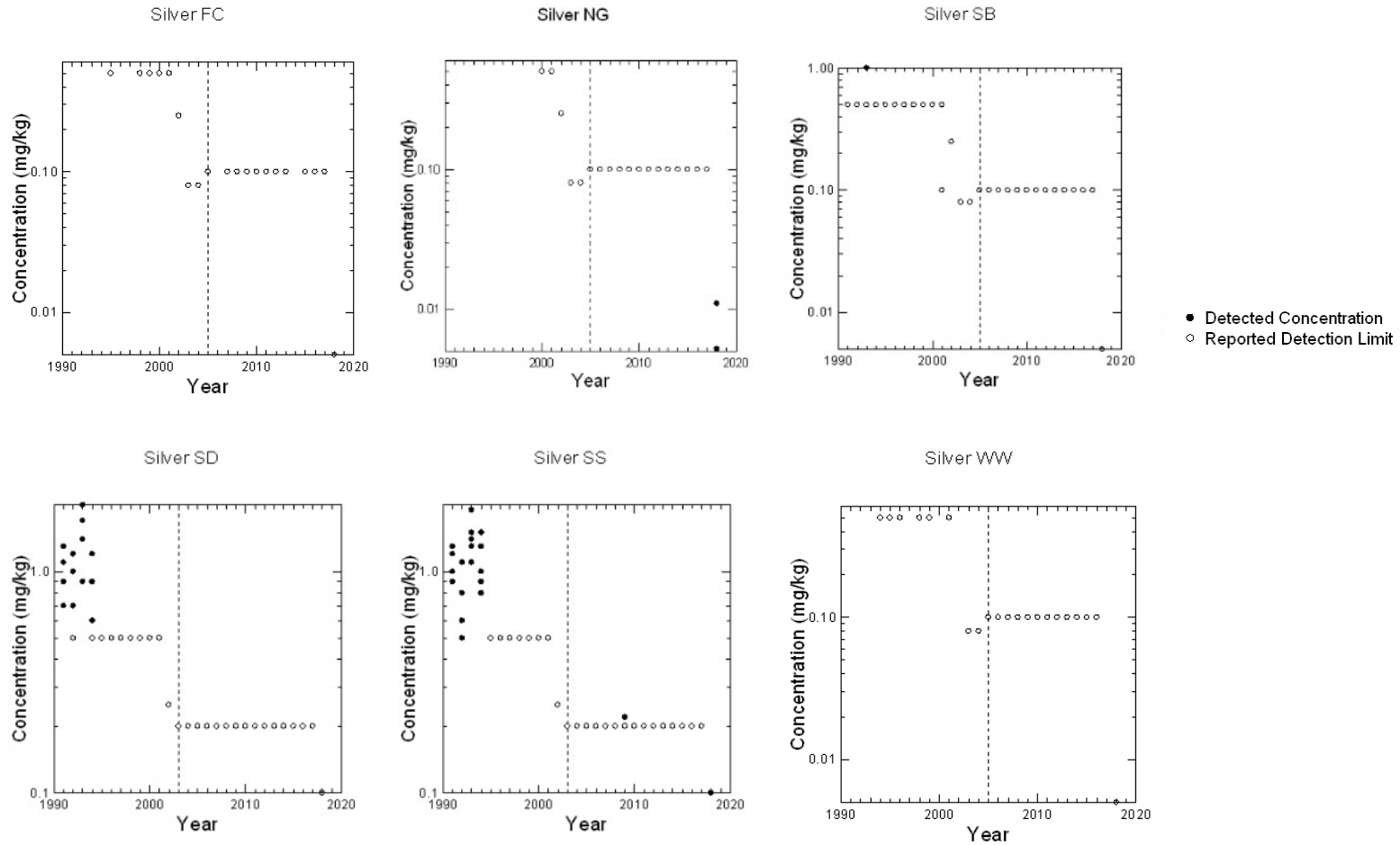
E.2.25 Silicon



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

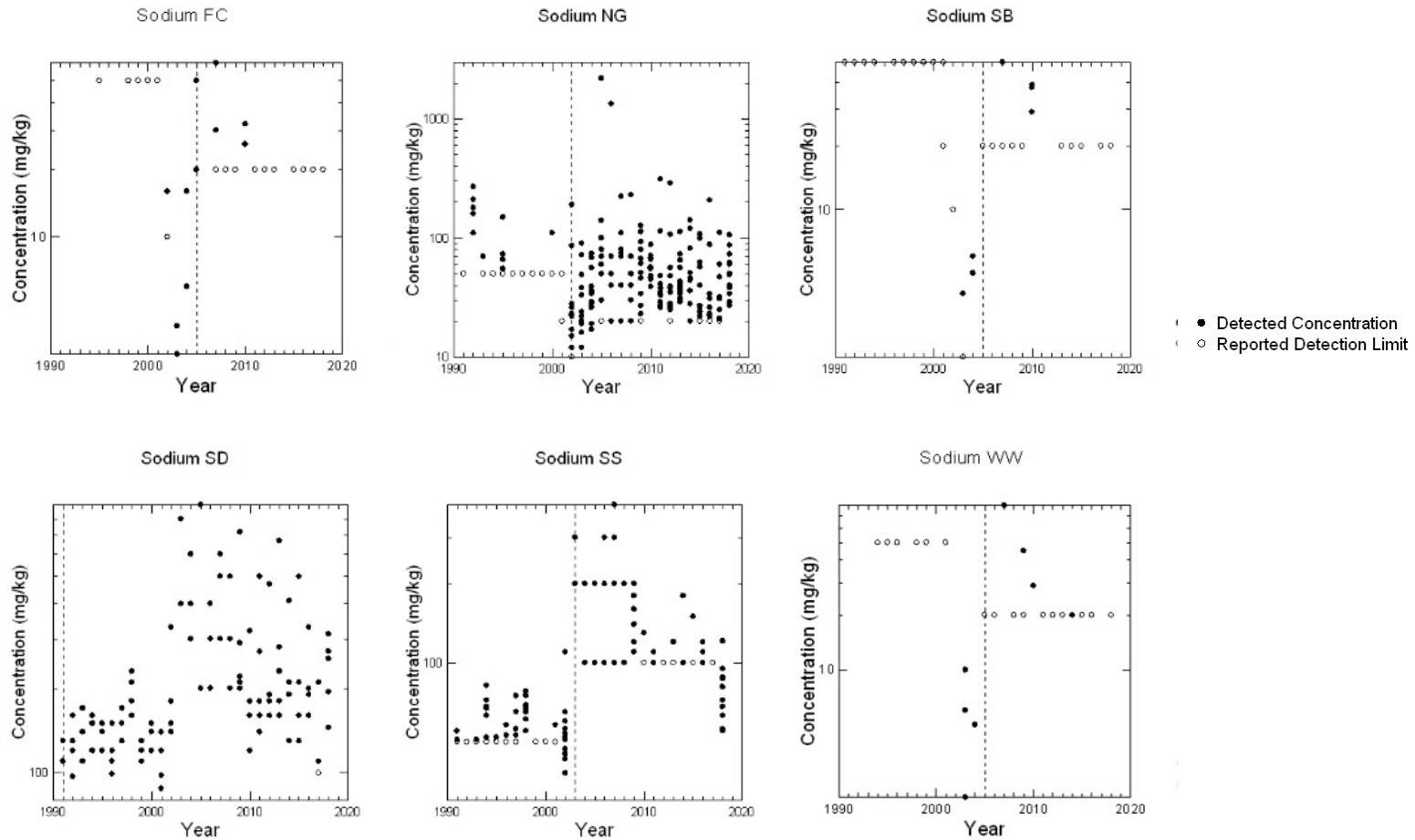
E.2.26 Silver



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

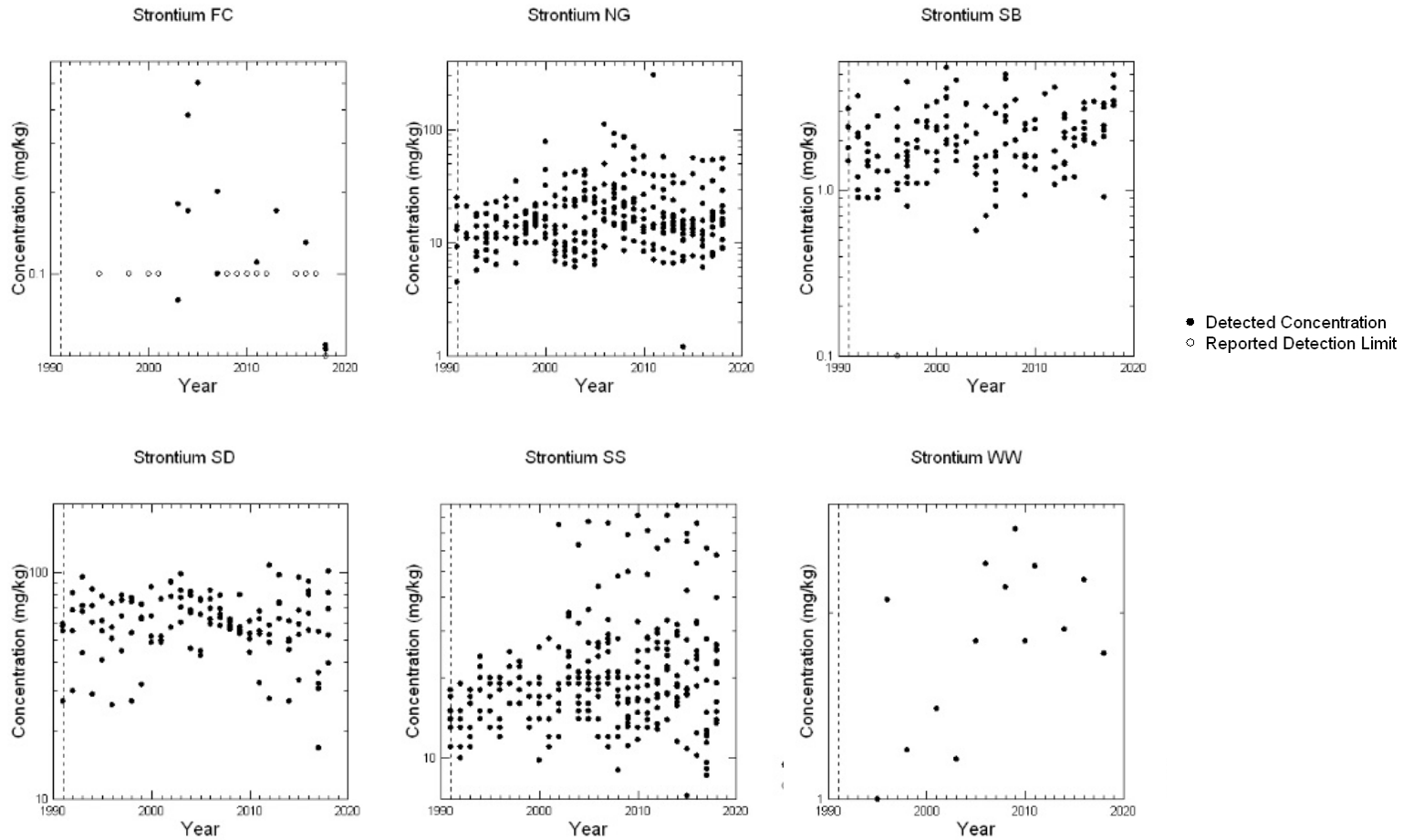
E.2.27 Sodium



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

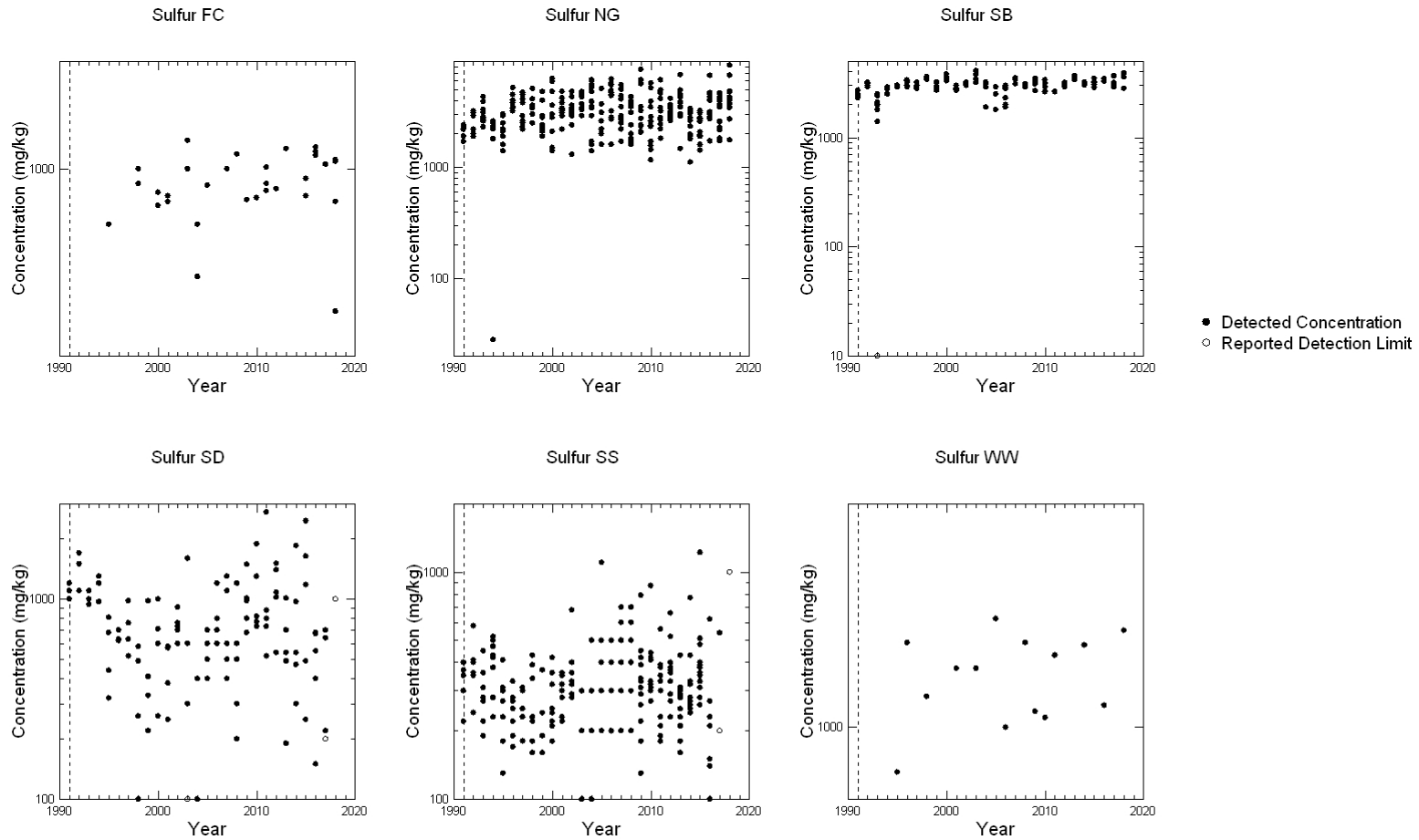
E.2.28 Strontium



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

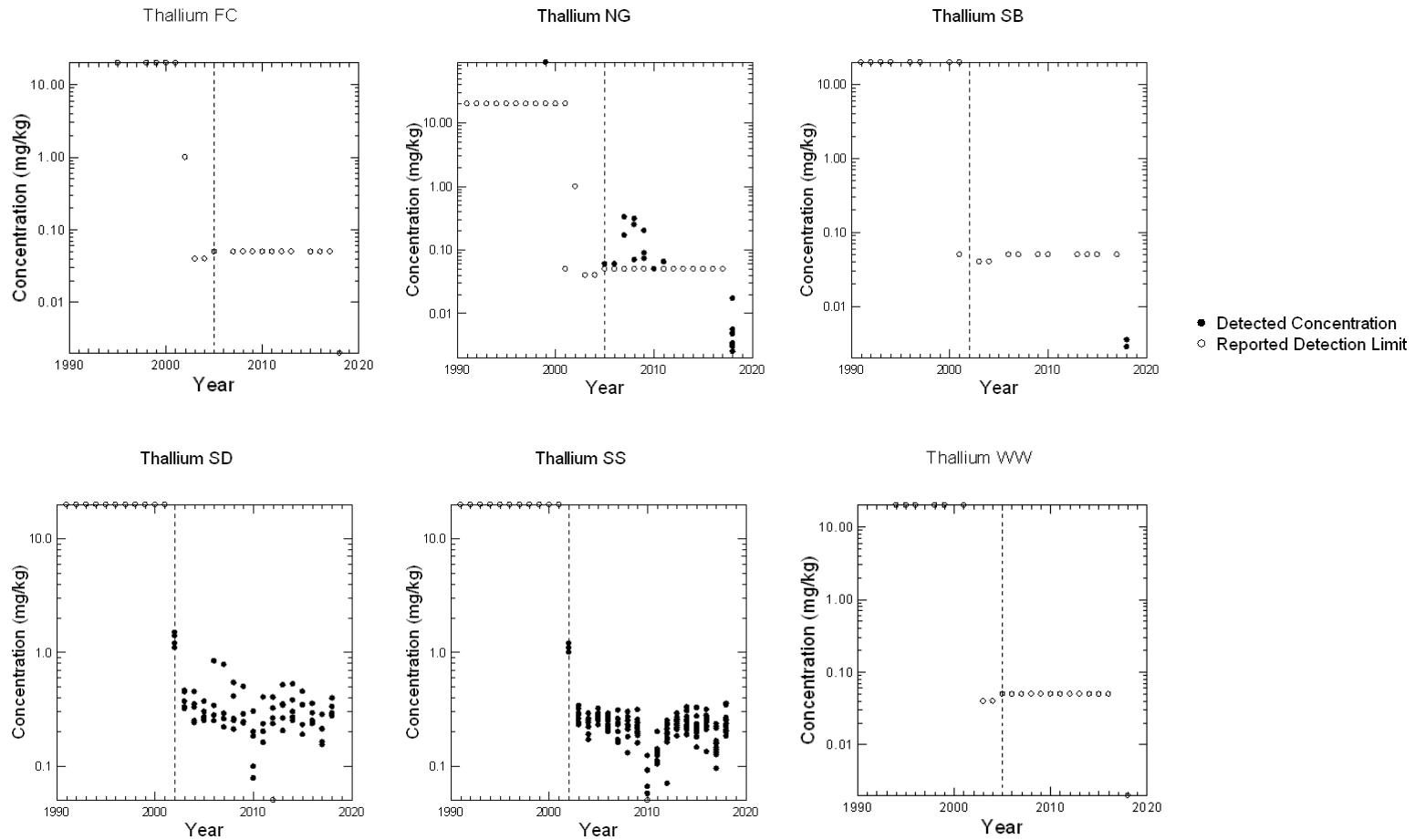
E.2.29 Sulfur



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

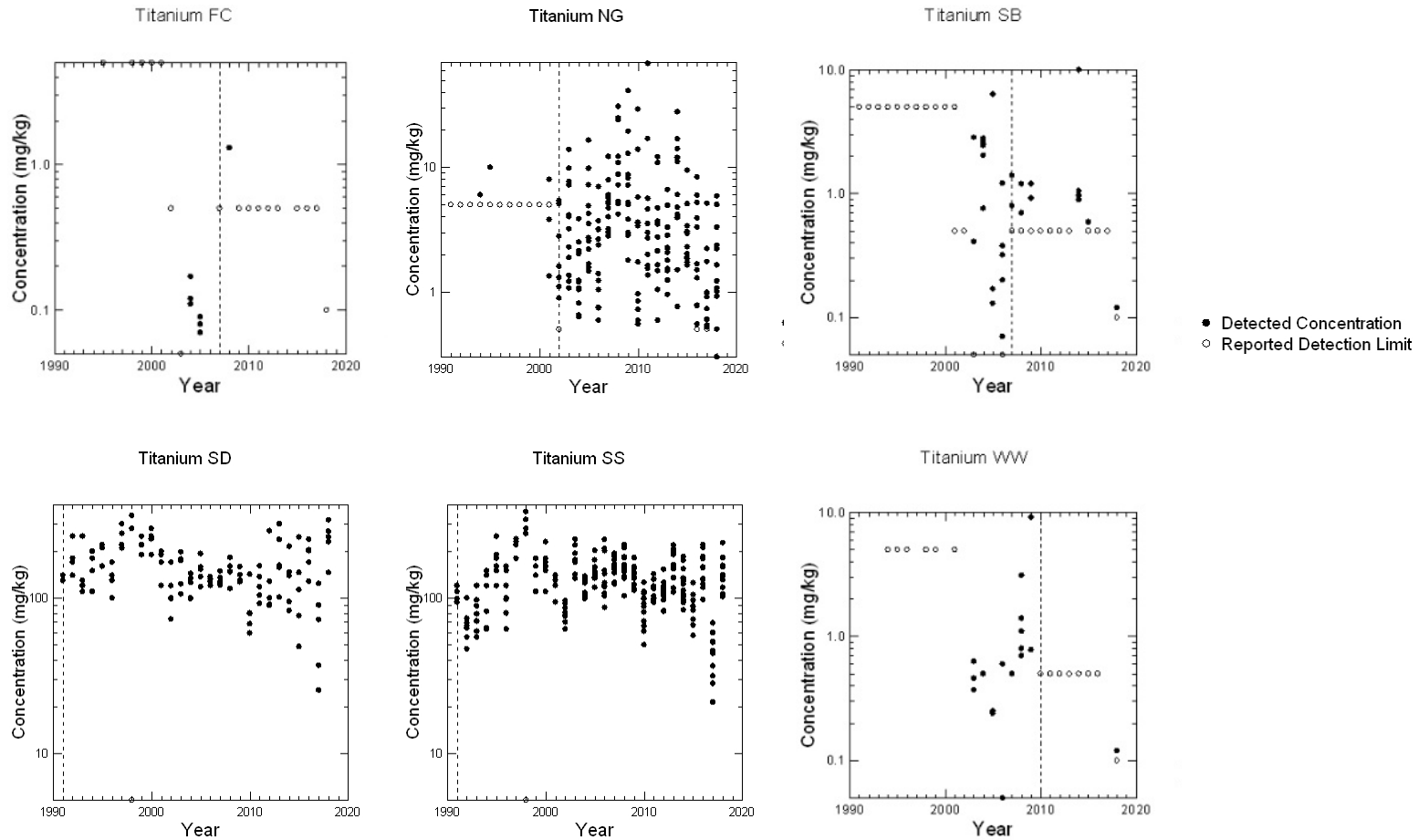
E.2.30 Thallium



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

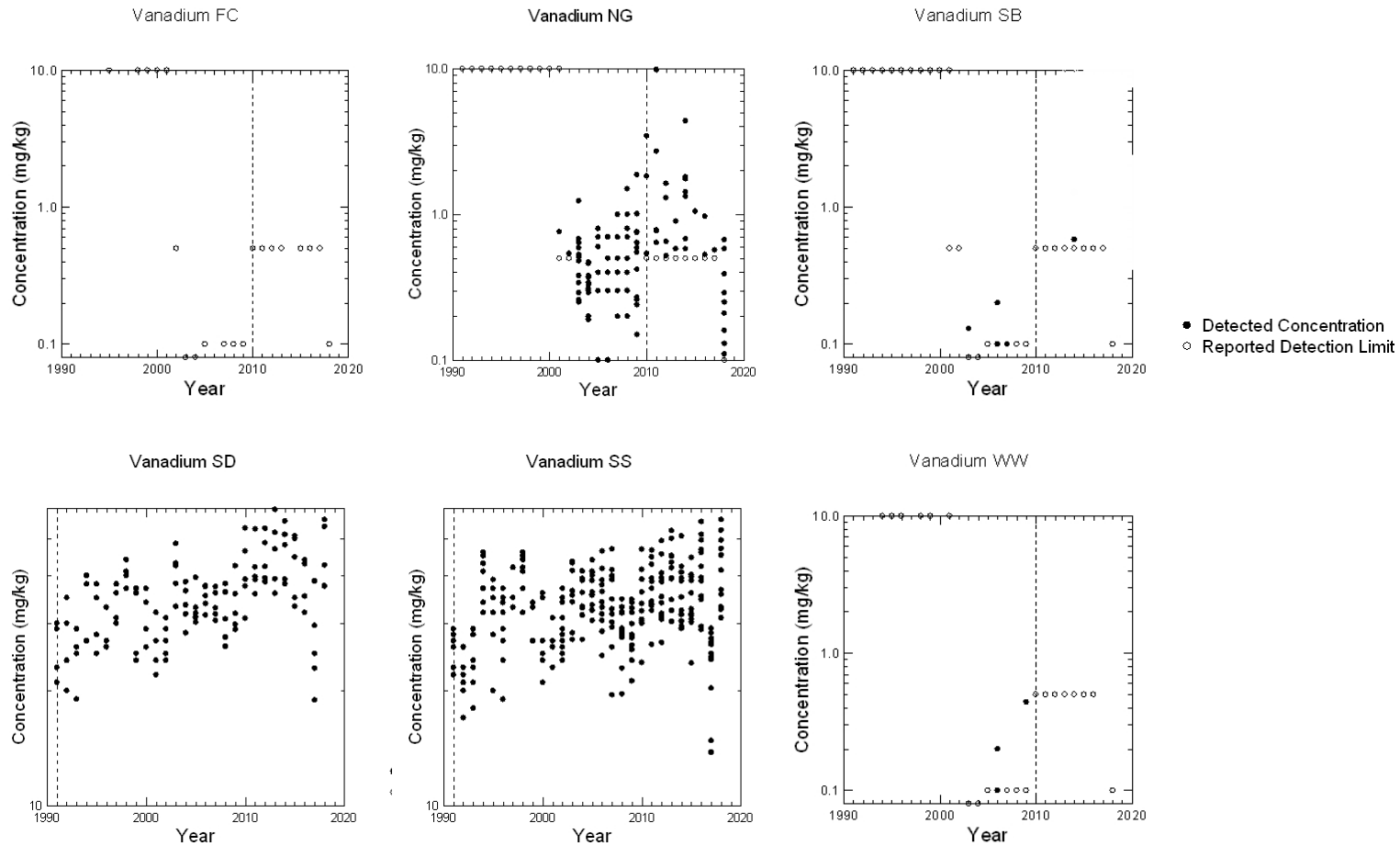
E.2.31 Titanium



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

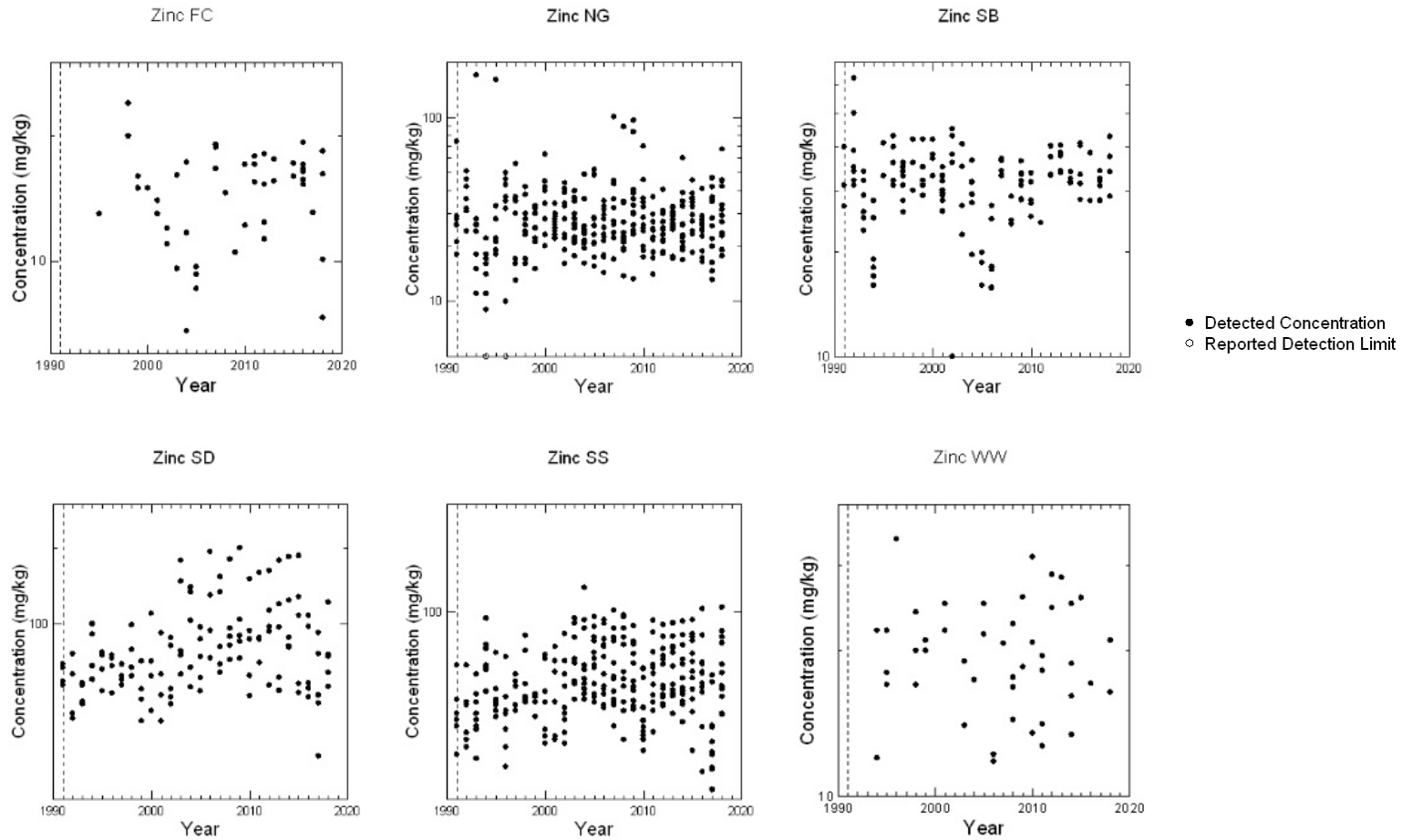
E.2.32 Vanadium



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

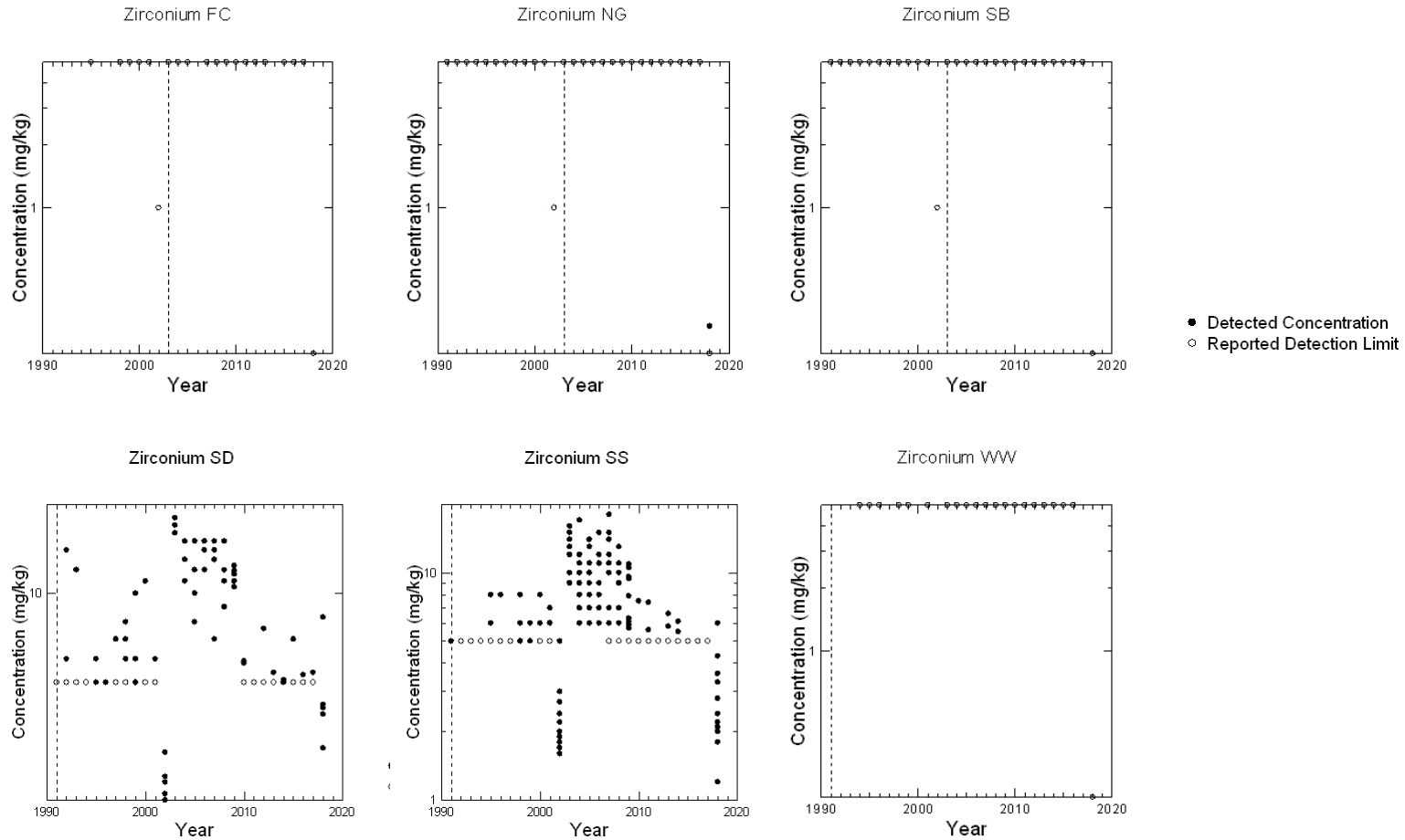
E.2.33 Zinc



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

E.2.34 Zirconium



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

E.3 FINAL RECOMMENDED START DATES FOR EACH ANALYTE-MATRIX PAIR (INORGANIC)

Analyte	Matrix	Recommended Statistical Start Date
Aluminum	FC	2005
Aluminum	NG	2002
Aluminum	SB	2005
Aluminum	SD	1991
Aluminum	SS	1991
Aluminum	WW	2005
Arsenic	FC	2003
Arsenic	NG	2003
Arsenic	SB	2003
Arsenic	SD	1991
Arsenic	SS	1991
Arsenic	WW	2003
Barium	FC	2005
Barium	NG	1991
Barium	SB	1991
Barium	SD	1991
Barium	SS	1991
Barium	WW	1991
Beryllium	FC	2003
Beryllium	NG	2003
Beryllium	SB	2003
Beryllium	SD	1991
Beryllium	SS	1991
Beryllium	WW	2003
Boron	FC	2005
Boron	NG	1999
Boron	SB	1991
Boron	SD	1995
Boron	SS	1998
Boron	WW	2003
Cadmium	FC	2007
Cadmium	NG	2001



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

Analyte	Matrix	Recommended Statistical Start Date
Cadmium	SB	2005
Cadmium	SD	1991
Cadmium	SS	1991
Cadmium	WW	2005
Calcium	FC	1991
Calcium	NG	1991
Calcium	SB	1991
Calcium	SD	1991
Calcium	SS	1991
Calcium	WW	1991
Chloride	FC	1991
Chloride	NG	1991
Chloride	SB	1991
Chloride	SD	1991
Chloride	SS	2009
Chloride	WW	1991
Chromium	FC	2003
Chromium	NG	2002
Chromium	SB	2002
Chromium	SD	1991
Chromium	SS	1991
Chromium	WW	2003
Cobalt	FC	2005
Cobalt	NG	2003
Cobalt	SB	2005
Cobalt	SD	1991
Cobalt	SS	1991
Cobalt	WW	2005
Copper	FC	2002
Copper	NG	2002
Copper	SB	1991
Copper	SD	1991
Copper	SS	1991
Copper	WW	2003
Fluoride	All Matrices	2018 ^A



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

Analyte	Matrix	Recommended Statistical Start Date
Iron	FC	1991
Iron	NG	1991
Iron	SB	1991
Iron	SD	1991
Iron	SS	1991
Iron	WW	1991
Lead	FC	2010
Lead	NG	2003
Lead	SB	2010
Lead	SD	1991
Lead	SS	1991
Lead	WW	2010
Magnesium	FC	1991
Magnesium	NG	1991
Magnesium	SB	1991
Magnesium	SD	1991
Magnesium	SS	1991
Magnesium	WW	1991
Manganese	FC	2002
Manganese	NG	1991
Manganese	SB	1991
Manganese	SD	1991
Manganese	SS	1991
Manganese	WW	1991
Mercury	FC	2005
Mercury	NG	2004
Mercury	SB	2005
Mercury	SD	2003
Mercury	SS	2002
Mercury	WW	2005
Molybdenum	FC	2003
Molybdenum	NG	2002
Molybdenum	SB	1991
Molybdenum	SD	2002
Molybdenum	SS	2002



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

Analyte	Matrix	Recommended Statistical Start Date
Molybdenum	WW	1991
Nickel	FC	2005
Nickel	NG	2002
Nickel	SB	2002
Nickel	SD	1991
Nickel	SS	1991
Nickel	WW	2003
Phosphorus	FC	1991
Phosphorus	NG	1991
Phosphorus	SB	1991
Phosphorus	SD	1991
Phosphorus	SS	1991
Phosphorus	WW	1991
Potassium	FC	1991
Potassium	NG	1991
Potassium	SB	1991
Potassium	SD	1991
Potassium	SS	1991
Potassium	WW	1991
Silicon	FC	2006
Silicon	NG	2003
Silicon	SB	2003
Silicon	SD	2010
Silicon	SS	2010
Silicon	WW	2003
Silver	FC	2005
Silver	NG	2005
Silver	SB	2005
Silver	SD	2003
Silver	SS	2003
Silver	WW	2005
Sodium	FC	2005
Sodium	NG	2002
Sodium	SB	2005
Sodium	SD	1991



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

Analyte	Matrix	Recommended Statistical Start Date
Sodium	SS	2003
Sodium	WW	2005
Strontium	FC	1991
Strontium	NG	1991
Strontium	SB	1991
Strontium	SD	1991
Strontium	SS	1991
Strontium	WW	1991
Sulfur	FC	1991
Sulfur	NG	1991
Sulfur	SB	1991
Sulfur	SD	1991
Sulfur	SS	1991
Sulfur	WW	1991
Thallium	FC	2005
Thallium	NG	2005
Thallium	SB	2005
Thallium	SD	2002
Thallium	SS	2002
Thallium	WW	2005
Titanium	FC	2007
Titanium	NG	2002
Titanium	SB	2007
Titanium	SD	1991
Titanium	SS	1991
Titanium	WW	2010
Vanadium	FC	2010
Vanadium	NG	2010
Vanadium	SB	2010
Vanadium	SD	1991
Vanadium	SS	1991
Vanadium	WW	2010
Zinc	FC	1991
Zinc	NG	1991
Zinc	SB	1991



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

Analyte	Matrix	Recommended Statistical Start Date
Zinc	SD	1991
Zinc	SS	1991
Zinc	WW	1991
Zirconium	FC	2003
Zirconium	NG	2003
Zirconium	SB	2003
Zirconium	SD	1991
Zirconium	SS	1991
Zirconium	WW	1991

Note(s):

^A Monitoring of fluoride was initiated in the 2018 Field Year as per the MECP approved changes. Therefore, fluoride has been exempted from the assessment of appropriate start date due to the limited amount of available data. A review of the appropriate start date for fluoride analysis will be considered when there are at least six years of available data, as this is the minimum data requirement set in this biomonitoring program for the calculation of an upper limit. In the interim, regression analyses for fluoride will be evaluated with a start date of 2018.

E.4 SCATTERPLOTS OF SITE-WIDE ANALYTICAL DATA AVAILABLE FOR EACH ANALYTE-MATRIX PAIR SINCE 1991 (ORGANIC)

This appendix provides scatterplots of available analytical data for each analyte-matrix pair for organic analytes on a Site-wide basis. The assessed appropriate start dates for statistical analysis (control charts and linear regression) for each analyte-matrix pair on a Site-wide basis are indicated by a dashed vertical line on the figures.

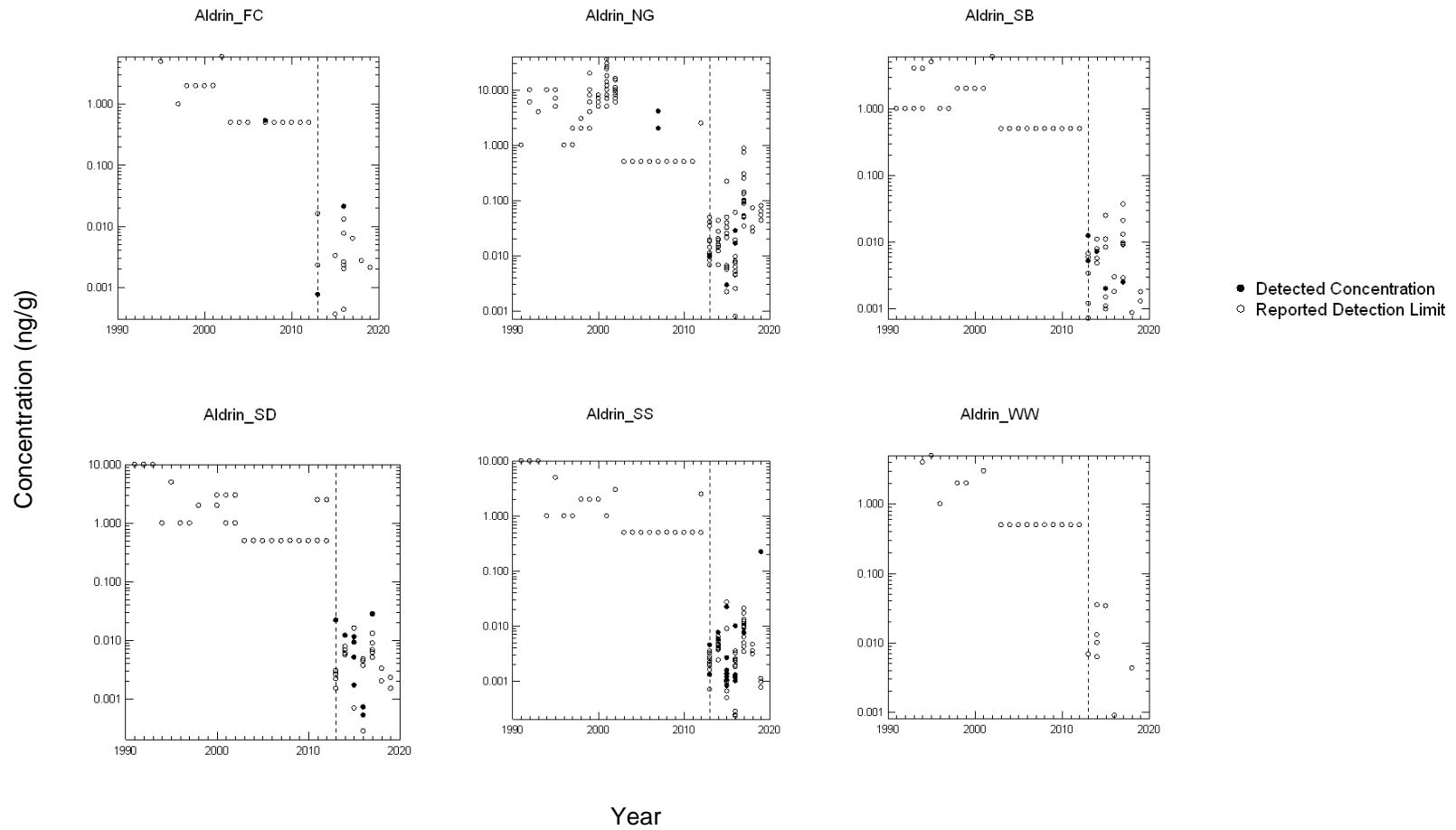


LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

E.4.1 OCPs

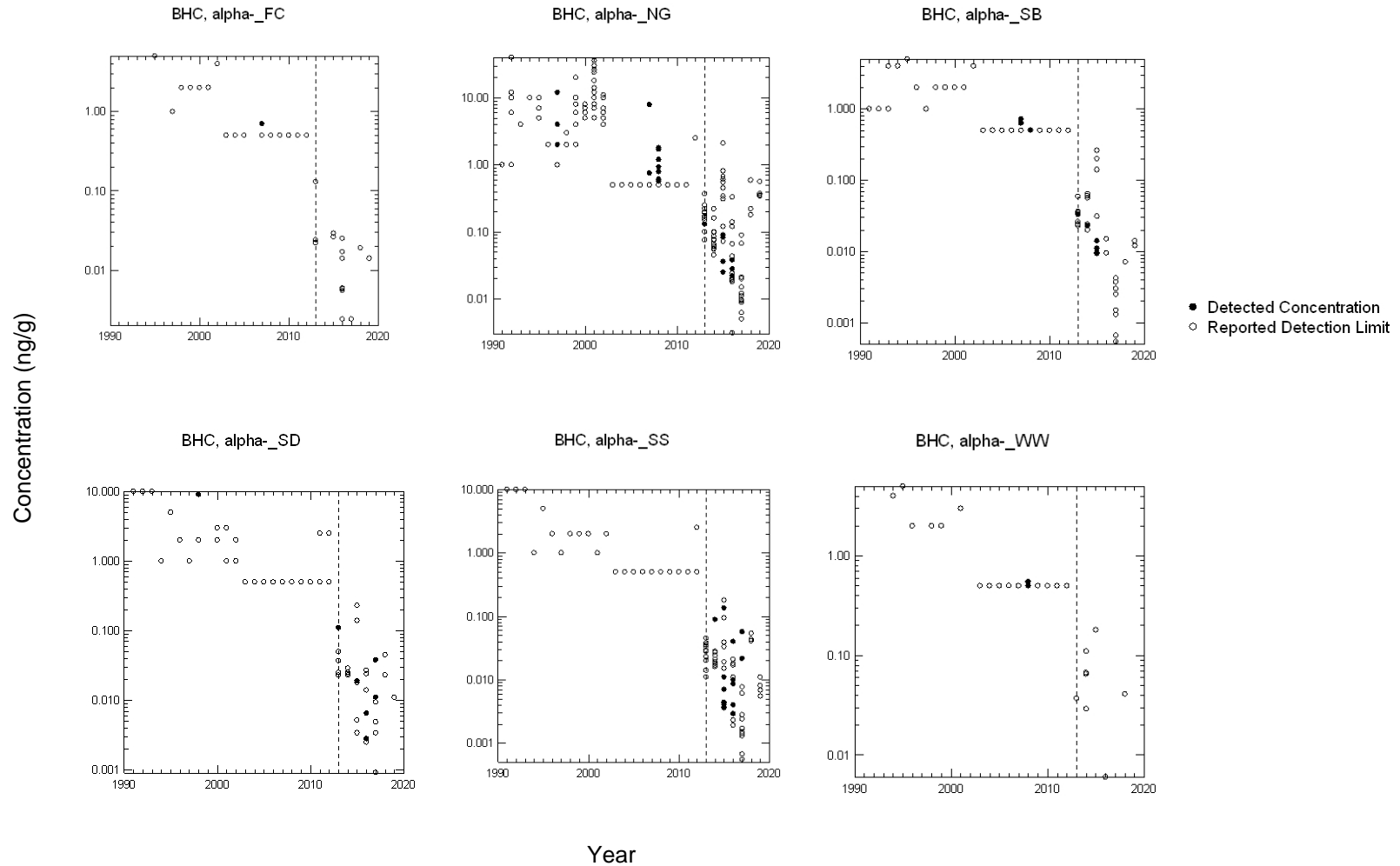
1. Aldrin



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

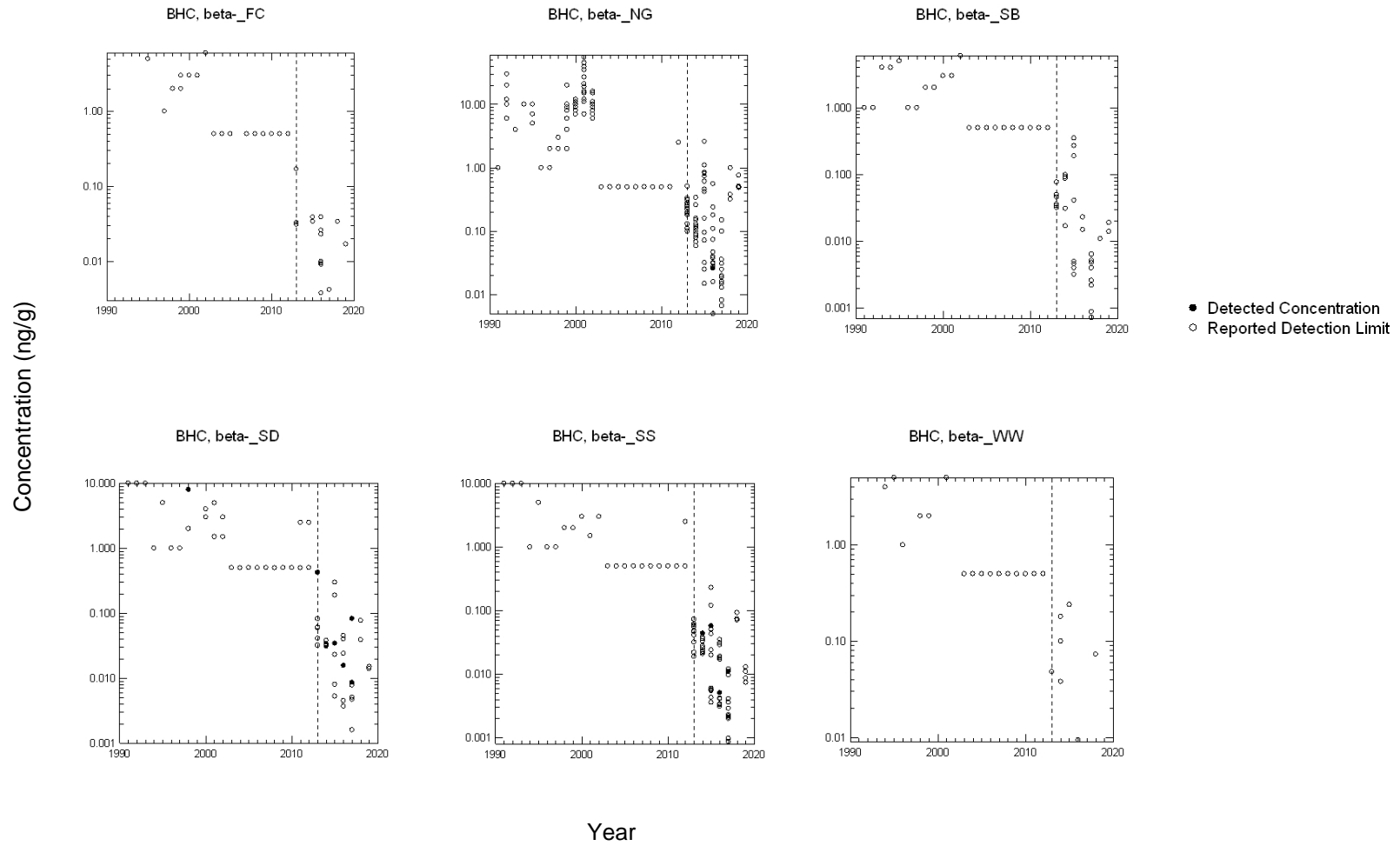
2. BHC, alpha-



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

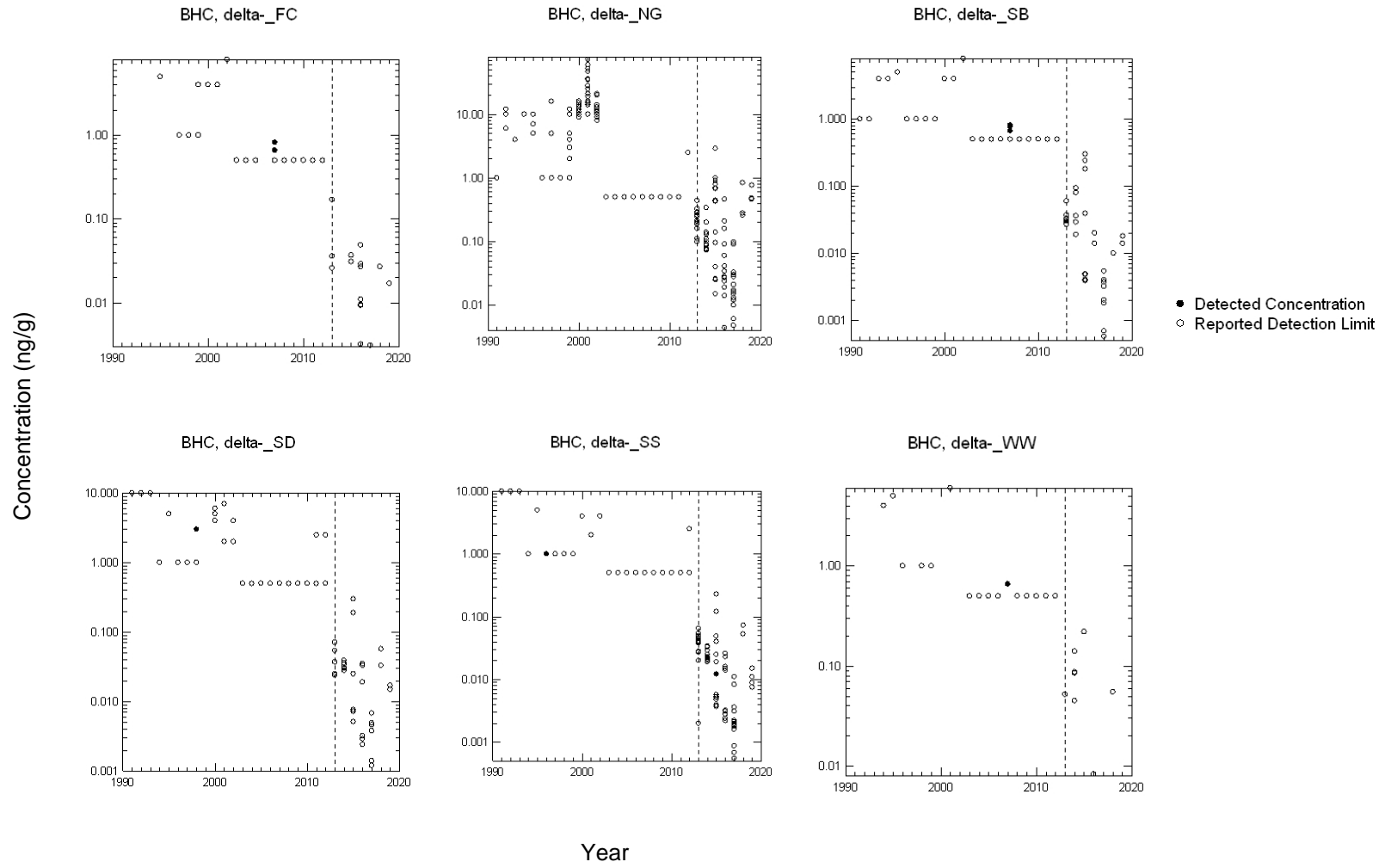
3. BHC, beta-



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

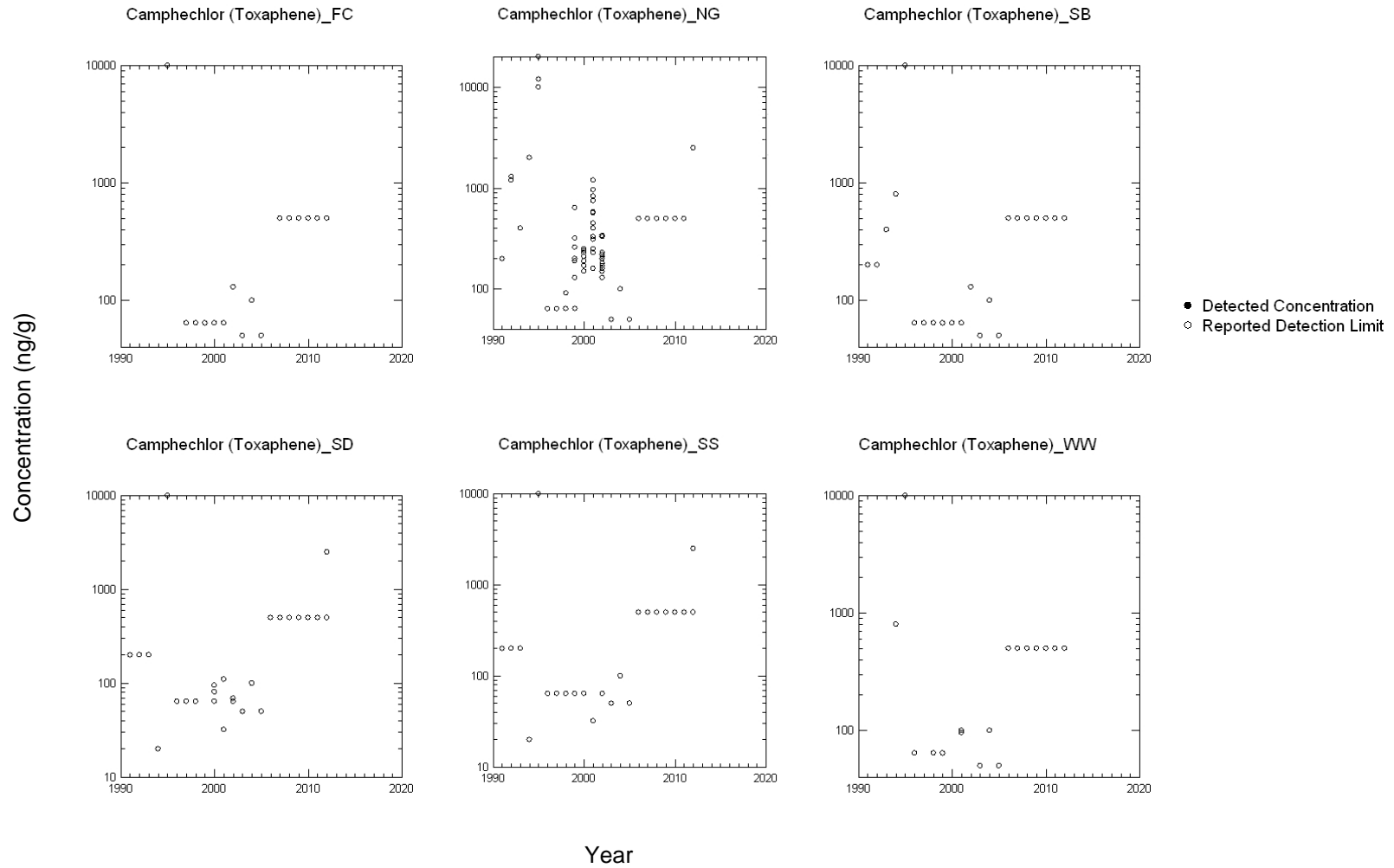
4. BHC, delta-



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

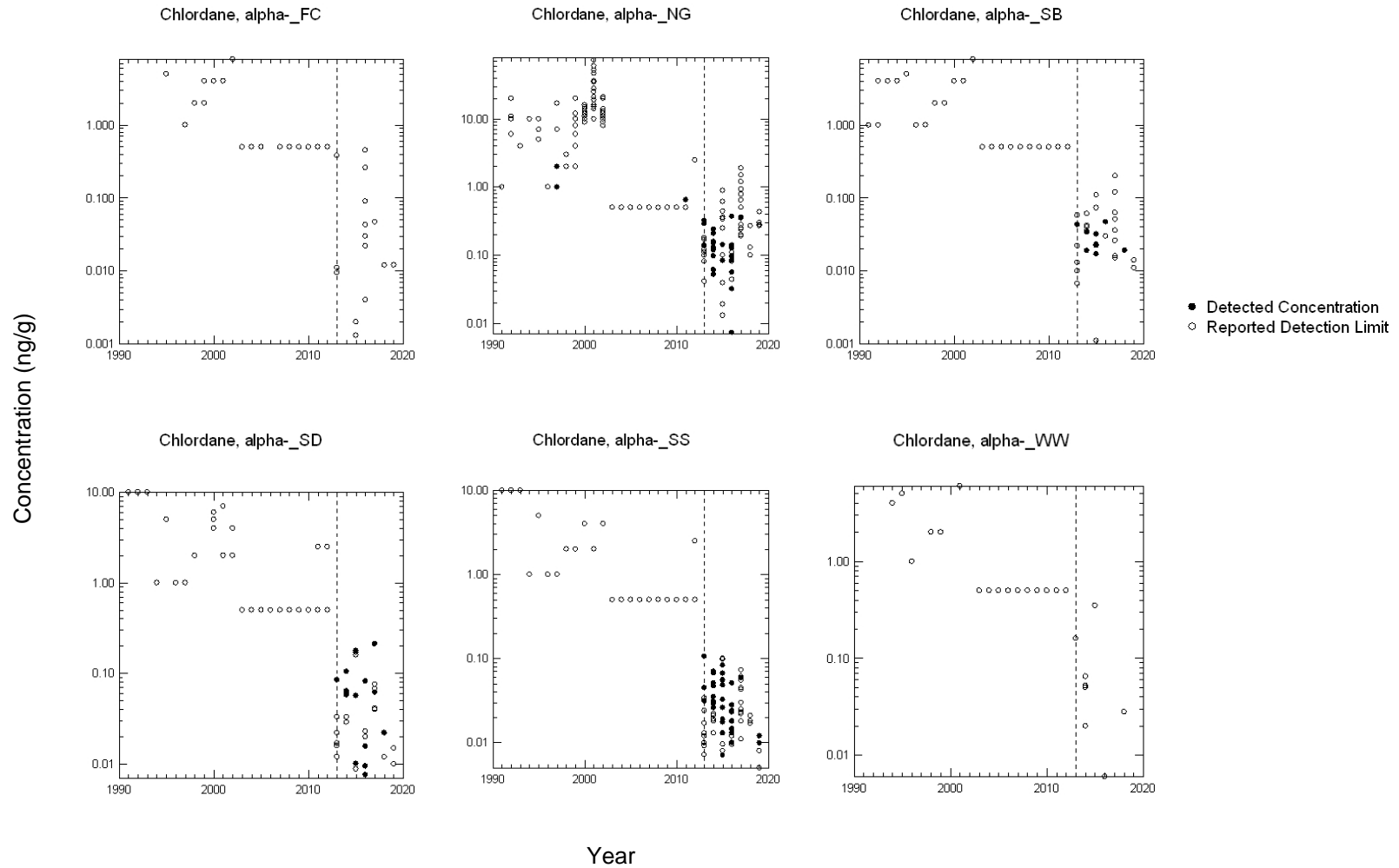
5. Camphechlor (Toxaphene)



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

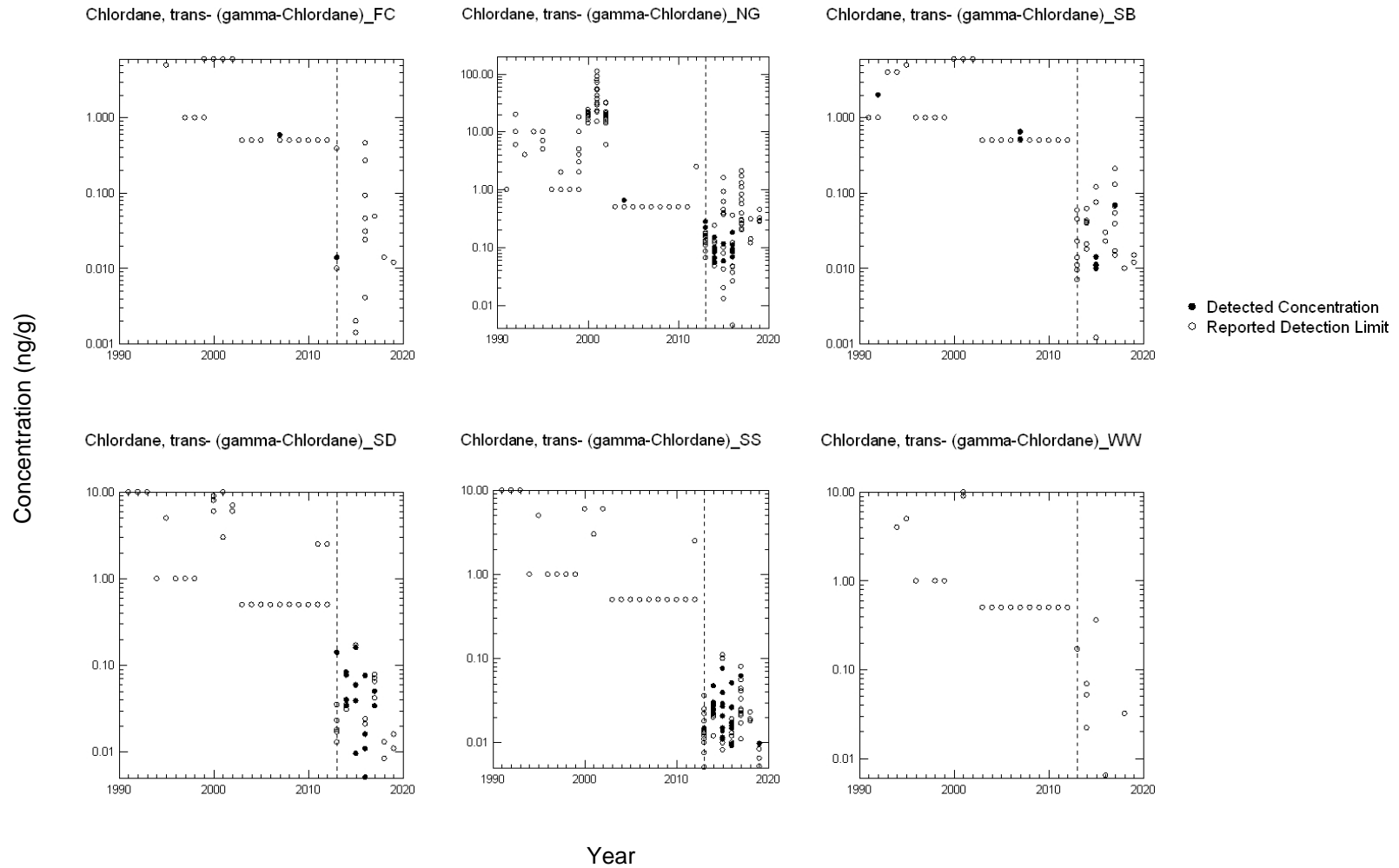
6. Chlordane, alpha-



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

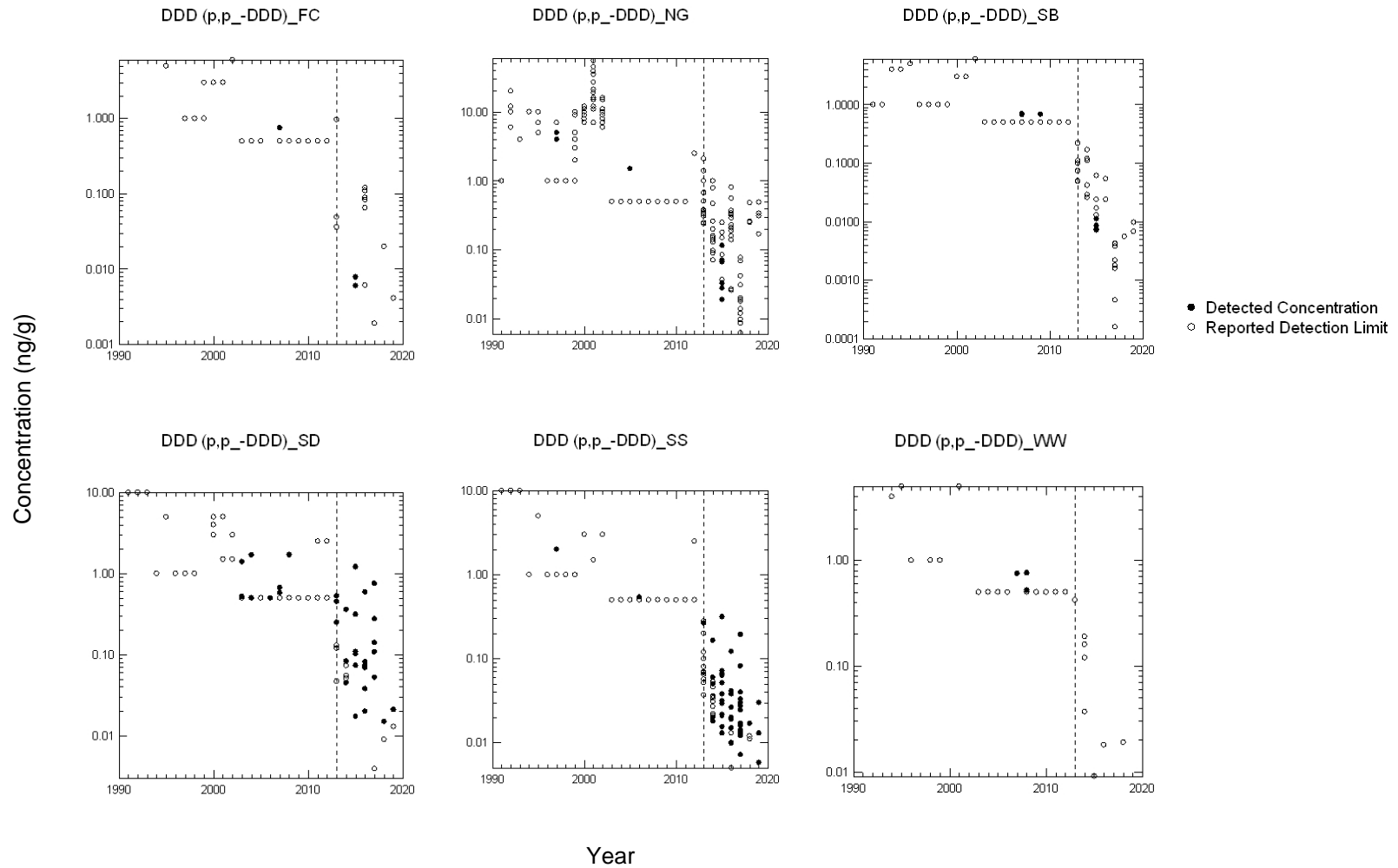
7. Chlordane, trans- (gamma-Chlordane)



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

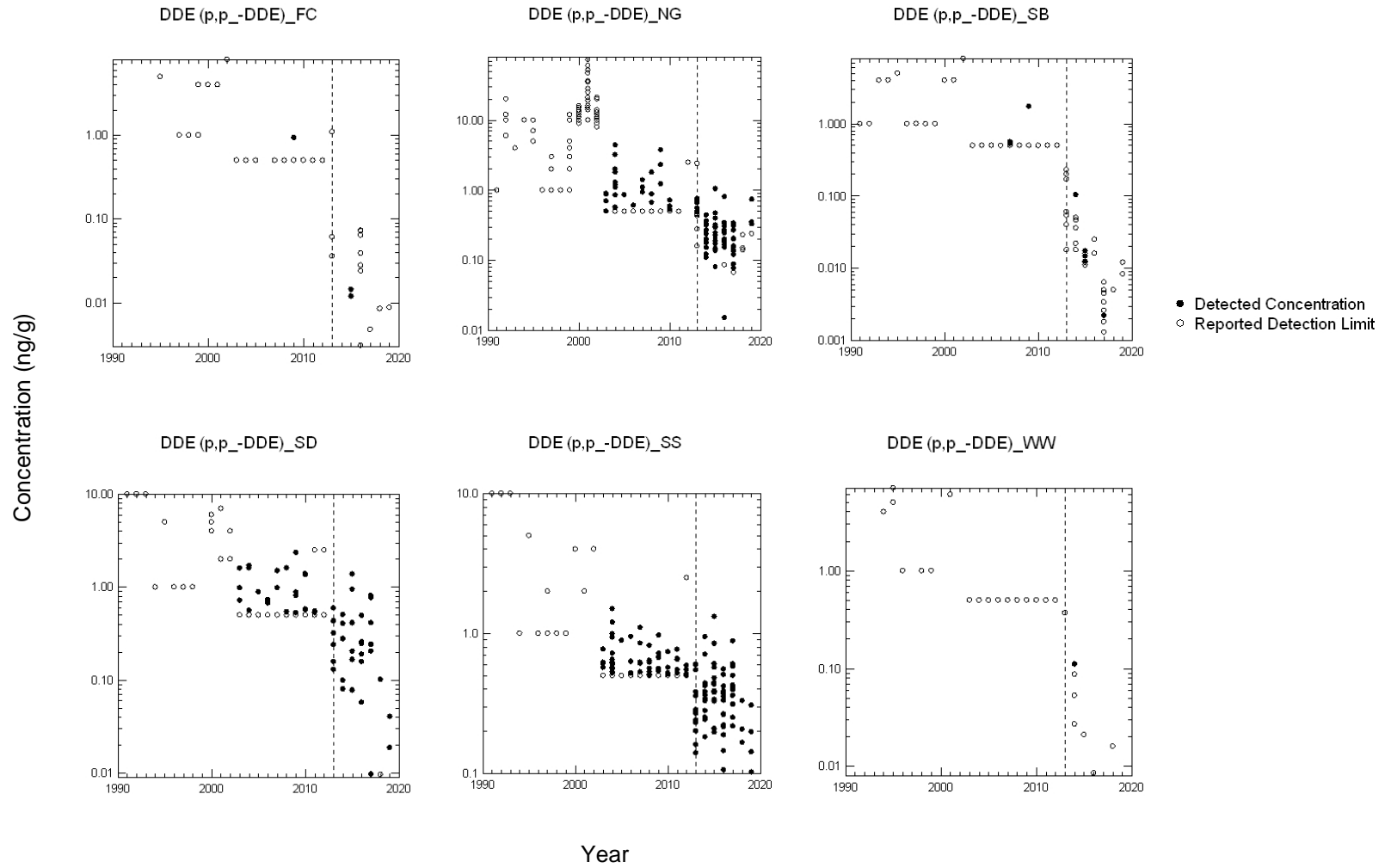
8. DDD (p,p'-DDD)



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

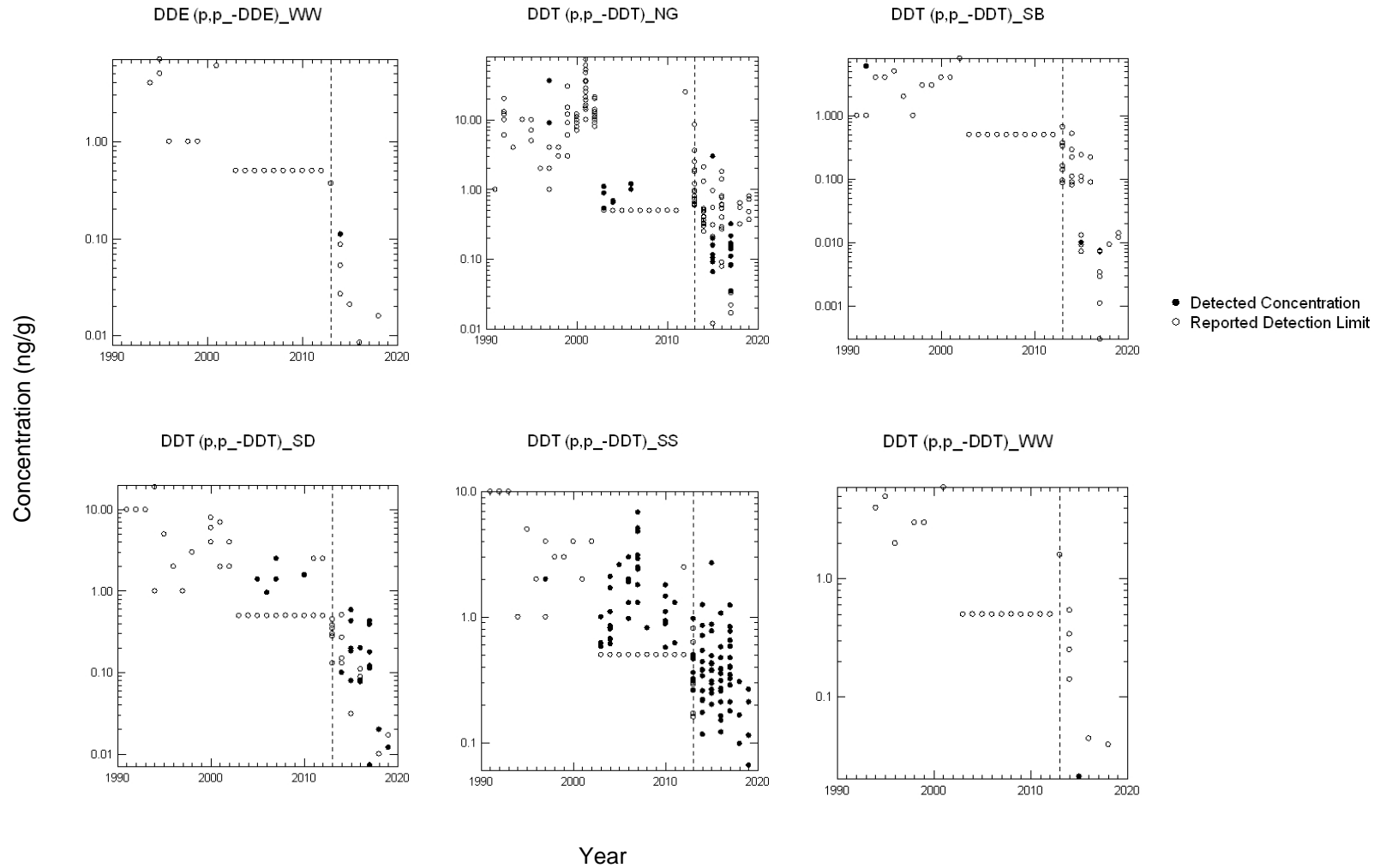
9. DDE (p,p'-DDE)



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

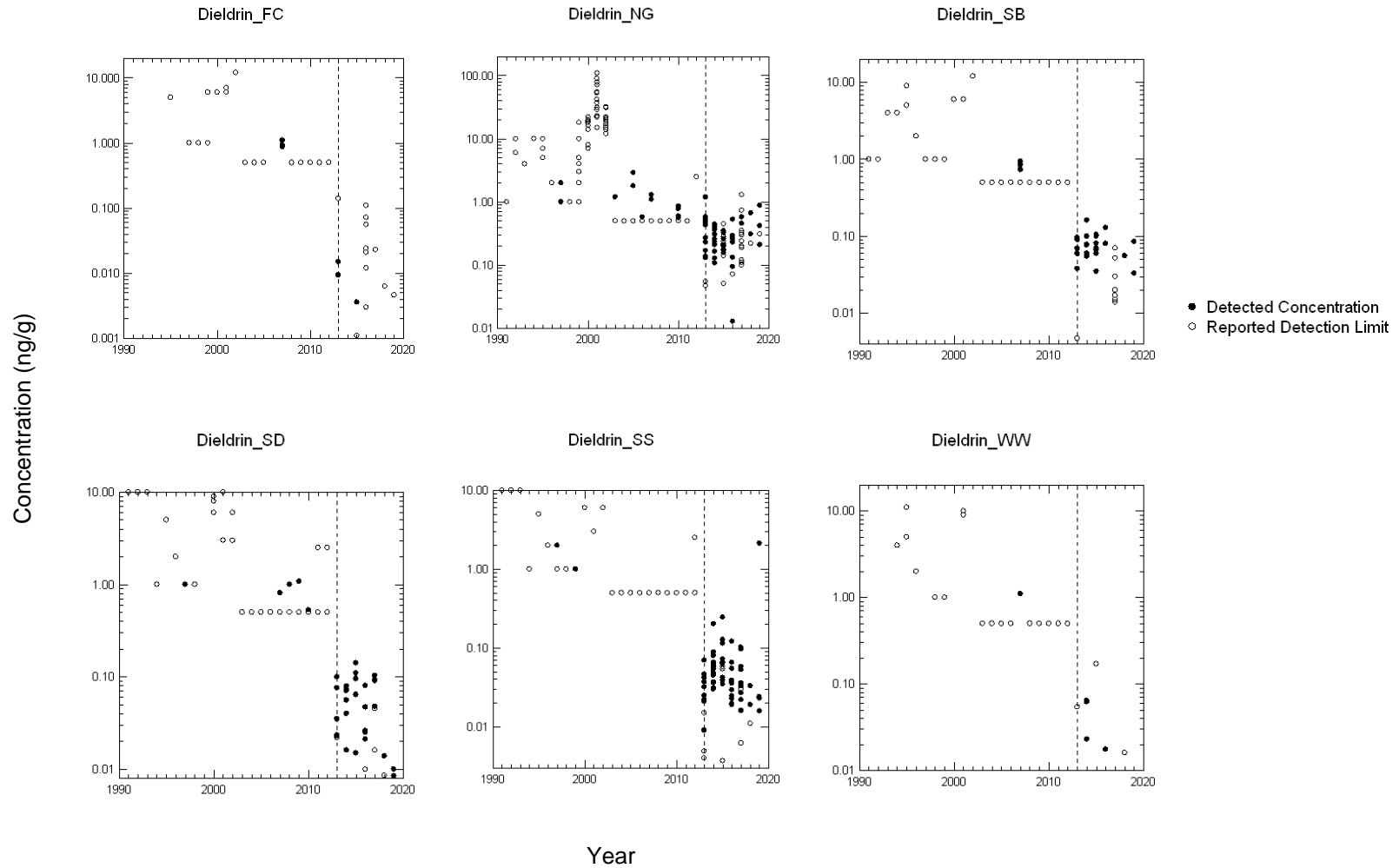
10. DDT (p,p'-DDT)



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

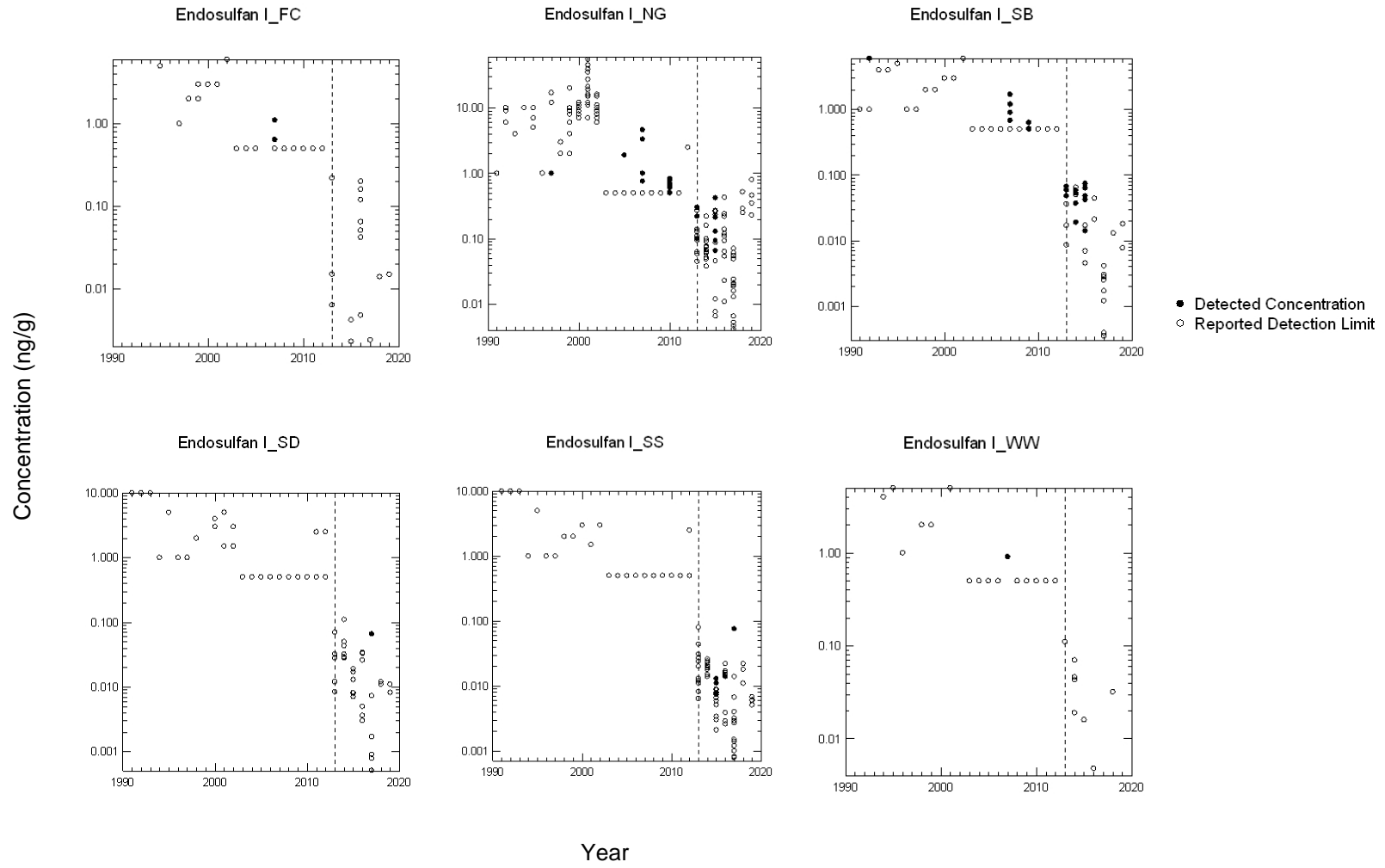
11. Dieldrin



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

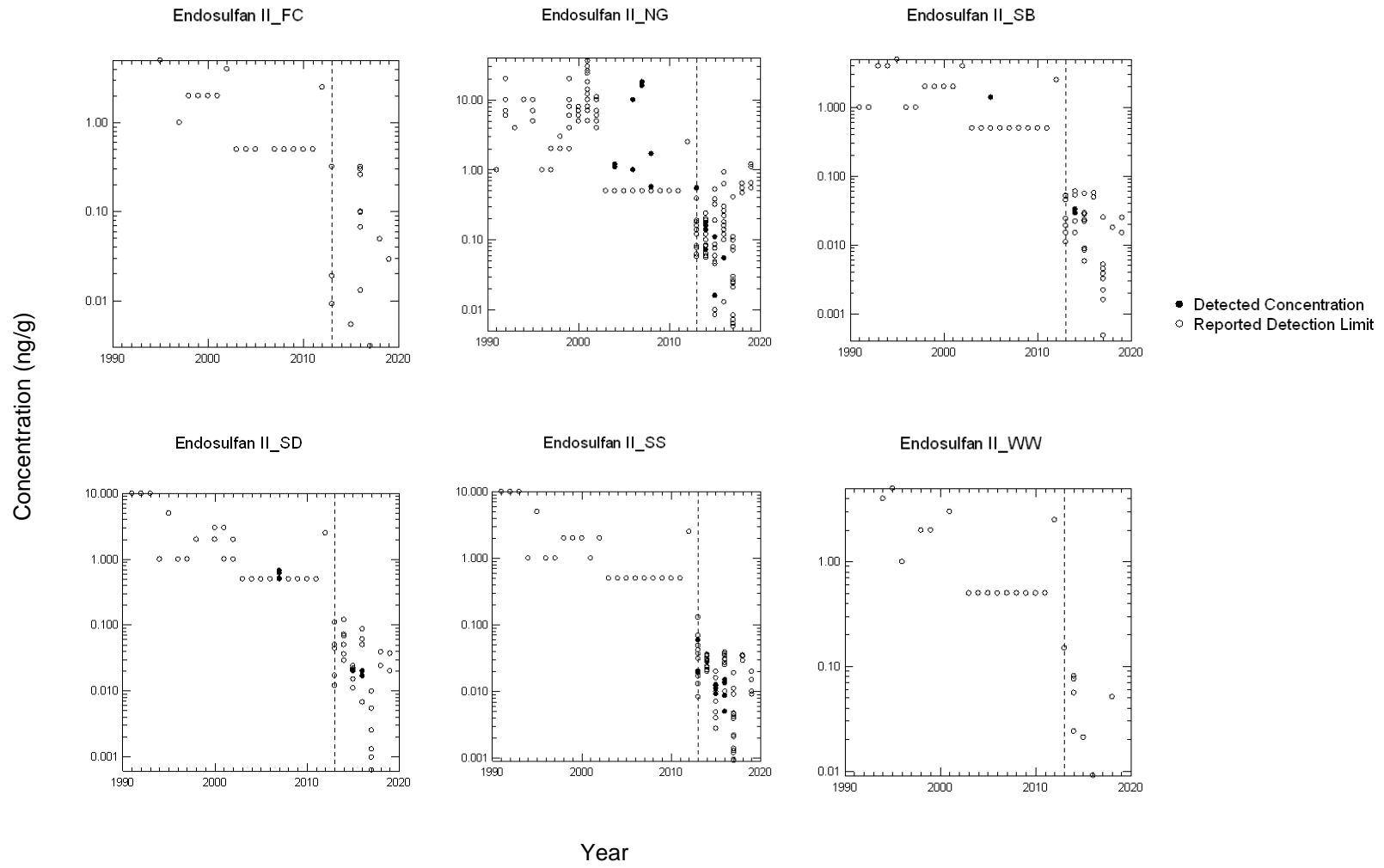
12. Endosulfan I



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

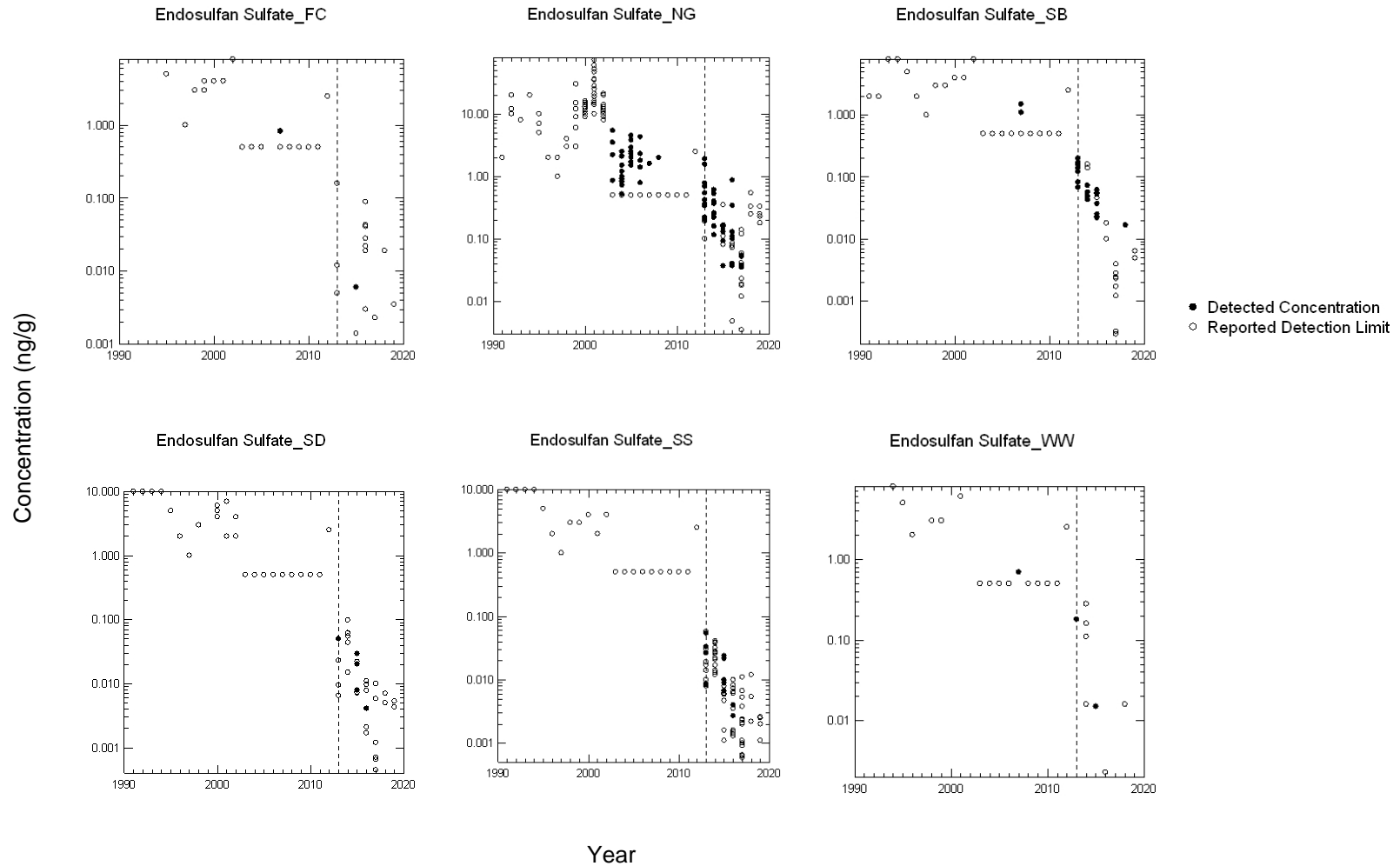
13. Endosulfan II



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

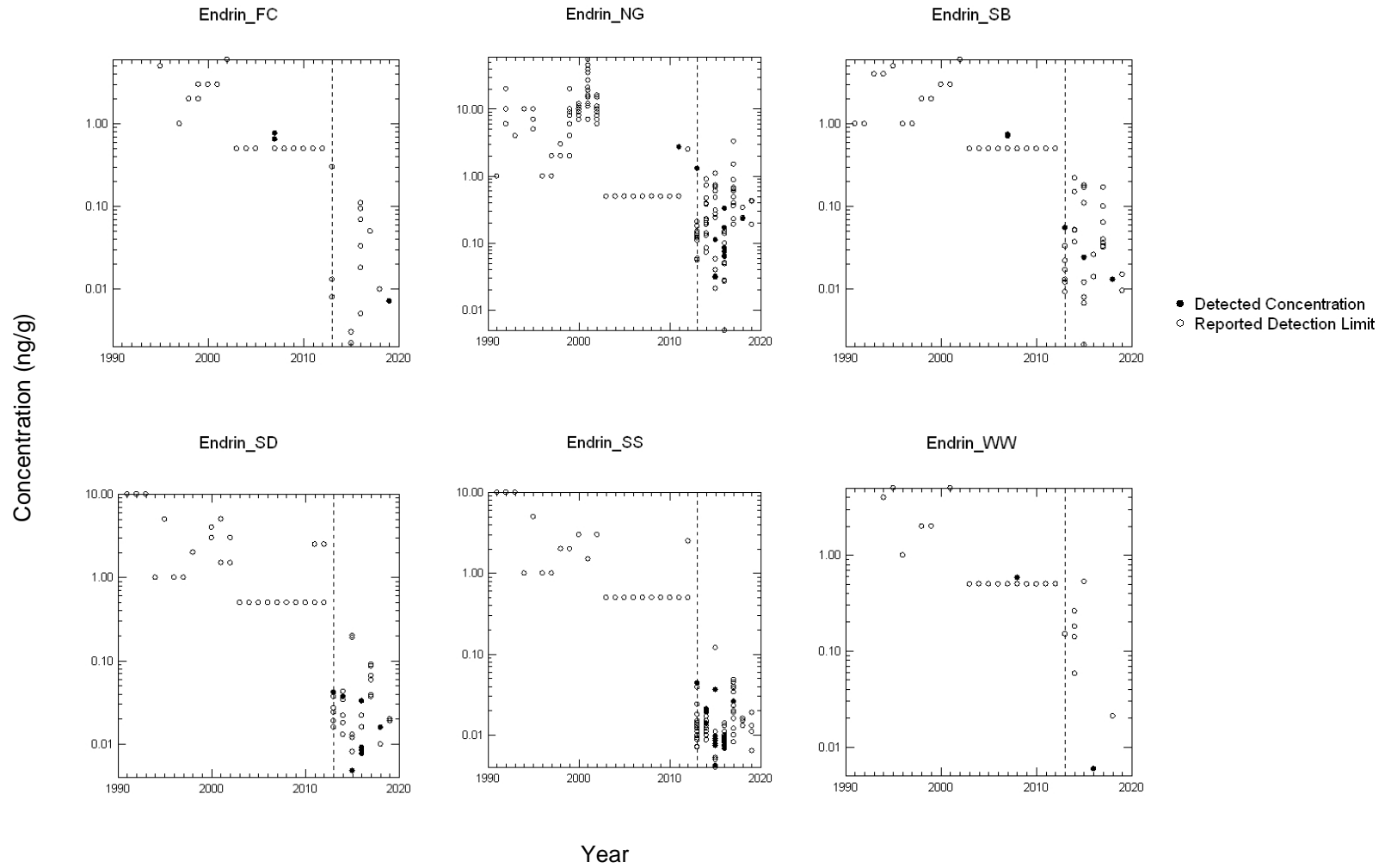
14. Endosulfan Sulfate



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

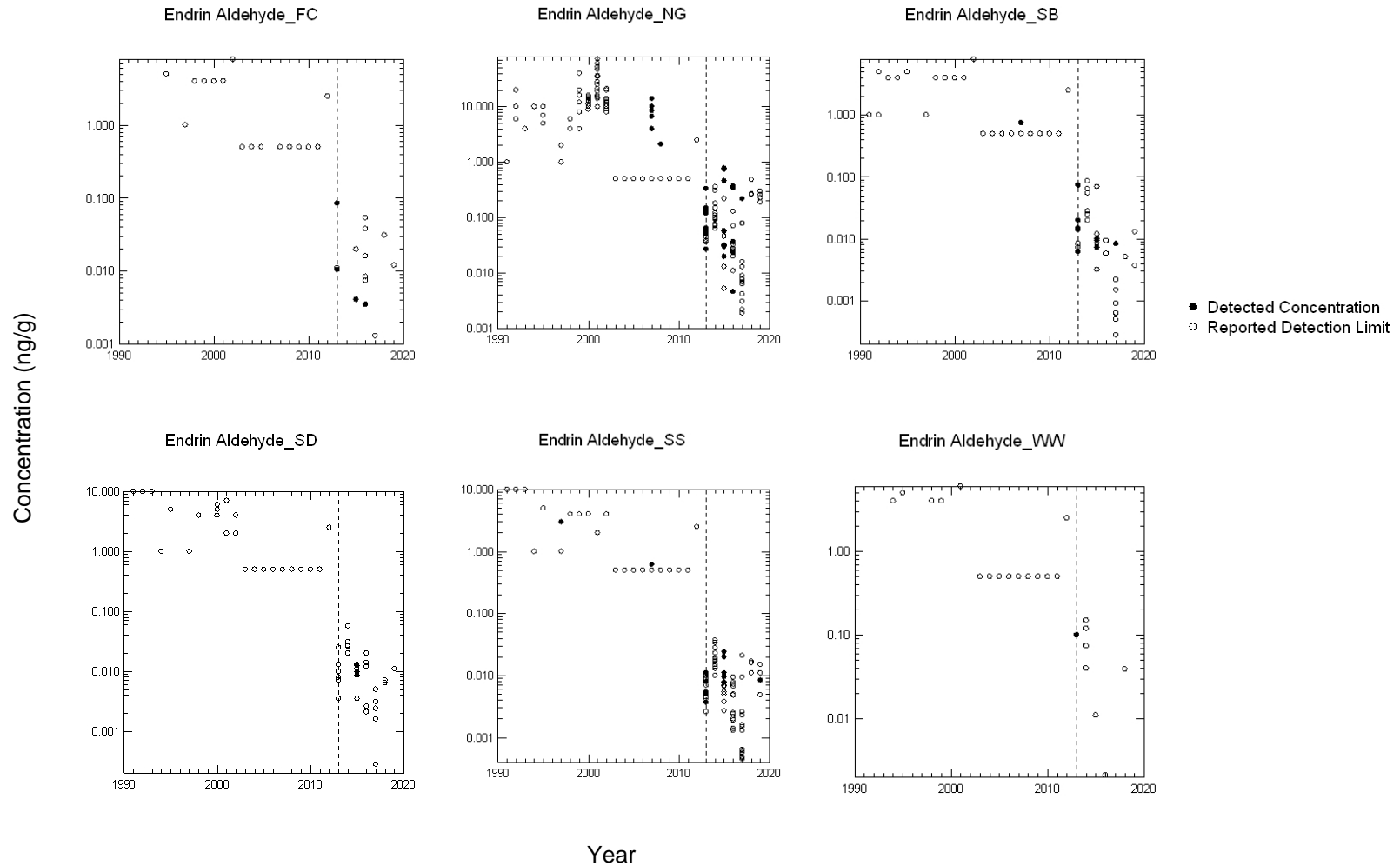
15. Endrin



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

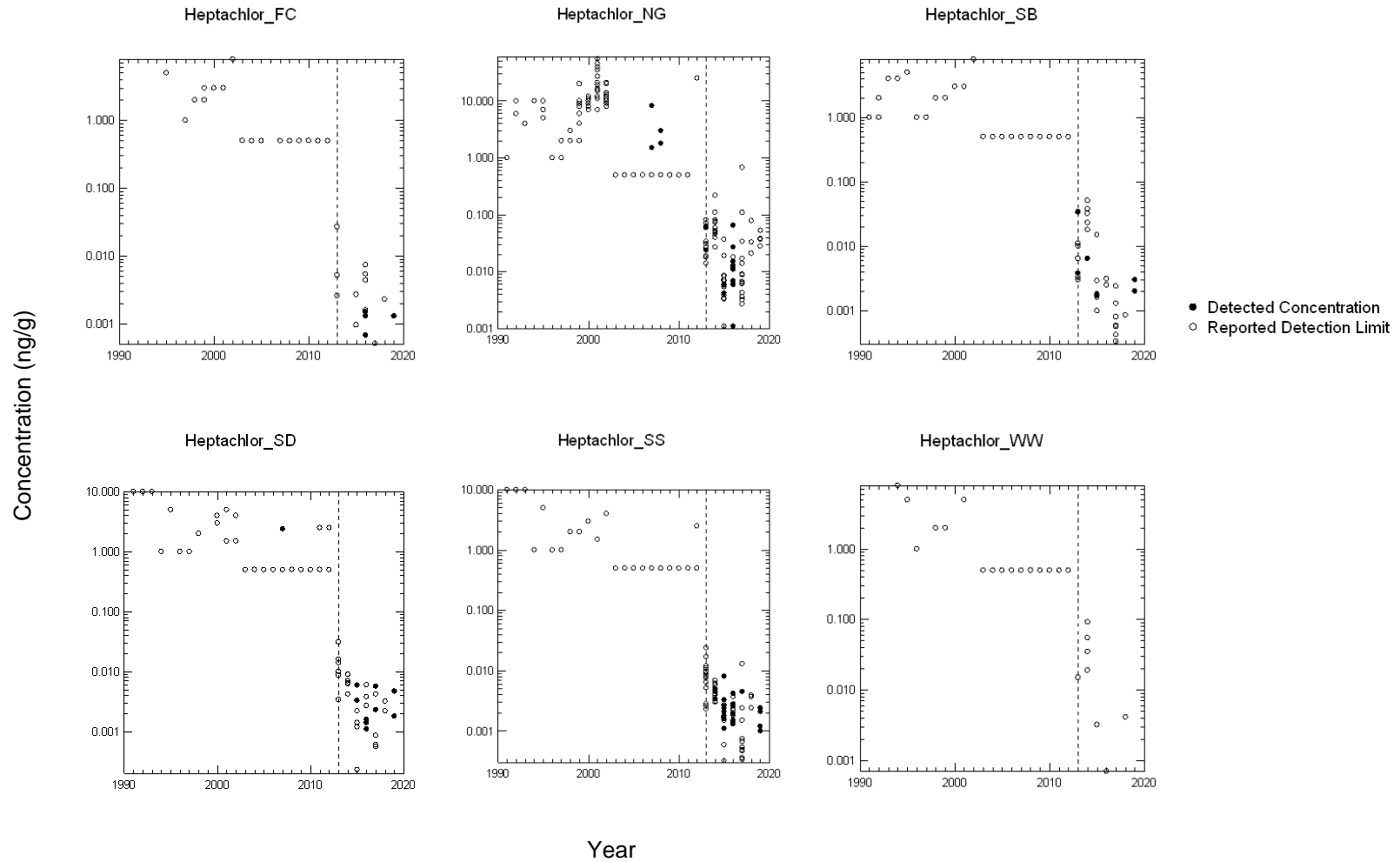
16. Endrin Aldehyde



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

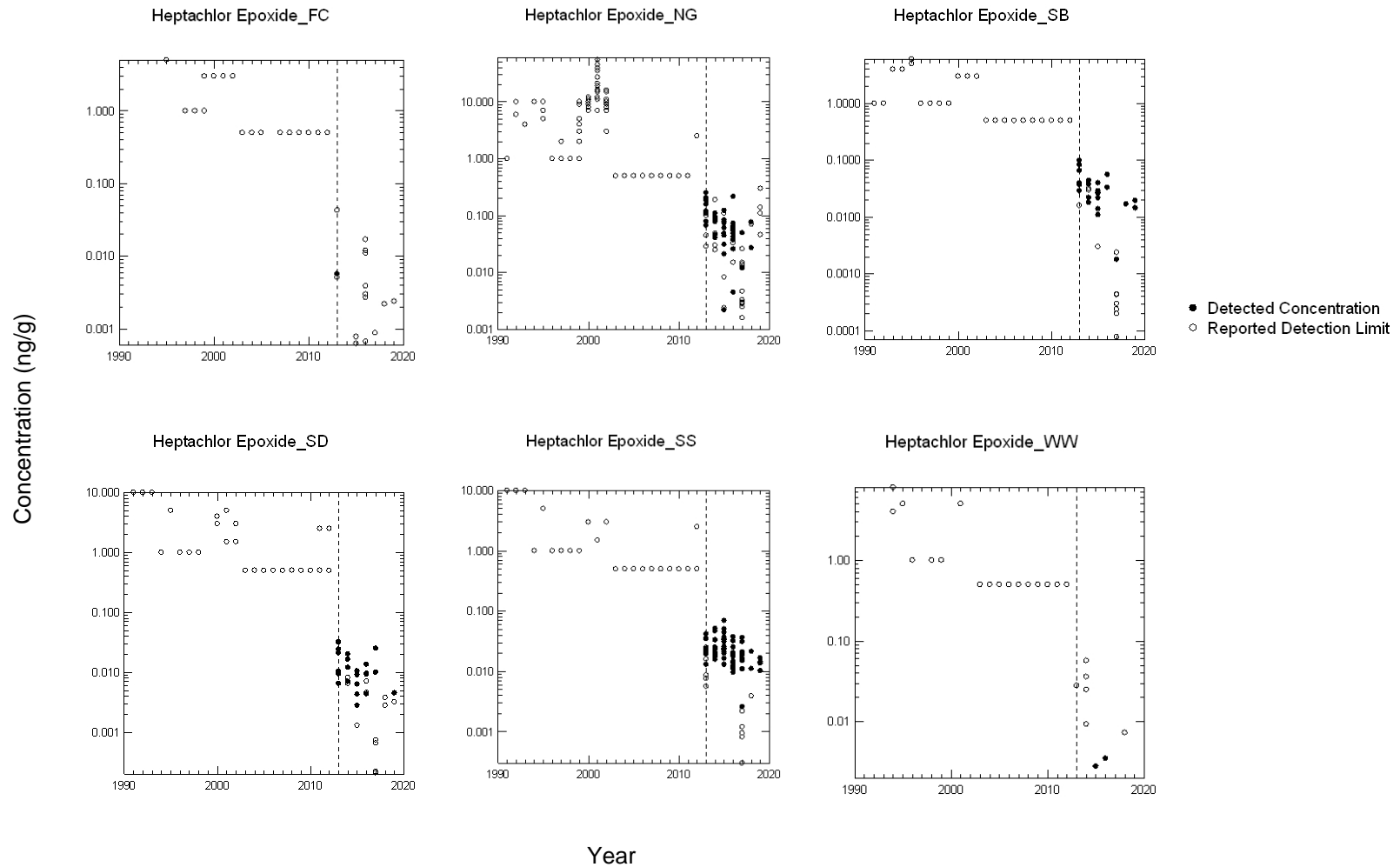
17. Heptachlor



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

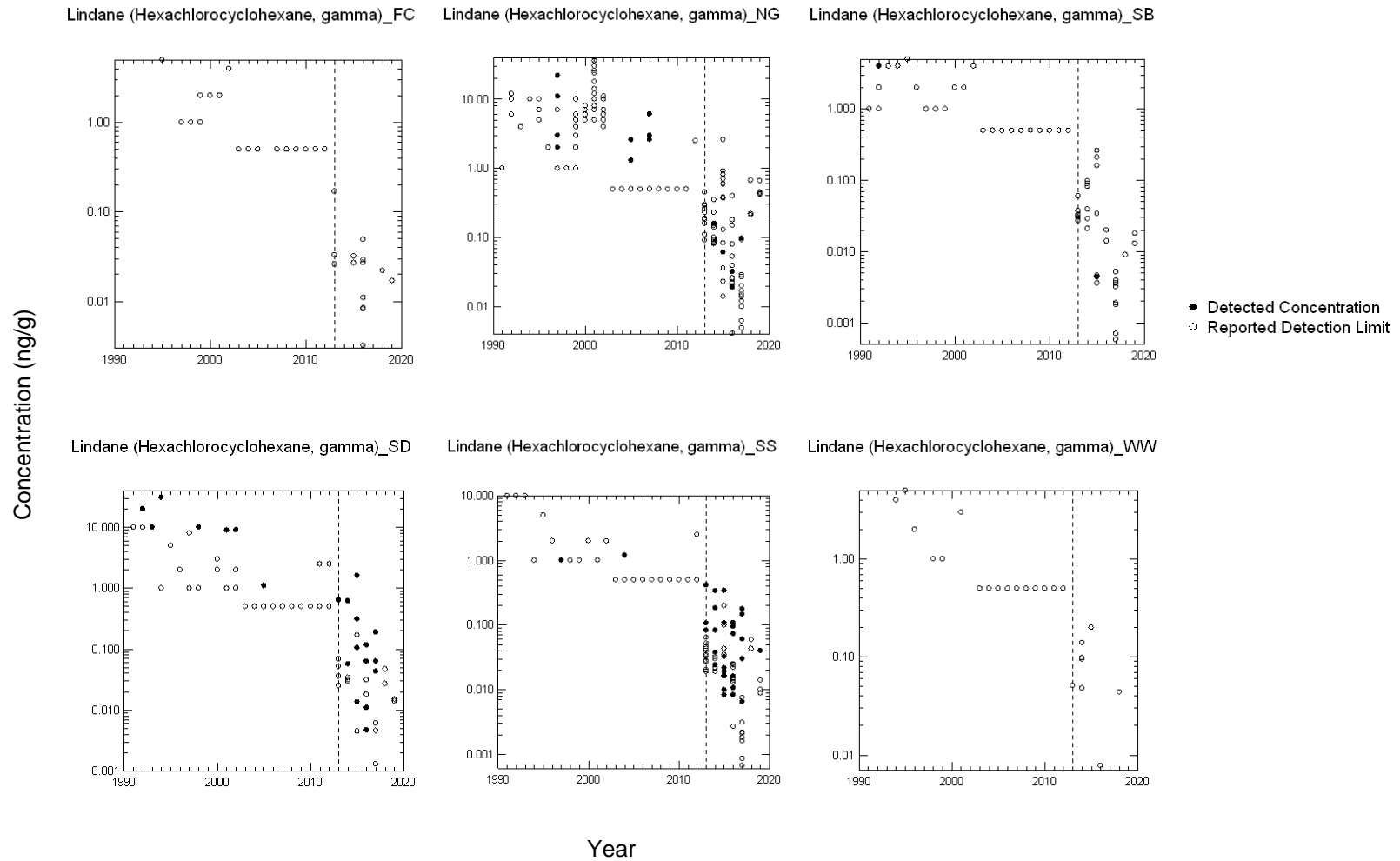
18. Heptachlor Epoxide



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

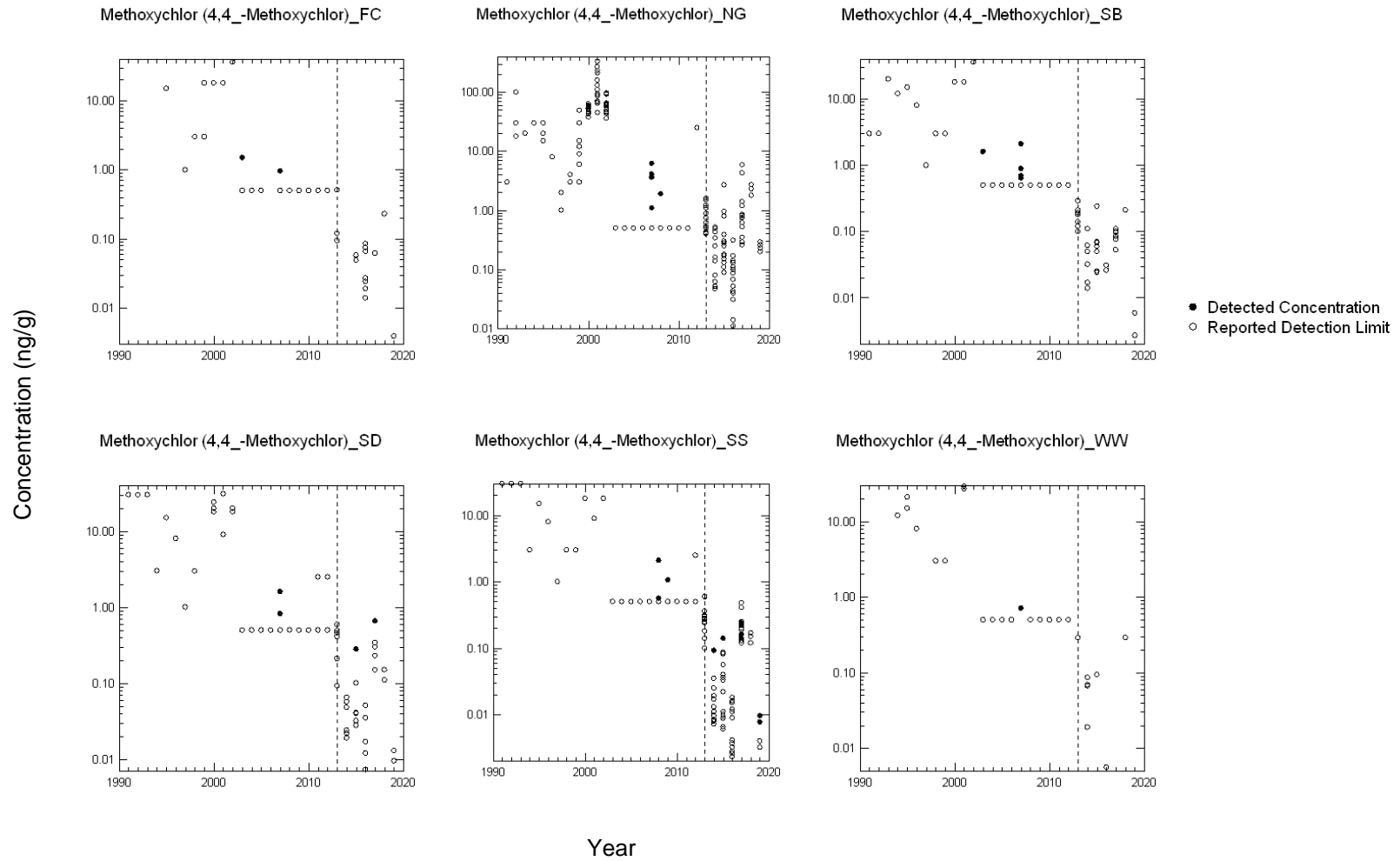
19. Lindane (Hexachlorocyclohexane, gamma)



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

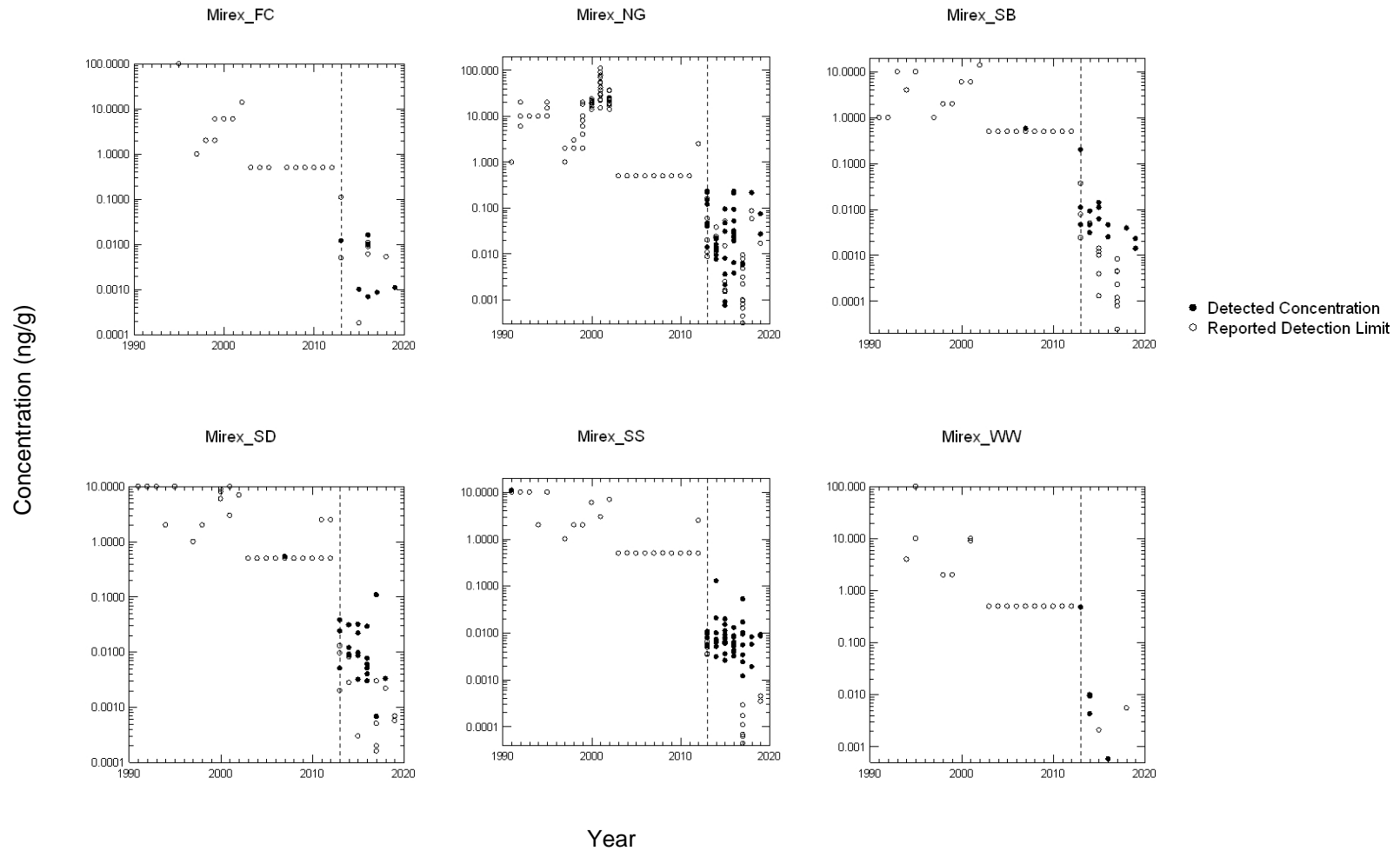
20. Methoxychlor (4,4'-Methoxychlor)



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

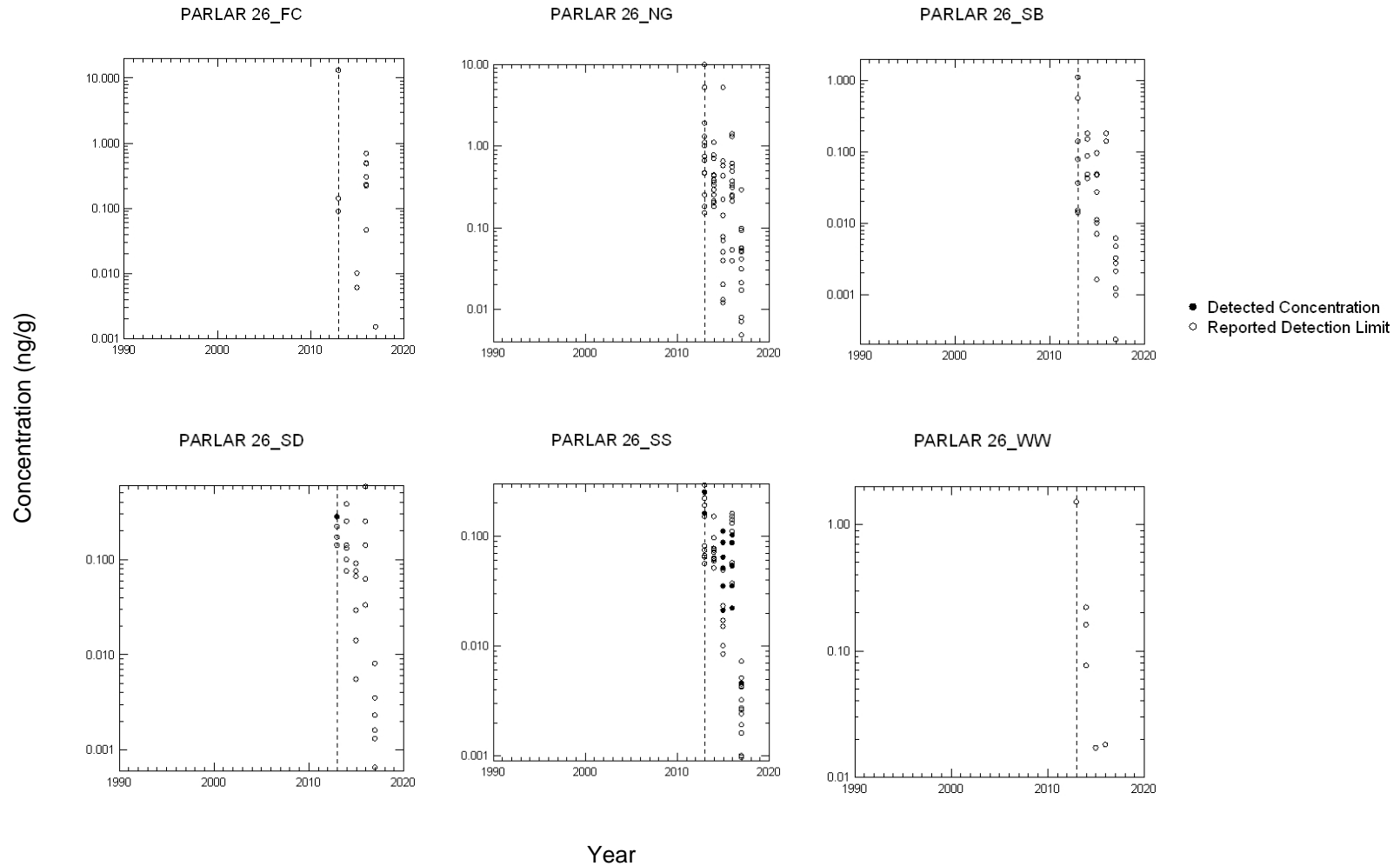
21. Mirex



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

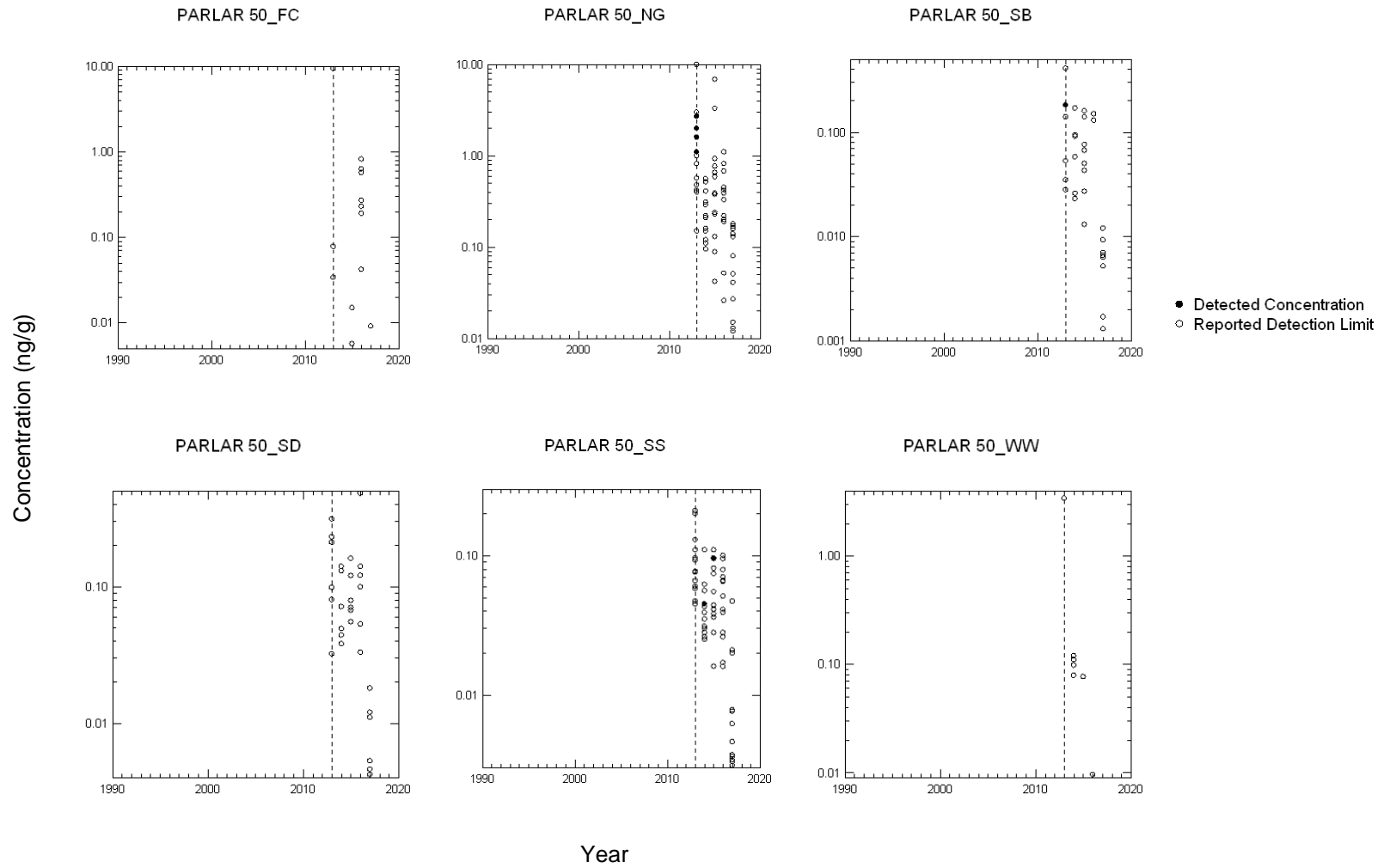
22. PARLAR 26



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

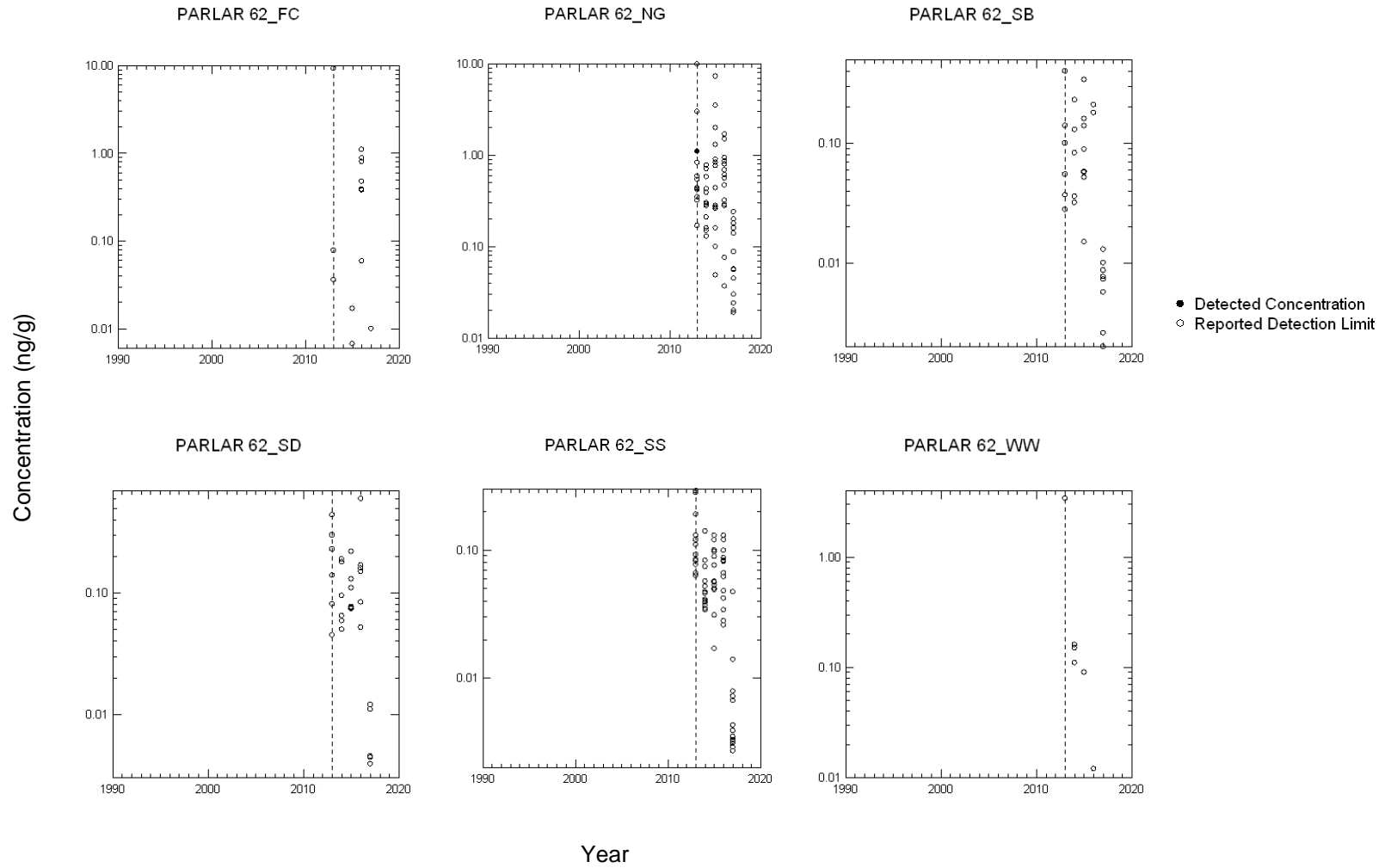
23. PARLAR 50



LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

24. PARLAR 62

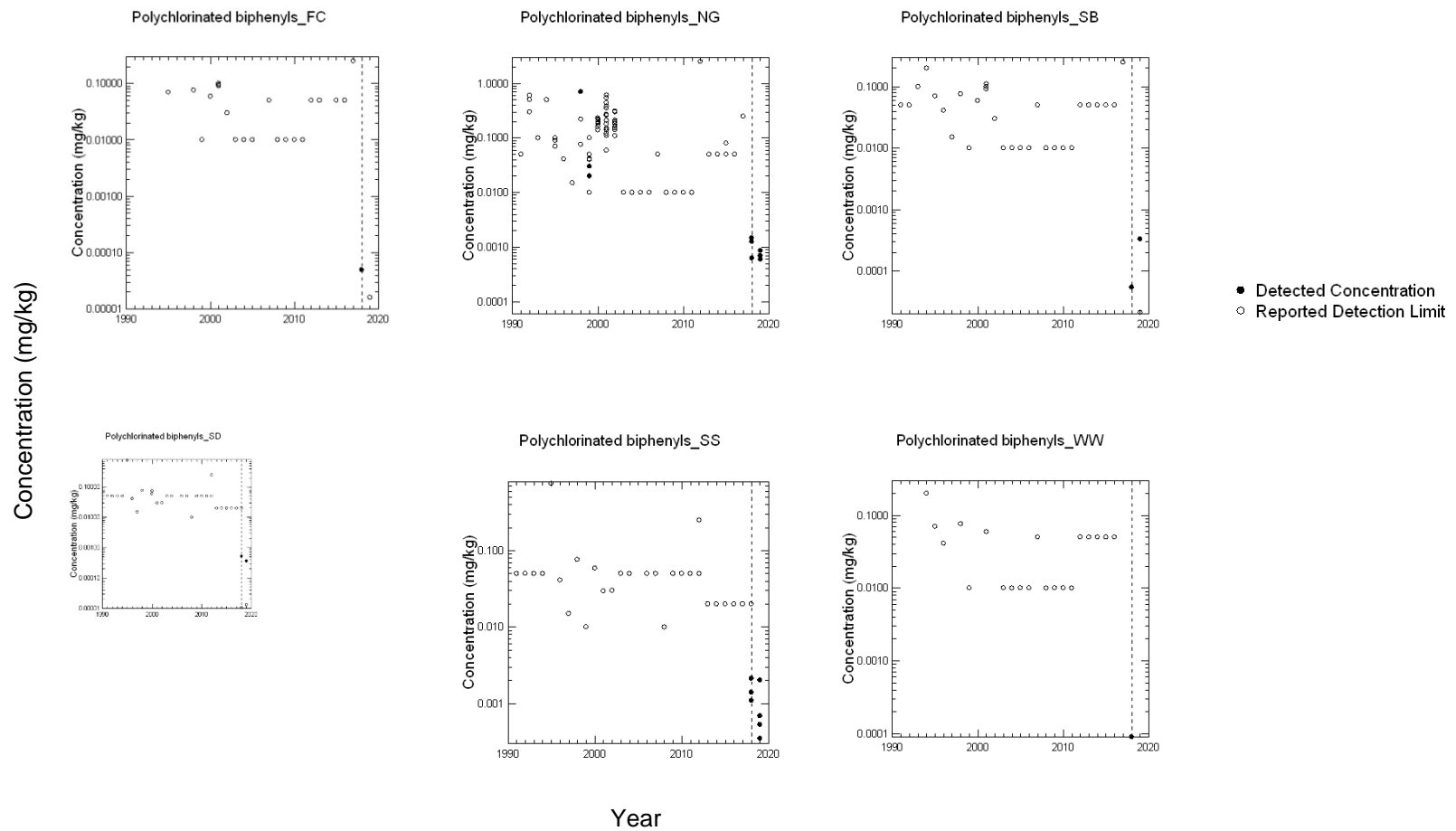


LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

E.4.2 PCBs

1. Polychlorinated Biphenyls (PCBs)

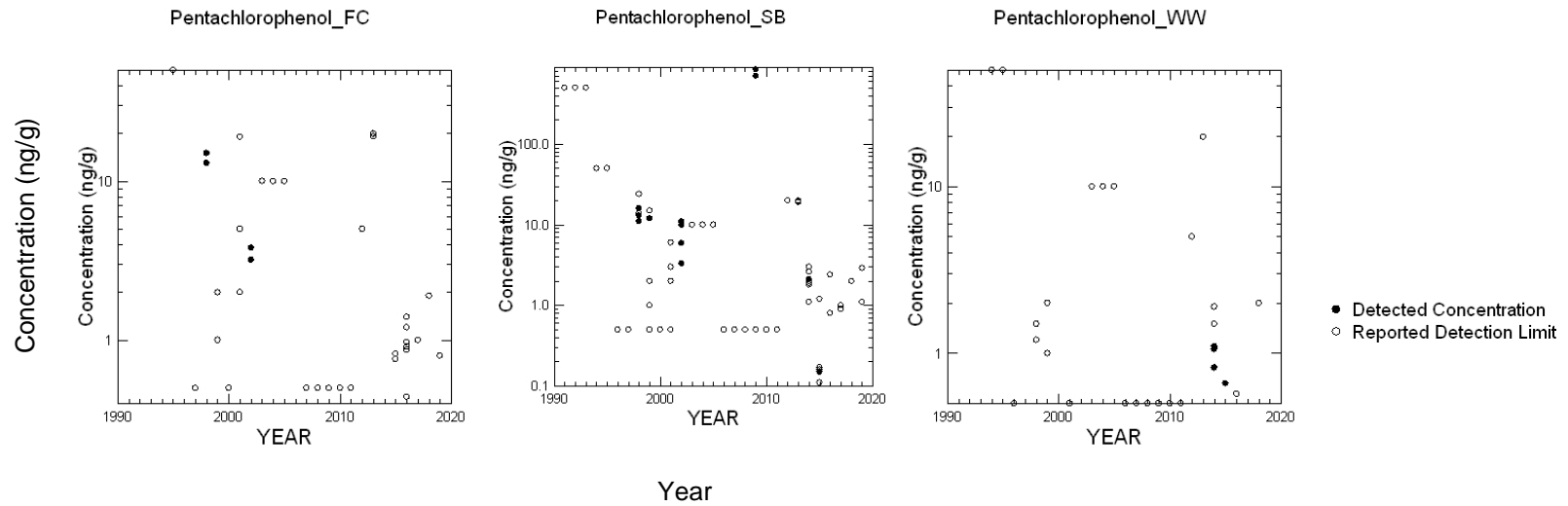


LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

E.4.3 PCP

1. Pentachlorophenol

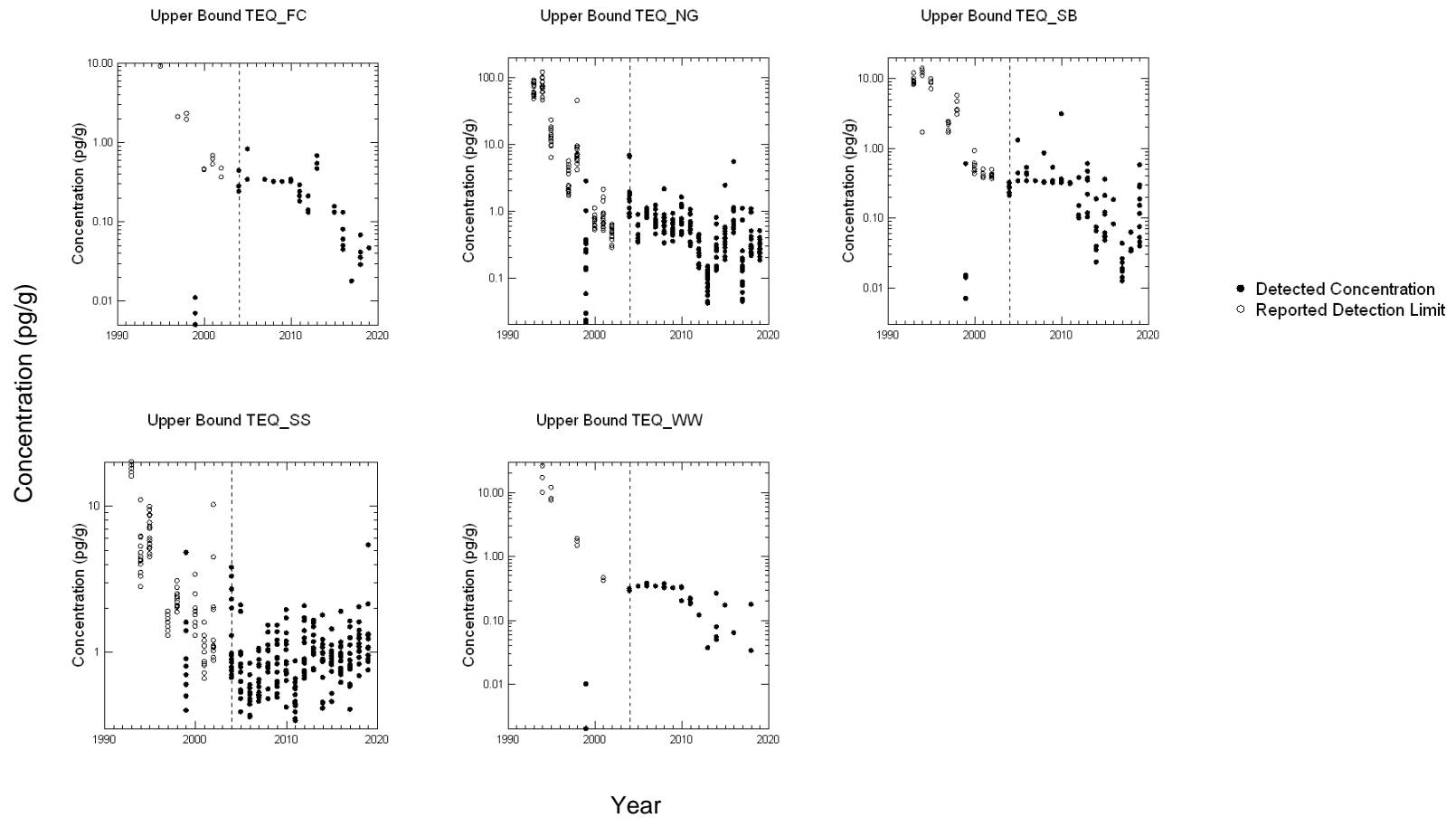


LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2019 FIELD YEAR

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

E.4.4 PCDD/DF

1. Upper Bound PCDD/F TEQ (WHO 2005)



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

E.5 FINAL RECOMMENDED START DATES FOR EACH ANALYTE-MATRIX PAIR (ORGANIC)

Analyte Group	Analyte	Matrix	Recommended Statistical Start Date
CH13_grp3_OCPs	Aldrin	FC	2013
CH13_grp3_OCPs	Aldrin	NG	2013
CH13_grp3_OCPs	Aldrin	SB	2013
CH13_grp3_OCPs	Aldrin	SD	2013
CH13_grp3_OCPs	Aldrin	SS	2013
CH13_grp3_OCPs	Aldrin	SU	2013
CH13_grp3_OCPs	Aldrin	WW	2013
CH13_grp3_OCPs	BHC, alpha-	FC	2013
CH13_grp3_OCPs	BHC, alpha-	NG	2013
CH13_grp3_OCPs	BHC, alpha-	SB	2013
CH13_grp3_OCPs	BHC, alpha-	SD	2013
CH13_grp3_OCPs	BHC, alpha-	SS	2013
CH13_grp3_OCPs	BHC, alpha-	SU	2013
CH13_grp3_OCPs	BHC, alpha-	WW	2013
CH13_grp3_OCPs	BHC, beta-	FC	2013
CH13_grp3_OCPs	BHC, beta-	NG	2013
CH13_grp3_OCPs	BHC, beta-	SB	2013
CH13_grp3_OCPs	BHC, beta-	SD	2013
CH13_grp3_OCPs	BHC, beta-	SS	2013
CH13_grp3_OCPs	BHC, beta-	SU	2013
CH13_grp3_OCPs	BHC, beta-	WW	2013
CH13_grp3_OCPs	BHC, delta-	FC	2013
CH13_grp3_OCPs	BHC, delta-	NG	2013
CH13_grp3_OCPs	BHC, delta-	SB	2013
CH13_grp3_OCPs	BHC, delta-	SD	2013
CH13_grp3_OCPs	BHC, delta-	SS	2013
CH13_grp3_OCPs	BHC, delta-	SU	2013
CH13_grp3_OCPs	BHC, delta-	WW	2013
CH13_grp3_OCPs	Chlordane, alpha-	FC	2013
CH13_grp3_OCPs	Chlordane, alpha-	NG	2013
CH13_grp3_OCPs	Chlordane, alpha-	SB	2013



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

Analyte Group	Analyte	Matrix	Recommended Statistical Start Date
CH13_grp3_OCPs	Chlordane, alpha-	SD	2013
CH13_grp3_OCPs	Chlordane, alpha-	SS	2013
CH13_grp3_OCPs	Chlordane, alpha-	SU	2013
CH13_grp3_OCPs	Chlordane, alpha-	WW	2013
CH13_grp3_OCPs	Chlordane, trans- (gamma-chlordane)	FC	2013
CH13_grp3_OCPs	Chlordane, trans- (gamma-chlordane)	NG	2013
CH13_grp3_OCPs	Chlordane, trans- (gamma-chlordane)	SB	2013
CH13_grp3_OCPs	Chlordane, trans- (gamma-chlordane)	SD	2013
CH13_grp3_OCPs	Chlordane, trans- (gamma-chlordane)	SS	2013
CH13_grp3_OCPs	Chlordane, trans- (gamma-chlordane)	SU	2013
CH13_grp3_OCPs	Chlordane, trans- (gamma-chlordane)	WW	2013
CH13_grp3_OCPs	DDD (p,p'-DDD)	FC	2013
CH13_grp3_OCPs	DDD (p,p'-DDD)	NG	2013
CH13_grp3_OCPs	DDD (p,p'-DDD)	SB	2013
CH13_grp3_OCPs	DDD (p,p'-DDD)	SD	2013
CH13_grp3_OCPs	DDD (p,p'-DDD)	SS	2013
CH13_grp3_OCPs	DDD (p,p'-DDD)	SU	2013
CH13_grp3_OCPs	DDD (p,p'-DDD)	WW	2013
CH13_grp3_OCPs	DDE (p,p'-DDE)	FC	2013
CH13_grp3_OCPs	DDE (p,p'-DDE)	NG	2013
CH13_grp3_OCPs	DDE (p,p'-DDE)	SB	2013
CH13_grp3_OCPs	DDE (p,p'-DDE)	SD	2013
CH13_grp3_OCPs	DDE (p,p'-DDE)	SS	2013
CH13_grp3_OCPs	DDE (p,p'-DDE)	SU	2013
CH13_grp3_OCPs	DDE (p,p'-DDE)	WW	2013
CH13_grp3_OCPs	DDT (p,p'-DDT)	FC	2013
CH13_grp3_OCPs	DDT (p,p'-DDT)	NG	2013
CH13_grp3_OCPs	DDT (p,p'-DDT)	SB	2013
CH13_grp3_OCPs	DDT (p,p'-DDT)	SD	2013
CH13_grp3_OCPs	DDT (p,p'-DDT)	SS	2013
CH13_grp3_OCPs	DDT (p,p'-DDT)	SU	2013
CH13_grp3_OCPs	DDT (p,p'-DDT)	WW	2013
CH13_grp3_OCPs	Dieldrin	FC	2013
CH13_grp3_OCPs	Dieldrin	NG	2013



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

Analyte Group	Analyte	Matrix	Recommended Statistical Start Date
CH13_grp3_OCPs	Dieldrin	SB	2013
CH13_grp3_OCPs	Dieldrin	SD	2013
CH13_grp3_OCPs	Dieldrin	SS	2013
CH13_grp3_OCPs	Dieldrin	SU	2013
CH13_grp3_OCPs	Dieldrin	WW	2013
CH13_grp3_OCPs	Endosulfan i	FC	2013
CH13_grp3_OCPs	Endosulfan i	NG	2013
CH13_grp3_OCPs	Endosulfan i	SB	2013
CH13_grp3_OCPs	Endosulfan i	SD	2013
CH13_grp3_OCPs	Endosulfan i	SS	2013
CH13_grp3_OCPs	Endosulfan i	SU	2013
CH13_grp3_OCPs	Endosulfan i	WW	2013
CH13_grp3_OCPs	Endosulfan ii	FC	2013
CH13_grp3_OCPs	Endosulfan ii	NG	2013
CH13_grp3_OCPs	Endosulfan ii	SB	2013
CH13_grp3_OCPs	Endosulfan ii	SD	2013
CH13_grp3_OCPs	Endosulfan ii	SS	2013
CH13_grp3_OCPs	Endosulfan ii	SU	2013
CH13_grp3_OCPs	Endosulfan ii	WW	2013
CH13_grp3_OCPs	Endosulfan sulfate	FC	2013
CH13_grp3_OCPs	Endosulfan sulfate	NG	2013
CH13_grp3_OCPs	Endosulfan sulfate	SB	2013
CH13_grp3_OCPs	Endosulfan sulfate	SD	2013
CH13_grp3_OCPs	Endosulfan sulfate	SS	2013
CH13_grp3_OCPs	Endosulfan sulfate	SU	2013
CH13_grp3_OCPs	Endosulfan sulfate	WW	2013
CH13_grp3_OCPs	Endrin aldehyde	FC	2013
CH13_grp3_OCPs	Endrin aldehyde	NG	2013
CH13_grp3_OCPs	Endrin aldehyde	SB	2013
CH13_grp3_OCPs	Endrin aldehyde	SD	2013
CH13_grp3_OCPs	Endrin aldehyde	SS	2013
CH13_grp3_OCPs	Endrin aldehyde	SU	2013
CH13_grp3_OCPs	Endrin aldehyde	WW	2013
CH13_grp3_OCPs	Endrin	FC	2013



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

Analyte Group	Analyte	Matrix	Recommended Statistical Start Date
CH13_grp3_OCPs	Endrin	NG	2013
CH13_grp3_OCPs	Endrin	SB	2013
CH13_grp3_OCPs	Endrin	SD	2013
CH13_grp3_OCPs	Endrin	SS	2013
CH13_grp3_OCPs	Endrin	SU	2013
CH13_grp3_OCPs	Endrin	WW	2013
CH13_grp3_OCPs	Heptachlor epoxide	FC	2013
CH13_grp3_OCPs	Heptachlor epoxide	NG	2013
CH13_grp3_OCPs	Heptachlor epoxide	SB	2013
CH13_grp3_OCPs	Heptachlor epoxide	SD	2013
CH13_grp3_OCPs	Heptachlor epoxide	SS	2013
CH13_grp3_OCPs	Heptachlor epoxide	SU	2013
CH13_grp3_OCPs	Heptachlor epoxide	WW	2013
CH13_grp3_OCPs	Heptachlor	FC	2013
CH13_grp3_OCPs	Heptachlor	NG	2013
CH13_grp3_OCPs	Heptachlor	SB	2013
CH13_grp3_OCPs	Heptachlor	SD	2013
CH13_grp3_OCPs	Heptachlor	SS	2013
CH13_grp3_OCPs	Heptachlor	SU	2013
CH13_grp3_OCPs	Heptachlor	WW	2013
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	FC	2013
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	NG	2013
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	SB	2013
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	SD	2013
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	SS	2013
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	SU	2013
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	WW	2013
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	FC	2013
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	NG	2013
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	SB	2013
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	SD	2013
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	SS	2013
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	SU	2013
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	WW	2013



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

Analyte Group	Analyte	Matrix	Recommended Statistical Start Date
CH13_grp3_OCPs	Mirex	FC	2013
CH13_grp3_OCPs	Mirex	NG	2013
CH13_grp3_OCPs	Mirex	SB	2013
CH13_grp3_OCPs	Mirex	SD	2013
CH13_grp3_OCPs	Mirex	SS	2013
CH13_grp3_OCPs	Mirex	SU	2013
CH13_grp3_OCPs	Mirex	WW	2013
CH13_grp3_OCPs	Parlar 26	FC	2013
CH13_grp3_OCPs	Parlar 26	NG	2013
CH13_grp3_OCPs	Parlar 26	SB	2013
CH13_grp3_OCPs	Parlar 26	SD	2013
CH13_grp3_OCPs	Parlar 26	SS	2013
CH13_grp3_OCPs	Parlar 26	SU	2013
CH13_grp3_OCPs	Parlar 26	WW	2013
CH13_grp3_OCPs	Parlar 50	FC	2013
CH13_grp3_OCPs	Parlar 50	NG	2013
CH13_grp3_OCPs	Parlar 50	SB	2013
CH13_grp3_OCPs	Parlar 50	SD	2013
CH13_grp3_OCPs	Parlar 50	SS	2013
CH13_grp3_OCPs	Parlar 50	SU	2013
CH13_grp3_OCPs	Parlar 50	WW	2013
CH13_grp3_OCPs	Parlar 62	FC	2013
CH13_grp3_OCPs	Parlar 62	NG	2013
CH13_grp3_OCPs	Parlar 62	SB	2013
CH13_grp3_OCPs	Parlar 62	SD	2013
CH13_grp3_OCPs	Parlar 62	SS	2013
CH13_grp3_OCPs	Parlar 62	SU	2013
CH13_grp3_OCPs	Parlar 62	WW	2013
CH13_grp3_PCPs	Pentachlorophenol	FC	NA
CH13_grp3_PCPs	Pentachlorophenol	NG	NA
CH13_grp3_PCPs	Pentachlorophenol	SB	NA
CH13_grp3_PCPs	Pentachlorophenol	SD	NA
CH13_grp3_PCPs	Pentachlorophenol	SS	NA
CH13_grp3_PCPs	Pentachlorophenol	WW	NA



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix E Assessment of Appropriate Start Date for Statistical Analysis
February 8, 2021

Analyte Group	Analyte	Matrix	Recommended Statistical Start Date
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	FC	2018
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	NG	2018
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SB	2018
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SD	2018
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SS	2018
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	WW	2018
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	FC	2004
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	2004
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	2004
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SD	2004
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	2004
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SU	2004
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	2004

Note(s):

NA: Not Available.

PCP has only been detected in 24 samples since 1991, with the most recent detection occurring in 2015. As such, trend analysis was not conducted for PCPs due to the low number of concentrations above the reporting detection limit and start date was not determined.



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix F Regression Analyses
February 8, 2021

Appendix F REGRESSION ANALYSES



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix F Regression Analyses
February 8, 2021

F.1 TABLES



Table F-1:
Suitability of Data for Site Wide Regression Analysis (Inorganic)
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Analyte	Matrix	Regression Start Year	Number of Samples (n)	Number of Detected Samples	Proportion Detected	n<6?	<50% Detected?	Suitable for Regression?
Aluminum	FC	2005	33	0	0.00	N	Y	N
Aluminum	NG	2002	216	215	1.00	N	N	Y
Aluminum	SB	2005	81	13	0.16	N	Y	N
Aluminum	SD	1991	134	134	1.00	N	N	Y
Aluminum	SS	1991	288	288	1.00	N	N	Y
Aluminum	WW	2005	31	7	0.23	N	Y	N
Arsenic	FC	2003	38	0	0.00	N	Y	N
Arsenic	NG	2003	205	48	0.23	N	Y	N
Arsenic	SB	2003	91	0	0.00	N	Y	N
Arsenic	SD	1991	133	133	1.00	N	N	Y
Arsenic	SS	1991	288	287	1.00	N	N	Y
Arsenic	WW	2003	35	0	0.00	N	Y	N
Barium	FC	2005	33	4	0.12	N	Y	N
Barium	NG	1991	311	311	1.00	N	N	Y
Barium	SB	1991	163	159	0.98	N	N	Y
Barium	SD	1991	134	134	1.00	N	N	Y
Barium	SS	1991	288	288	1.00	N	N	Y
Barium	WW	1991	48	48	1.00	N	N	Y
Beryllium	FC	2003	38	0	0.00	N	Y	N
Beryllium	NG	2003	205	2	0.01	N	Y	N
Beryllium	SB	2003	91	0	0.00	N	Y	N
Beryllium	SD	1991	134	133	0.99	N	N	Y
Beryllium	SS	1991	288	283	0.98	N	N	Y
Beryllium	WW	2003	35	0	0.00	N	Y	N
Boron	FC	2005	33	17	0.52	N	N	Y
Boron	NG	1999	249	248	1.00	N	N	Y
Boron	SB	1991	163	163	1.00	N	N	Y
Boron	SD	1995	118	117	0.99	N	N	Y
Boron	SS	1998	238	238	1.00	N	N	Y
Boron	WW	2003	34	7	0.21	N	Y	N
Cadmium	FC	2007	30	2	0.07	N	Y	N
Cadmium	NG	2001	230	127	0.55	N	N	Y
Cadmium	SB	2005	81	28	0.35	N	Y	N
Cadmium	SD	1991	134	121	0.90	N	N	Y
Cadmium	SS	1991	288	266	0.92	N	N	Y
Cadmium	WW	2005	31	21	0.68	N	N	Y
Calcium	FC	1991	49	49	1.00	N	N	Y
Calcium	NG	1991	312	312	1.00	N	N	Y
Calcium	SB	1991	163	163	1.00	N	N	Y
Calcium	SD	1991	134	134	1.00	N	N	Y
Calcium	SS	1991	288	288	1.00	N	N	Y
Calcium	WW	1991	48	48	1.00	N	N	Y
Chloride	FC	1991	48	48	1.00	N	N	Y
Chloride	NG	1991	275	275	1.00	N	N	Y
Chloride	SB	1991	135	115	0.85	N	N	Y
Chloride	SD	1991	113	113	1.00	N	N	Y
Chloride	SS	2009	133	115	0.86	N	N	Y
Chloride	WW	1991	43	43	1.00	N	N	Y
Chromium	FC	2003	38	6	0.16	N	Y	N
Chromium	NG	2002	216	215	1.00	N	N	Y
Chromium	SB	2002	96	40	0.42	N	Y	N
Chromium	SD	1991	134	134	1.00	N	N	Y
Chromium	SS	1991	288	288	1.00	N	N	Y
Chromium	WW	2003	35	33	0.94	N	N	Y
Cobalt	FC	2005	33	0	0.00	N	Y	N
Cobalt	NG	2003	205	107	0.52	N	N	Y
Cobalt	SB	2005	81	21	0.26	N	Y	N
Cobalt	SD	1991	134	134	1.00	N	N	Y
Cobalt	SS	1991	288	285	0.99	N	N	Y
Cobalt	WW	2005	31	0	0.00	N	Y	N
Copper	FC	2002	40	40	1.00	N	N	Y
Copper	NG	2002	217	217	1.00	N	N	Y
Copper	SB	1991	163	156	0.96	N	N	Y
Copper	SD	1991	134	134	1.00	N	N	Y
Copper	SS	1991	288	288	1.00	N	N	Y
Copper	WW	2003	35	35	1.00	N	N	Y
Fluoride	FC	2018	4	0	0.00	Y	Y	N
Fluoride	NG	2018	12	0	0.00	N	Y	N
Fluoride	SB	2018	4	0	0.00	Y	Y	N
Fluoride	SD	2018	10	10	1.00	N	N	Y
Fluoride	SS	2018	25	25	1.00	N	N	Y
Fluoride	WW	2018	2	0	0.00	Y	Y	N
Iron	FC	1991	49	48	0.98	N	N	Y
Iron	NG	1991	311	311	1.00	N	N	Y
Iron	SB	1991	163	163	1.00	N	N	Y
Iron	SD	1991	134	134	1.00	N	N	Y
Iron	SS	1991	288	288	1.00	N	N	Y
Iron	WW	1991	48	48	1.00	N	N	Y
Lead	FC	2010	25	0	0.00	N	Y	N
Lead	NG	2003	205	194	0.95	N	N	Y
Lead	SB	2010	53	5	0.09	N	Y	N
Lead	SD	1991	134	120	0.90	N	N	Y
Lead	SS	1991	288	278	0.97	N	N	Y
Lead	WW	2010	18	2	0.11	N	Y	N
Magnesium	FC	1991	49	49	1.00	N	N	Y
Magnesium	NG	1991	312	312	1.00	N	N	Y
Magnesium	SB	1991	163	163	1.00	N	N	Y
Magnesium	SD	1991	134	134	1.00	N	N	Y
Magnesium	SS	1991	288	288	1.00	N	N	Y
Magnesium	WW	1991	48	48	1.00	N	N	Y
Manganese	FC	2002	40	40	1.00	N	N	Y
Manganese	NG	1991	310	308	0.99	N	N	Y
Manganese	SB	1991	163	163	1.00	N	N	Y
Manganese	SD	1991	134	134	1.00	N	N	Y
Manganese	SS	1991	288	288	1.00	N	N	Y
Manganese	WW	1991	48	48	1.00	N	N	Y

Table F-1:
Suitability of Data for Site Wide Regression Analysis (Inorganic)
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Analyte	Matrix	Regression Start Year	Number of Samples (n)	Number of Detected Samples	Proportion Detected	n<6?	<50% Detected?	Suitable for Regression?
Mercury	FC	2005	33	2	0.06	N	Y	N
Mercury	NG	2004	193	140	0.73	N	N	Y
Mercury	SB	2005	81	0	0.00	N	Y	N
Mercury	SD	2003	85	41	0.48	N	Y	N
Mercury	SS	2002	212	92	0.43	N	Y	N
Mercury	WW	2005	31	5	0.16	N	Y	N
Molybdenum	FC	2003	38	38	1.00	N	N	Y
Molybdenum	NG	2002	216	215	1.00	N	N	Y
Molybdenum	SB	1991	163	163	1.00	N	N	Y
Molybdenum	SD	2002	90	90	1.00	N	N	Y
Molybdenum	SS	2002	212	212	1.00	N	N	Y
Molybdenum	WW	1991	48	45	0.94	N	N	Y
Nickel	FC	2005	33	23	0.70	N	N	Y
Nickel	NG	2002	216	214	0.99	N	N	Y
Nickel	SB	2002	96	96	1.00	N	N	Y
Nickel	SD	1991	134	134	1.00	N	N	Y
Nickel	SS	1991	288	288	1.00	N	N	Y
Nickel	WW	2003	35	33	0.94	N	N	Y
Phosphorus	FC	1991	49	49	1.00	N	N	Y
Phosphorus	NG	1991	312	312	1.00	N	N	Y
Phosphorus	SB	1991	162	162	1.00	N	N	Y
Phosphorus	SD	1991	134	134	1.00	N	N	Y
Phosphorus	SS	1991	288	288	1.00	N	N	Y
Phosphorus	WW	1991	48	48	1.00	N	N	Y
Potassium	FC	1991	49	49	1.00	N	N	Y
Potassium	NG	1991	312	312	1.00	N	N	Y
Potassium	SB	1991	163	163	1.00	N	N	Y
Potassium	SD	1991	134	134	1.00	N	N	Y
Potassium	SS	1991	287	287	1.00	N	N	Y
Potassium	WW	1991	48	48	1.00	N	N	Y
Silicon	FC	2006	30	30	1.00	N	N	Y
Silicon	NG	2003	203	203	1.00	N	N	Y
Silicon	SB	2003	89	81	0.91	N	N	Y
Silicon	SD	2010	50	50	1.00	N	N	Y
Silicon	SS	2010	121	121	1.00	N	N	Y
Silicon	WW	2003	35	35	1.00	N	N	Y
Silver	FC	2005	33	0	0.00	N	Y	N
Silver	NG	2005	181	7	0.04	N	Y	N
Silver	SB	2005	81	0	0.00	N	Y	N
Silver	SD	2003	85	1	0.01	N	Y	N
Silver	SS	2003	201	2	0.01	N	Y	N
Silver	WW	2005	32	0	0.00	N	Y	N
Sodium	FC	2005	33	6	0.18	N	Y	N
Sodium	NG	2002	217	182	0.84	N	N	Y
Sodium	SB	2005	81	9	0.11	N	Y	N
Sodium	SD	1991	134	132	0.99	N	N	Y
Sodium	SS	2003	201	114	0.57	N	N	Y
Sodium	WW	2005	30	5	0.17	N	Y	N
Strontium	FC	1991	49	20	0.41	N	Y	N
Strontium	NG	1991	311	311	1.00	N	N	Y
Strontium	SB	1991	163	162	0.99	N	N	Y
Strontium	SD	1991	134	134	1.00	N	N	Y
Strontium	SS	1991	288	288	1.00	N	N	Y
Strontium	WW	1991	48	48	1.00	N	N	Y
Sulfur	FC	1991	49	49	1.00	N	N	Y
Sulfur	NG	1991	312	312	1.00	N	N	Y
Sulfur	SB	1991	163	162	0.99	N	N	Y
Sulfur	SD	1991	134	121	0.90	N	N	Y
Sulfur	SS	1991	288	247	0.86	N	N	Y
Sulfur	WW	1991	48	48	1.00	N	N	Y
Thallium	FC	2005	33	0	0.00	N	Y	N
Thallium	NG	2005	181	30	0.17	N	Y	N
Thallium	SB	2005	81	4	0.05	N	Y	N
Thallium	SD	2002	90	89	0.99	N	N	Y
Thallium	SS	2002	212	200	0.94	N	N	Y
Thallium	WW	2005	31	0	0.00	N	Y	N
Titanium	FC	2007	30	1	0.03	N	Y	N
Titanium	NG	2002	216	209	0.97	N	N	Y
Titanium	SB	2007	70	13	0.19	N	Y	N
Titanium	SD	1991	134	132	0.99	N	N	Y
Titanium	SS	1991	288	285	0.99	N	N	Y
Titanium	WW	2010	18	1	0.06	N	Y	N
Vanadium	FC	2010	25	0	0.00	N	Y	N
Vanadium	NG	2010	121	47	0.39	N	Y	N
Vanadium	SB	2010	53	2	0.04	N	Y	N
Vanadium	SD	1991	134	134	1.00	N	N	Y
Vanadium	SS	1991	288	288	1.00	N	N	Y
Vanadium	WW	2010	18	0	0.00	N	Y	N
Zinc	FC	1991	49	49	1.00	N	N	Y
Zinc	NG	1991	312	310	0.99	N	N	Y
Zinc	SB	1991	163	163	1.00	N	N	Y
Zinc	SD	1991	134	134	1.00	N	N	Y
Zinc	SS	1991	288	288	1.00	N	N	Y
Zinc	WW	1991	48	48	1.00	N	N	Y
Zirconium	FC	2003	38	0	0.00	N	Y	N
Zirconium	NG	2003	205	1	0.00	N	Y	N
Zirconium	SB	2003	91	0	0.00	N	Y	N
Zirconium	SD	1991	134	75	0.56	N	N	Y
Zirconium	SS	1991	288	133	0.46	N	Y	N
Zirconium	WW	1991	48	0	0.00	N	Y	N

Table F-2:
 Site Wide Regression Analysis Results Summary (Inorganic)
 Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
 2019 Field Year

Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	p<0.003	Direction of Significant Trend
Aluminum	SD	1991	134	0.207	0.007	-9.681	<0.001	*	Increasing
Aluminum	SS	1991	288	0.079	0.005	-5.071	<0.001	*	Increasing
Arsenic	SD	1991	133	0.082	0.004	-6.679	0.001	*	Increasing
Arsenic	SS	1991	288	0.058	0.003	-6.273	<0.001	*	Increasing
Barium	NG	1991	311	0.035	-0.008	16.179	0.001	*	Decreasing
Barium	SD	1991	134	0.095	0.004	-6.738	<0.001	*	Increasing
Beryllium	SD	1991	134	0.223	0.007	-14.492	<0.001	*	Increasing
Boron	SD	1995	118	0.092	0.006	-11.37	0.001	*	Increasing
Cadmium	NG	2001	230	0.091	-0.018	34.641	<0.001	*	Decreasing
Calcium	FC	1991	49	0.411	-0.015	31.949	<0.001	*	Decreasing
Calcium	SB	1991	163	0.163	0.005	-6.929	<0.001	*	Increasing
Calcium	SS	1991	288	0.036	0.007	-10.083	0.001	*	Increasing
Chloride	NG	1991	275	0.046	0.013	-21.947	<0.001	*	Increasing
Chloride	SB	1991	135	0.068	0.023	-44.69	0.002	*	Increasing
Chromium	NG	2002	216	0.064	-0.019	38.771	<0.001	*	Decreasing
Chromium	SD	1991	134	0.088	0.004	-6.341	<0.001	*	Increasing
Chromium	SS	1991	288	0.032	0.003	-3.889	0.002	*	Increasing
Iron	SD	1991	134	0.078	0.003	-1.712	0.001	*	Increasing
Magnesium	NG	1991	312	0.031	0.004	-3.783	0.002	*	Increasing
Magnesium	SB	1991	163	0.216	0.004	-4.836	<0.001	*	Increasing
Magnesium	SS	1991	288	0.066	0.006	-7.999	<0.001	*	Increasing
Manganese	NG	1991	310	0.067	0.008	-14.938	<0.001	*	Increasing
Manganese	SB	1991	163	0.132	0.004	-7.445	<0.001	*	Increasing
Manganese	SS	1991	288	0.035	0.004	-4.778	0.001	*	Increasing
Mercury	NG	2004	193	0.262	-0.028	54.511	<0.001	*	Decreasing
Molybdenum	NG	2002	216	0.089	0.017	-34.13	<0.001	*	Increasing
Molybdenum	SD	2002	90	0.128	0.014	-27.52	0.001	*	Increasing
Molybdenum	SS	2002	212	0.049	0.007	-14.088	0.001	*	Increasing
Phosphorus	SB	1991	162	0.222	0.006	-7.981	<0.001	*	Increasing
Phosphorus	SD	1991	134	0.097	0.005	-7.298	<0.001	*	Increasing
Phosphorus	SS	1991	288	0.061	0.004	-5.089	<0.001	*	Increasing
Potassium	SB	1991	163	0.101	0.003	-1.072	<0.001	*	Increasing
Potassium	SD	1991	134	0.297	0.009	-13.814	<0.001	*	Increasing
Potassium	SS	1991	287	0.11	0.007	-11.465	<0.001	*	Increasing
Silicon	FC	2006	30	0.633	-0.109	221.456	<0.001	*	Decreasing
Silicon	NG	2003	203	0.135	-0.029	62.109	<0.001	*	Decreasing
Silicon	SB	2003	89	0.116	-0.044	89.413	0.001	*	Decreasing
Sodium	SD	1991	134	0.086	0.008	-13.222	0.001	*	Increasing
Sodium	SS	2003	201	0.406	-0.023	47.539	<0.001	*	Decreasing
Strontium	SB	1991	163	0.066	0.007	-13.177	0.001	*	Increasing
Strontium	SS	1991	288	0.056	0.006	-10.35	<0.001	*	Increasing
Sulfur	SB	1991	163	0.078	0.007	-10.138	<0.001	*	Increasing
Sulfur	SS	1991	288	0.061	0.007	-11.986	<0.001	*	Increasing
Thallium	SD	2002	90	0.141	-0.017	32.93	<0.001	*	Decreasing
Thallium	SS	2002	212	0.109	-0.015	29.188	<0.001	*	Decreasing
Vanadium	SD	1991	134	0.254	0.006	-11.439	<0.001	*	Increasing
Vanadium	SS	1991	288	0.081	0.004	-5.819	<0.001	*	Increasing
Zinc	SD	1991	134	0.069	0.005	-8.813	0.002	*	Increasing

Table F-3:
Suitability of Data for Site Wide Regression Analysis (Organic)
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Analyte Group	Analyte	Matrix	Regression Start Year	Number of Samples (n)	Number of Detected Samples	Proportion Detected	n<6?	<50% Detected?	Suitable for Regression?
CH13_grp3_OCPs	Heptachlor	FC	2013	15	4	0.27	N	Y	N
CH13_grp3_OCPs	Heptachlor	NG	2013	77	17	0.22	N	Y	N
CH13_grp3_OCPs	Heptachlor	SB	2013	34	8	0.24	N	Y	N
CH13_grp3_OCPs	Heptachlor	SD	2013	34	9	0.26	N	Y	N
CH13_grp3_OCPs	Heptachlor	SS	2013	77	25	0.32	N	Y	N
CH13_grp3_OCPs	Heptachlor	SU	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Heptachlor	WW	2013	8	0	0.00	N	Y	N
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	FC	2013	15	0	0.00	N	Y	N
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	NG	2013	77	6	0.08	N	Y	N
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	SB	2013	34	1	0.03	N	Y	N
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	SD	2013	34	14	0.41	N	Y	N
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	SS	2013	77	30	0.39	N	Y	N
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	SU	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Lindane (hexachlorocyclohexane, gamma)	WW	2013	8	0	0.00	N	Y	N
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	FC	2013	15	0	0.00	N	Y	N
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	NG	2013	77	0	0.00	N	Y	N
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	SB	2013	34	0	0.00	N	Y	N
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	SD	2013	34	2	0.06	N	Y	N
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	SS	2013	77	8	0.10	N	Y	N
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	SU	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Methoxychlor (4,4'-methoxychlor)	WW	2013	8	0	0.00	N	Y	N
CH13_grp3_OCPs	Mirex	FC	2013	15	7	0.47	N	Y	N
CH13_grp3_OCPs	Mirex	NG	2013	77	42	0.55	N	N	Y
CH13_grp3_OCPs	Mirex	SB	2013	34	15	0.44	N	Y	N
CH13_grp3_OCPs	Mirex	SD	2013	34	21	0.62	N	N	Y
CH13_grp3_OCPs	Mirex	SS	2013	77	60	0.78	N	N	Y
CH13_grp3_OCPs	Mirex	SU	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Mirex	WW	2013	8	5	0.63	N	N	Y
CH13_grp3_OCPs	Parlar 26	FC	2013	13	0	0.00	N	Y	N
CH13_grp3_OCPs	Parlar 26	NG	2013	70	0	0.00	N	Y	N
CH13_grp3_OCPs	Parlar 26	SB	2013	31	0	0.00	N	Y	N
CH13_grp3_OCPs	Parlar 26	SD	2013	30	1	0.03	N	Y	N
CH13_grp3_OCPs	Parlar 26	SS	2013	70	15	0.21	N	Y	N
CH13_grp3_OCPs	Parlar 26	SU	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 26	WW	2013	7	0	0.00	N	Y	N
CH13_grp3_OCPs	Parlar 50	FC	2013	13	0	0.00	N	Y	N
CH13_grp3_OCPs	Parlar 50	NG	2013	70	4	0.06	N	Y	N
CH13_grp3_OCPs	Parlar 50	SB	2013	31	1	0.03	N	Y	N
CH13_grp3_OCPs	Parlar 50	SD	2013	30	0	0.00	N	Y	N
CH13_grp3_OCPs	Parlar 50	SS	2013	70	2	0.03	N	Y	N
CH13_grp3_OCPs	Parlar 50	SU	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	WW	2013	7	0	0.00	N	Y	N
CH13_grp3_OCPs	Parlar 62	FC	2013	13	0	0.00	N	Y	N
CH13_grp3_OCPs	Parlar 62	NG	2013	70	1	0.01	N	Y	N
CH13_grp3_OCPs	Parlar 62	SB	2013	31	0	0.00	N	Y	N
CH13_grp3_OCPs	Parlar 62	SD	2013	30	0	0.00	N	Y	N
CH13_grp3_OCPs	Parlar 62	SS	2013	70	0	0.00	N	Y	N
CH13_grp3_OCPs	Parlar 62	SU	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	WW	2013	7	0	0.00	N	Y	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	FC	2018	2	1	0.50	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	NG	2018	7	6	0.86	N	N	Y
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SB	2018	3	2	0.67	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SD	2018	5	2	0.40	Y	Y	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SS	2018	9	7	0.78	N	N	Y
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	WW	2018	1	1	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	FC	2004	40	40	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	2004	222	222	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	2004	95	95	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SD	2004	2	2	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	2004	221	221	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SU	2004	3	3	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	2004	34	34	1.00	N	N	Y

Table F-4:
 Site Wide Regression Analysis Results Summary (Organic)
 Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
 2019 Field Year

Analyte Group	Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	P<0.003	Direction of Significant Trend
CH13_grp3_OCPs	DDD (p,p'-DDD)	SD	2013	34	0.186	-0.141	282.155	0.011		
CH13_grp3_OCPs	DDD (p,p'-DDD)	SS	2013	77	0.356	-0.142	285.143	<0.001	*	Decreasing
CH13_grp3_OCPs	DDE (p,p'-DDE)	NG	2013	77	0.105	-0.059	118.492	0.004		
CH13_grp3_OCPs	DDE (p,p'-DDE)	SD	2013	34	0.181	-0.123	247.864	0.012		
CH13_grp3_OCPs	DDE (p,p'-DDE)	SS	2013	77	0.008	-0.011	22.464	0.427		
CH13_grp3_OCPs	DDT (p,p'-DDT)	SD	2013	34	0.406	-0.183	368	<0.001	*	Decreasing
CH13_grp3_OCPs	DDT (p,p'-DDT)	SS	2013	77	0.054	-0.038	75.587	0.042		
CH13_grp3_OCPs	Dieldrin	NG	2013	77	0.007	0.016	-32.048	0.469		
CH13_grp3_OCPs	Dieldrin	SB	2013	34	0.07	-0.049	96.645	0.13		
CH13_grp3_OCPs	Dieldrin	SD	2013	34	0.13	-0.075	149.673	0.036		
CH13_grp3_OCPs	Dieldrin	SS	2013	77	0.01	0.024	-49.301	0.377		
CH13_grp3_OCPs	Dieldrin	WW	2013	8	0.288	-0.119	238.316	0.17		
CH13_grp3_OCPs	Endosulfan Sulfate	NG	2013	77	0.218	-0.141	282.937	<0.001	*	Decreasing
CH13_grp3_OCPs	Endosulfan Sulfate	SB	2013	34	0.671	-0.361	726.588	<0.001	*	Decreasing
CH13_grp3_OCPs	Heptachlor Epoxide	NG	2013	77	0.144	-0.126	252.705	0.001	*	Decreasing
CH13_grp3_OCPs	Heptachlor Epoxide	SB	2013	34	0.357	-0.284	570.552	<0.001	*	Decreasing
CH13_grp3_OCPs	Heptachlor Epoxide	SD	2013	34	0.269	-0.155	310.315	0.002	*	Decreasing
CH13_grp3_OCPs	Heptachlor Epoxide	SS	2013	77	0.116	-0.082	163.351	0.002	*	Decreasing
CH13_grp3_OCPs	Mirex	NG	2013	77	0.053	-0.095	189.489	0.044		
CH13_grp3_OCPs	Mirex	SD	2013	34	0.253	-0.194	389.404	0.002	*	Decreasing
CH13_grp3_OCPs	Mirex	SS	2013	77	0.149	-0.135	269.342	0.001	*	Decreasing
CH13_grp3_OCPs	Mirex	WW	2013	8	0.313	-0.297	595.69	0.149		
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SS	2018	9	0.41	-0.771	1552.575	0.063		
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	NG	2018	7	0.257	-0.439	882.332	0.245		
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	2004	222	0.242	-0.04	80.114	<0.001	*	Decreasing
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	2004	221	0.047	0.009	-18.764	0.001	*	Increasing
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	2004	34	0.585	-0.062	123.505	<0.001	*	Decreasing
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	2004	95	0.43	-0.064	128.06	<0.001	*	Decreasing
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	FC	2004	40	0.629	-0.072	144.353	<0.001	*	Decreasing

Table F-5: Suitability of Data for Site Specific Regression Analysis (Organic)
Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
2019 Field Year

Table with 12 columns: Analyte Group, Analyte, Matrix, Site, Regression Start Year, Number of Samples (n), Number of Detected Samples, Proportion Detected, n<6?, <50% Detected?, Suitable for Regression?. Rows list various analytes like Heptachlor epoxide and Lindane across different sites and matrices.

Table F-5:
 Suitability of Data for Site Specific Regression Analysis (Organic)
 Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
 2019 Field Year

Analyte Group	Analyte	Matrix	Site	Regression Start Year	Number of Samples (n)	Number of Detected Samples	Proportion Detected	n<6?	<50% Detected?	Suitable for Regression?
CH13_grp3_OCPs	Parlar 50	FC	N2	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	FC	N4	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	FC	S1	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	FC	S2	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	FC	S5	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	FC	W4	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	E1	2013	5	1	0.20	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	E2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	E5	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	E6	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	N2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	N4	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	N5	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	S1	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	S2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	S3	2013	3	1	0.33	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	S4	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	S5	2013	5	1	0.20	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	S7	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	W2	2013	5	1	0.20	Y	Y	N
CH13_grp3_OCPs	Parlar 50	NG	W4	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SB	E1	2013	3	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SB	E2	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SB	E5	2013	3	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SB	N2	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SB	N4	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SB	S1	2013	4	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SB	S2	2013	4	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SB	S4	2013	3	1	0.33	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SB	S5	2013	3	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SB	W2	2013	4	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SB	W4	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SD	E2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SD	N2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SD	N5	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SD	S1	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SD	S3	2013	3	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SD	S4	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SD	S7	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	E1	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	E2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	E5	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	E6	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	N2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	N4	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	N5	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	S1	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	S2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	S3	2013	3	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	S4	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	S5	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	S7	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	W2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SS	W4	2013	5	2	0.40	Y	Y	N
CH13_grp3_OCPs	Parlar 50	SU	E2	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	WW	E1	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	WW	E5	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	WW	N2	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	WW	N4	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	WW	S4	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	WW	W2	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 50	WW	W4	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	FC	E1	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	FC	E2	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	FC	E5	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	FC	N2	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	FC	N4	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	FC	S1	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	FC	S2	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	FC	S5	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	FC	W4	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	E1	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	E2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	E5	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	E6	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	N2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	N4	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	N5	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	S1	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	S2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	S3	2013	3	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	S4	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	S5	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	S7	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	W2	2013	5	1	0.20	Y	Y	N
CH13_grp3_OCPs	Parlar 62	NG	W4	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SB	E1	2013	3	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SB	E2	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SB	E5	2013	3	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SB	N2	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SB	N4	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SB	S1	2013	4	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SB	S2	2013	4	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SB	S4	2013	3	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SB	S5	2013	3	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SB	W2	2013	4	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SB	W4	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SD	E2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SD	N2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SD	N5	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SD	S1	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SD	S3	2013	3	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SD	S4	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SD	S7	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	E1	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	E2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	E5	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	E6	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	N2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	N4	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	N5	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	S1	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	S2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	S3	2013	3	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	S4	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	S5	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	S7	2013	2	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	W2	2013	5	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	SS	W4	2013	5	0	0.00	Y	Y	N

Table F-5:
 Suitability of Data for Site Specific Regression Analysis (Organic)
 Lambton Facility 2020 Annual Landfill Report Biomonitoring Program
 2019 Field Year

Analyte Group	Analyte	Matrix	Site	Regression Start Year	Number of Samples (n)	Number of Detected Samples	Proportion Detected	n<6?	<50% Detected?	Suitable for Regression?
CH13_grp3_OCPs	Parlar 62	SU	E2	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	WW	E1	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	WW	E5	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	WW	N2	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	WW	N4	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	WW	S4	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	WW	W2	2013	1	0	0.00	Y	Y	N
CH13_grp3_OCPs	Parlar 62	WW	W4	2013	1	0	0.00	Y	Y	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	FC	E2	2018	1	0	1.00	Y	Y	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	FC	W4	2018	1	1	1.00	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	NG	E2	2018	1	1	1.00	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	NG	E6	2018	2	2	1.00	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	NG	E7	2018	1	0	0.00	Y	Y	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	NG	N2	2018	1	1	1.00	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	NG	N4	2018	1	1	1.00	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	NG	W4	2018	1	1	1.00	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SB	E2	2018	1	1	1.00	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SB	E7	2018	1	1	1.00	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SB	N2	2018	1	0	0.00	Y	Y	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SD	E2	2018	3	0	0.00	Y	Y	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SD	N2	2018	2	2	1.00	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SS	E2	2018	1	1	1.00	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SS	E6	2018	3	2	0.67	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SS	E7	2018	1	1	1.00	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SS	N2	2018	1	1	1.00	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SS	N4	2018	1	1	1.00	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	SS	S1	2018	2	1	0.50	Y	N	N
CH13_grp3_PCBs	Polychlorinated Biphenyls (PCBs)	WW	N4	2018	1	1	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	FC	E1	2004	5	5	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	FC	E2	2004	4	4	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	FC	E5	2004	5	5	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	FC	N2	2004	5	5	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	FC	N4	2004	5	5	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	FC	S1	2004	3	3	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	FC	S2	2004	3	3	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	FC	S5	2004	4	4	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	FC	W2	2004	1	1	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	FC	W4	2004	5	5	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	E1	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	E2	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	E5	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	E6	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	E7	2004	1	1	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	N2	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	N4	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	N5	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	S1	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	S2	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	S3	2004	12	12	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	S4	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	S5	2004	14	14	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	S7	2004	3	3	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	W2	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	NG	W4	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	E1	2004	9	9	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	E2	2004	5	5	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	E5	2004	9	9	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	E7	2004	1	1	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	N2	2004	6	6	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	N4	2004	6	6	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	S1	2004	11	11	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	S2	2004	11	11	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	S4	2004	11	11	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	S5	2004	8	8	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	W2	2004	10	10	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SB	W4	2004	8	8	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SD	S1	2004	1	1	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SD	S3	2004	1	1	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	E1	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	E2	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	E5	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	E6	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	E7	2004	1	1	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	N2	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	N4	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	N5	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	S1	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	S2	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	S3	2004	12	12	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	S4	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	S5	2004	14	14	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	S7	2004	3	3	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	W2	2004	16	16	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SS	W4	2004	15	15	1.00	N	N	Y
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	SU	E2	2004	3	3	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	E1	2004	2	2	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	E2	2004	3	3	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	E5	2004	2	2	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	N2	2004	4	4	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	N4	2004	5	5	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	S1	2004	2	2	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	S2	2004	2	2	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	S4	2004	4	4	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	S5	2004	2	2	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	W2	2004	5	5	1.00	Y	N	N
CH13_grp3_DIOXIN-FURAN	Upper Bound PCDD/F TEQ (WHO 2005)	WW	W4	2004	3	3	1.00	Y	N	N

**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix F Regression Analyses
February 8, 2021

F.2 SITE-WIDE INORGANIC TREND LINE GRAPHS (P<0.003)



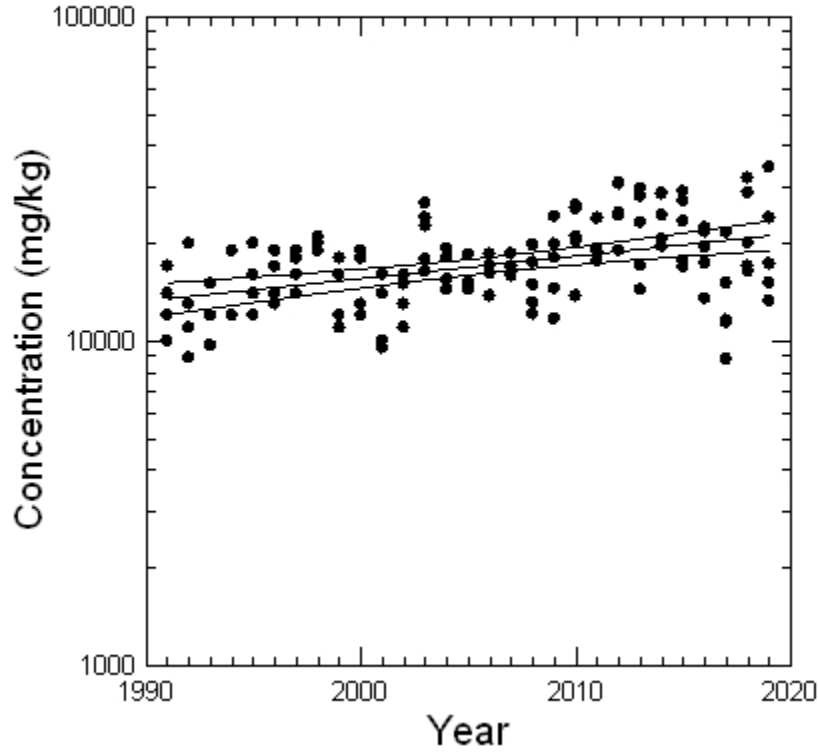
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Aluminum SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Aluminum	SD	1991	134	0.207	0.007	-9.681	<0.001	Increasing



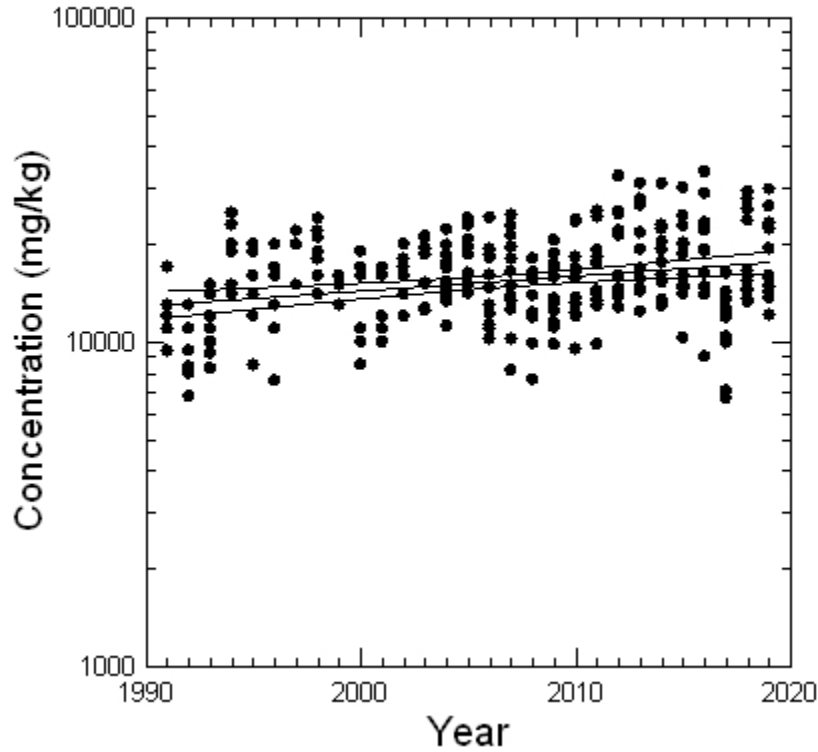
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Aluminum SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Aluminum	SS	1991	288	0.079	0.005	-5.071	<0.001	Increasing



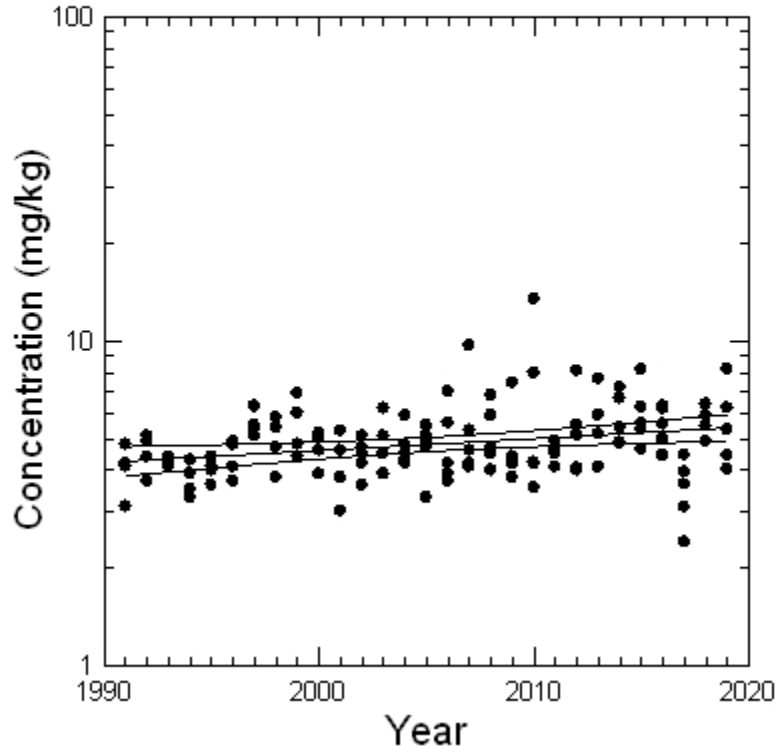
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Arsenic SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Arsenic	SD	1991	133	0.082	0.004	-6.679	0.001	Increasing



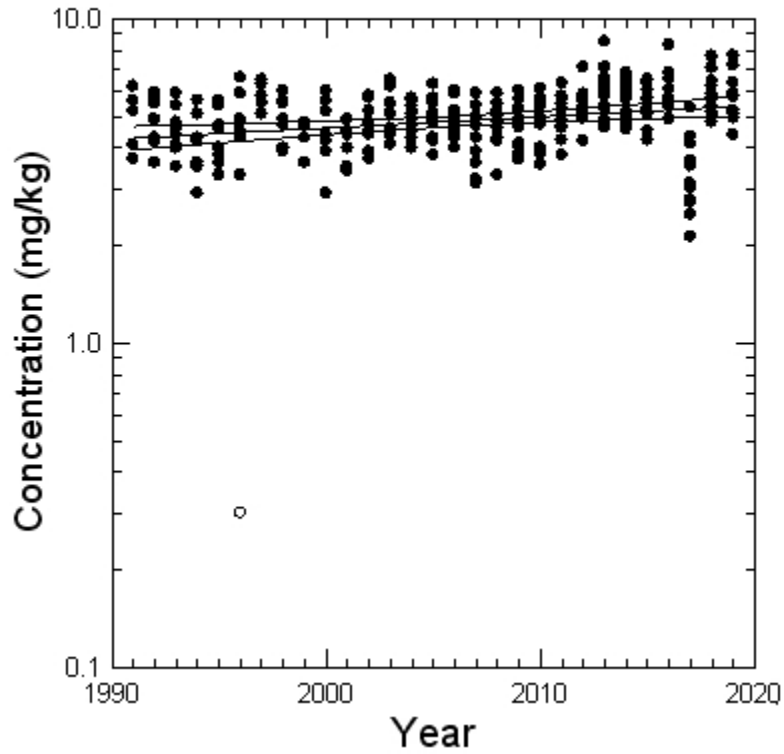
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Arsenic SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Arsenic	SS	1991	288	0.058	0.003	-6.273	<0.001	Increasing



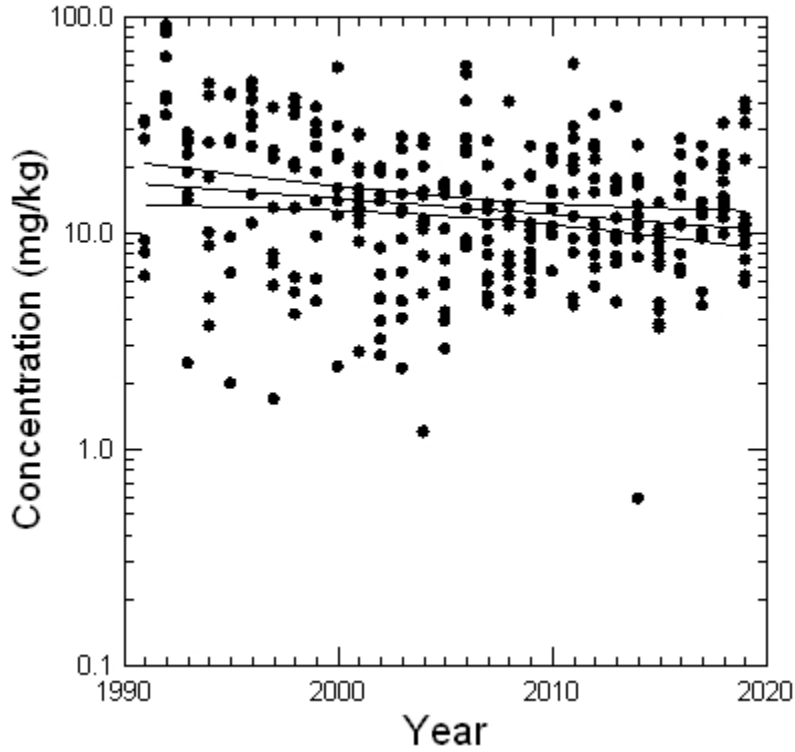
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Barium NG



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Barium	NG	1991	311	0.035	-0.008	16.179	0.001	Decreasing



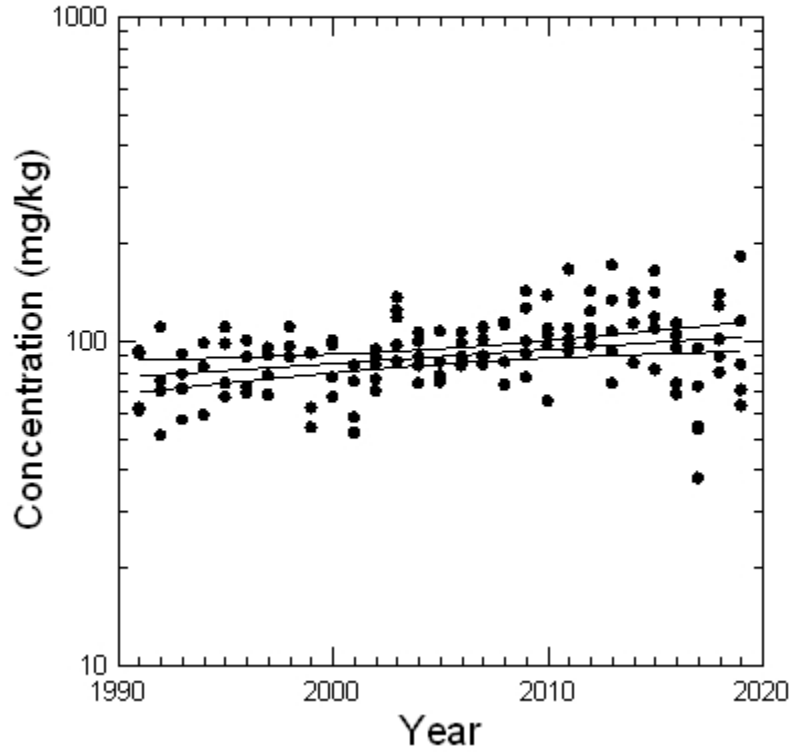
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Barium SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Barium	SD	1991	134	0.095	0.004	-6.738	<0.001	Increasing



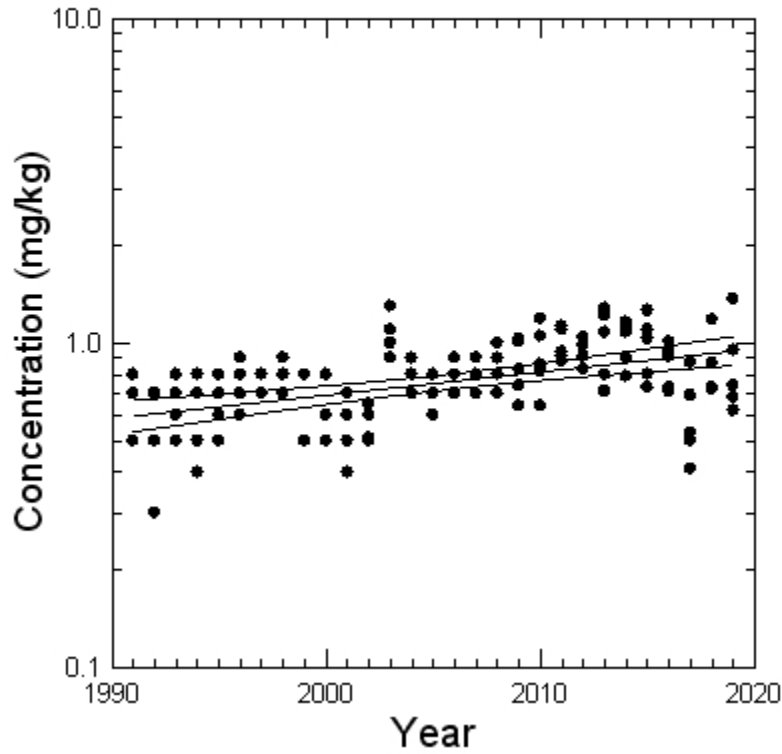
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Beryllium SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Beryllium	SD	1991	134	0.223	0.007	-14.49	<0.001	Increasing



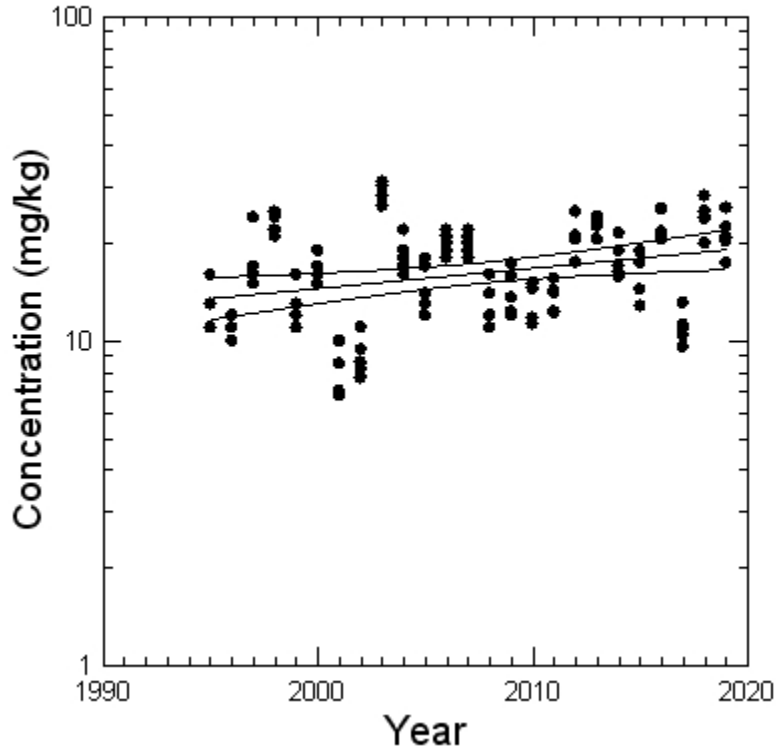
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Boron SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Boron	SD	1995	118	0.092	0.006	-11.37	0.001	Increasing



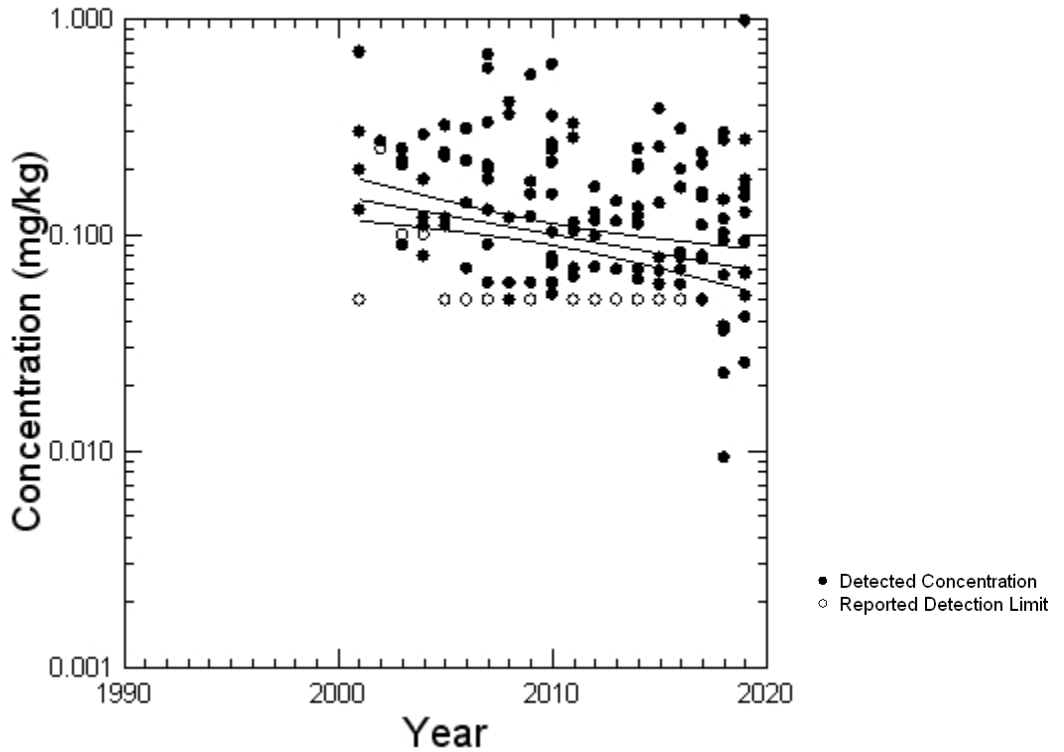
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Cadmium NG



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Cadmium	NG	2001	230	0.091	-0.018	34.641	<0.001	Decreasing



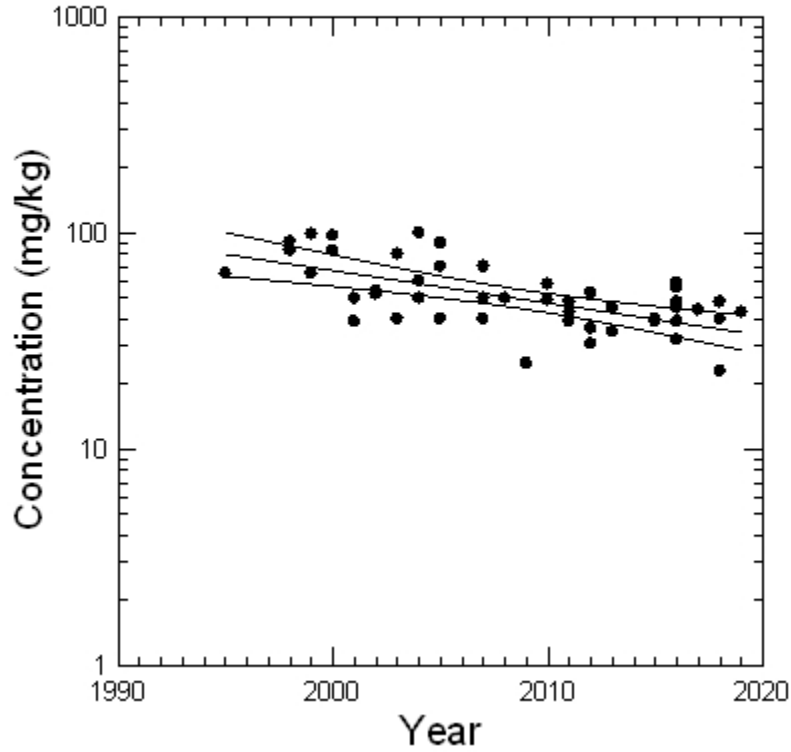
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Calcium FC



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Calcium	FC	1991	49	0.411	-0.015	31.949	<0.001	Decreasing



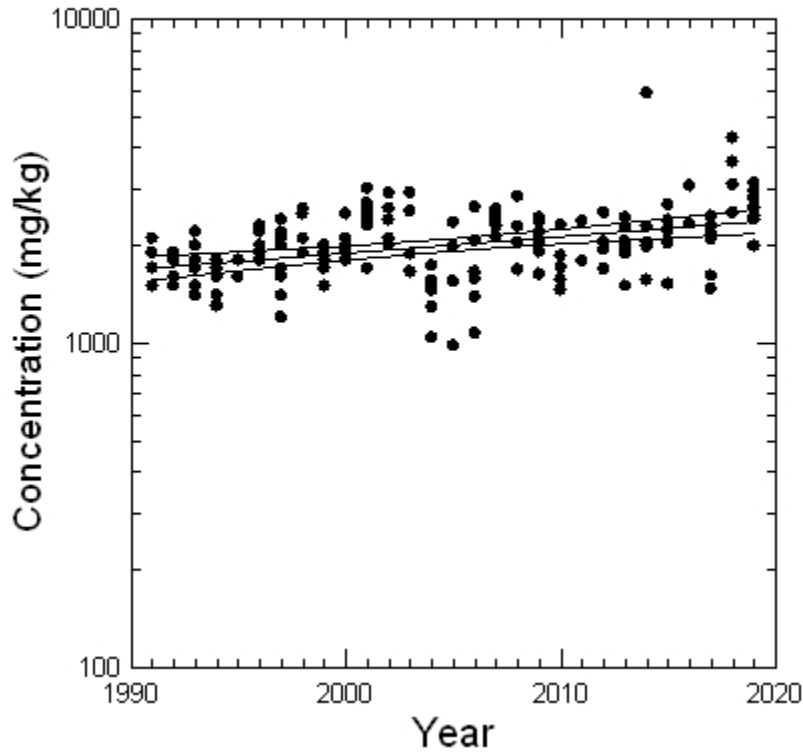
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Calcium SB



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Calcium	SB	1991	163	0.163	0.005	-6.929	<0.001	Increasing



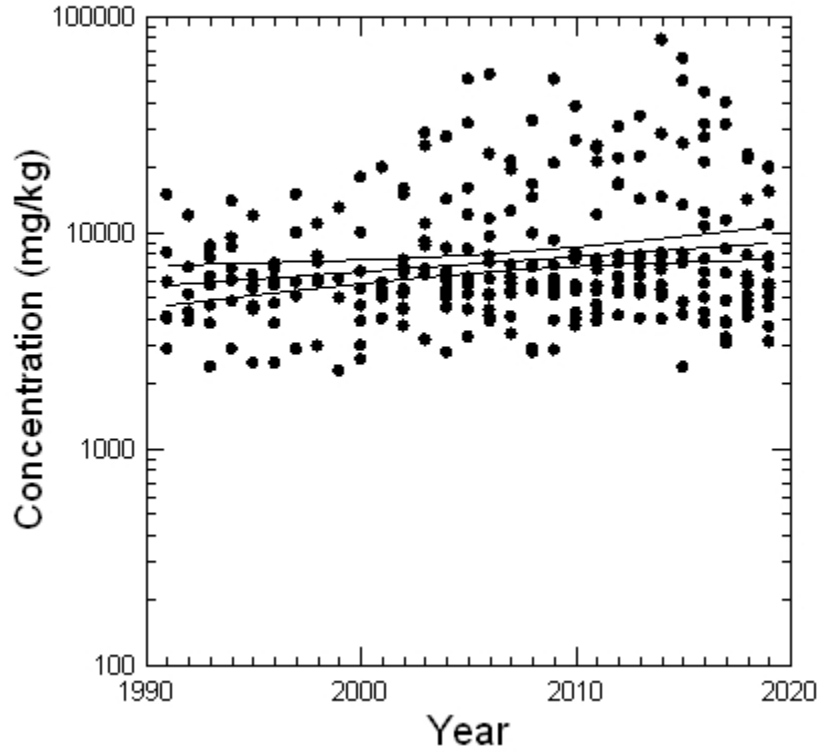
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Calcium SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Calcium	SS	1991	288	0.036	0.007	-10.08	0.001	Increasing



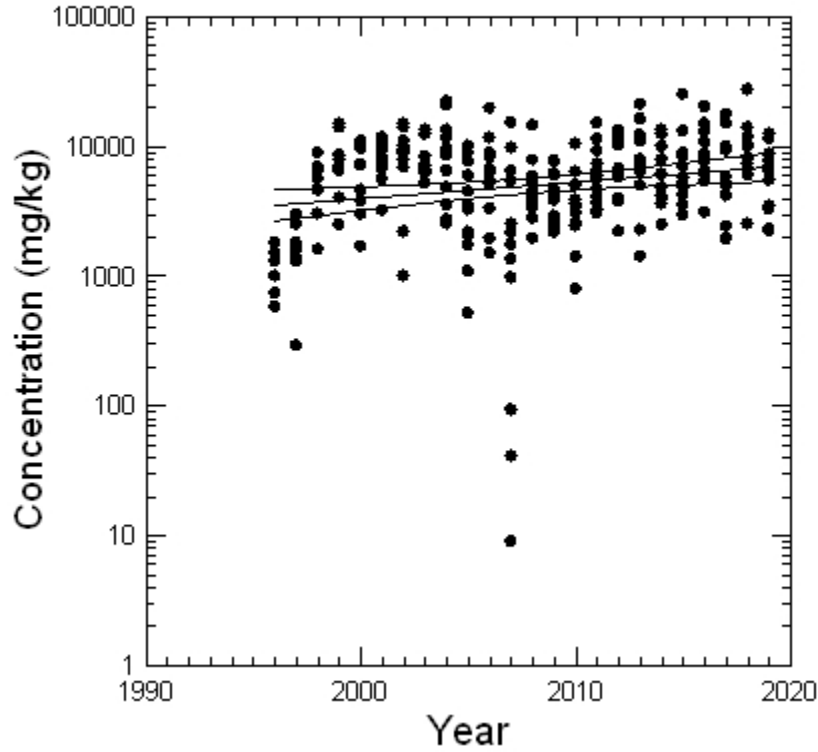
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Chloride NG



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Chloride	NG	1991	275	0.046	0.013	-21.95	<0.001	Increasing



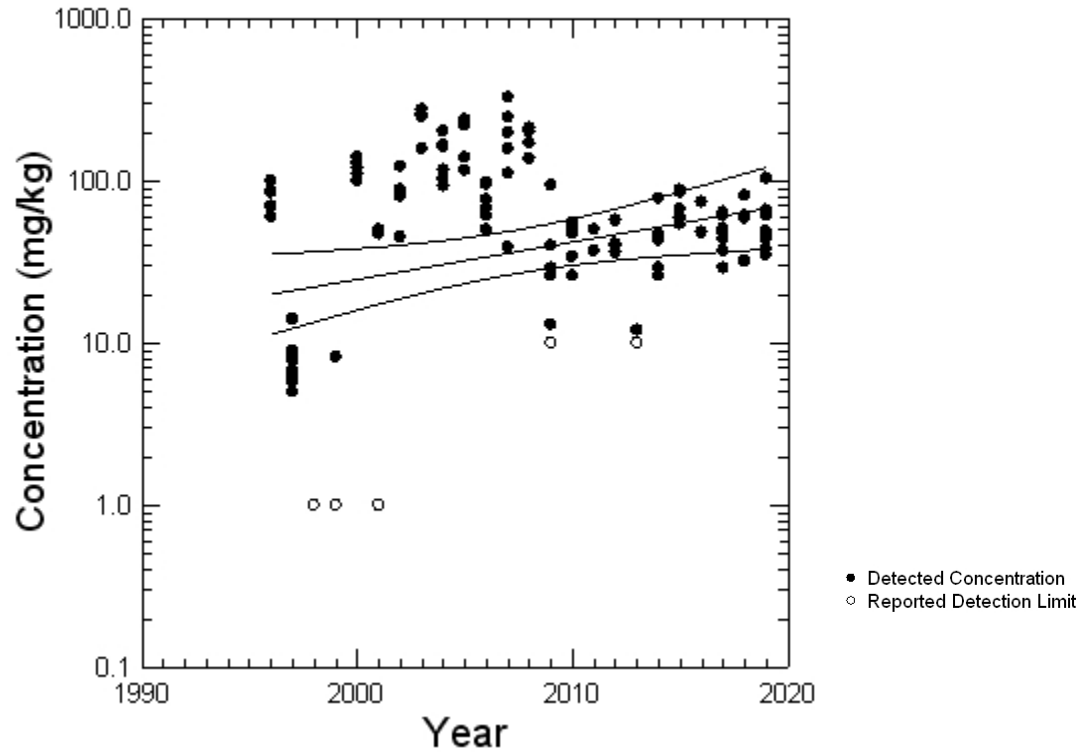
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Chloride SB



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Chloride	SB	1991	135	0.068	0.023	-44.69	0.002	Increasing



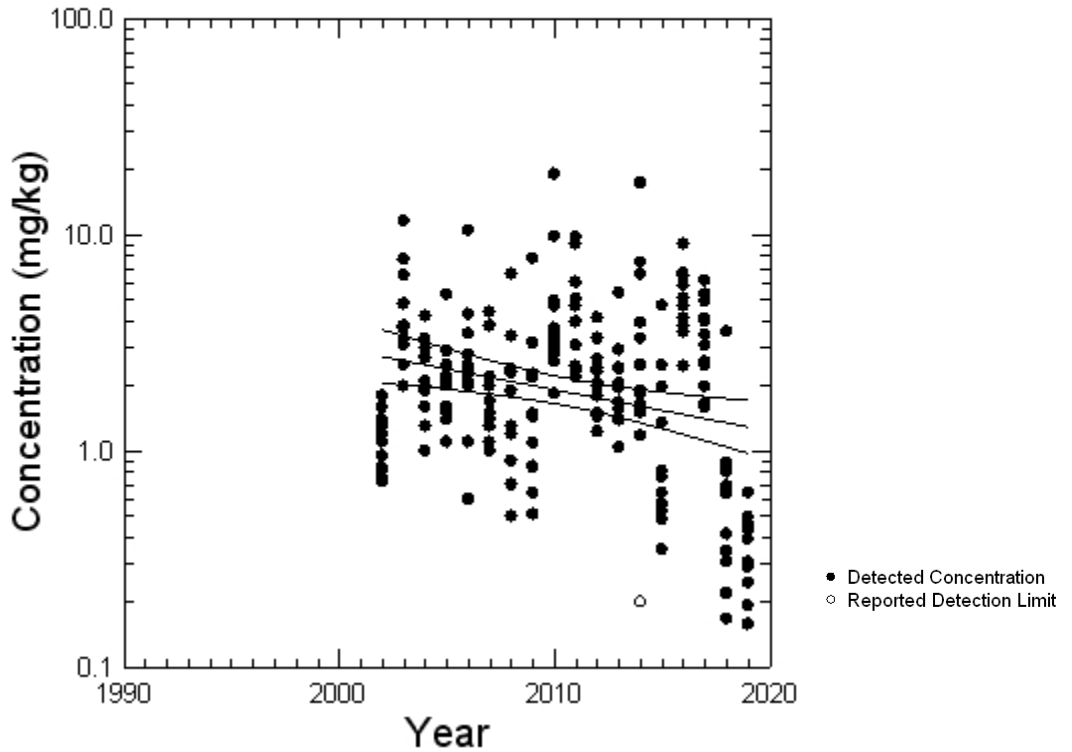
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Chromium NG



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Chromium	NG	2002	216	0.064	-0.019	38.771	<0.001	Decreasing



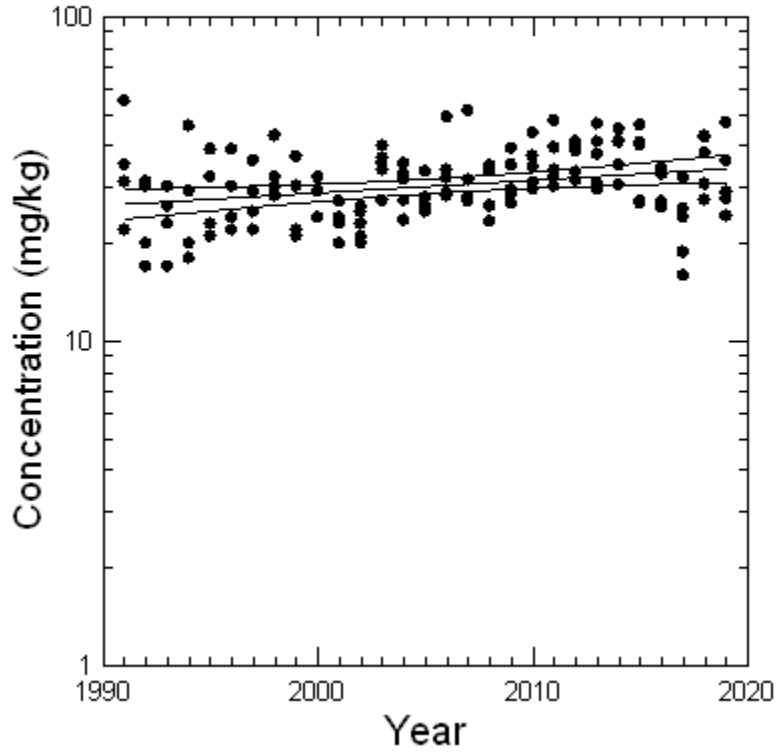
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Chromium SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Chromium	SD	1991	134	0.088	0.004	-6.341	<0.001	Increasing



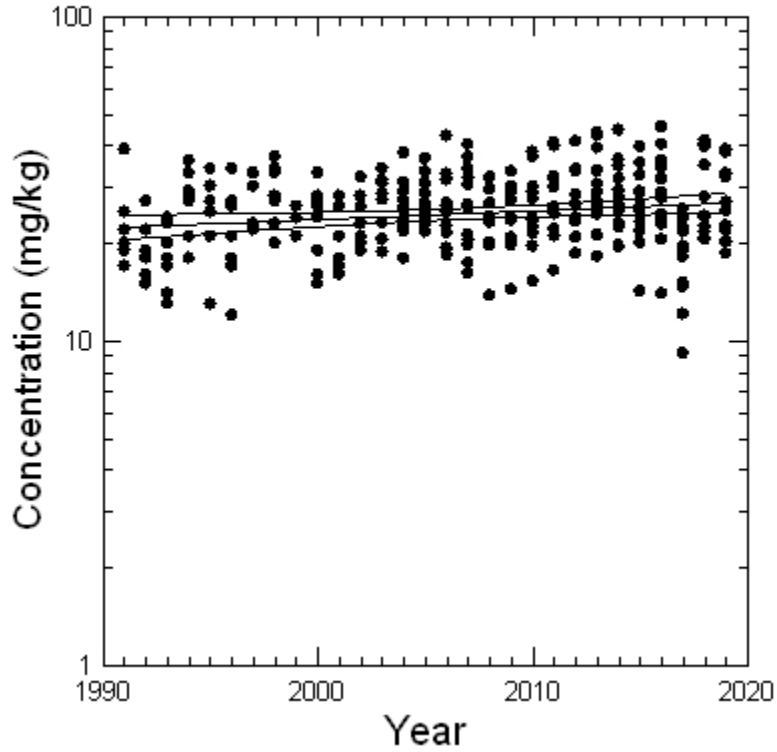
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Chromium SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Chromium	SS	1991	288	0.032	0.003	-3.889	0.002	Increasing



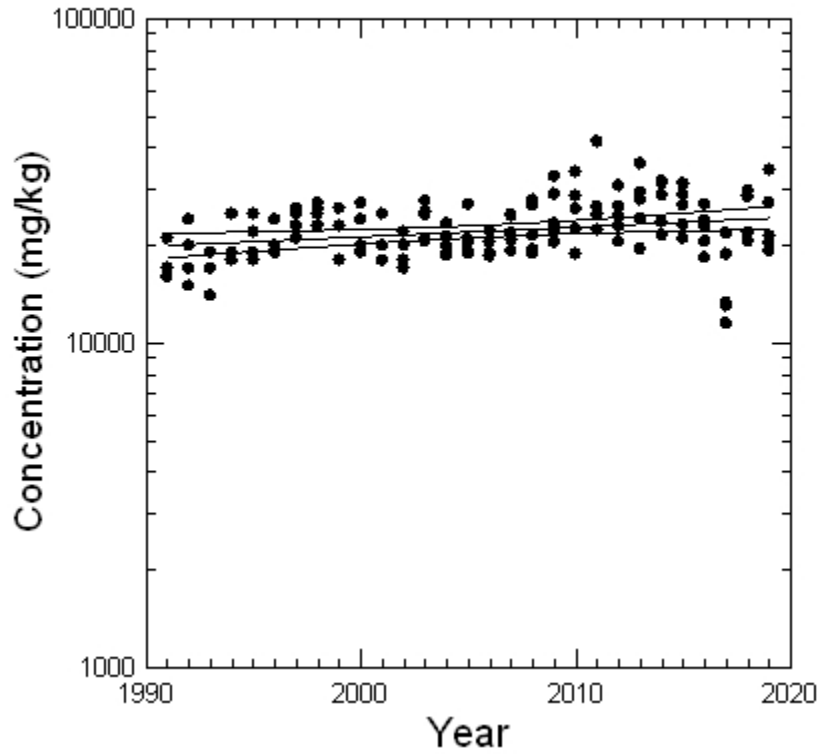
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Iron SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Iron	SD	1991	134	0.078	0.003	-1.712	0.001	Increasing



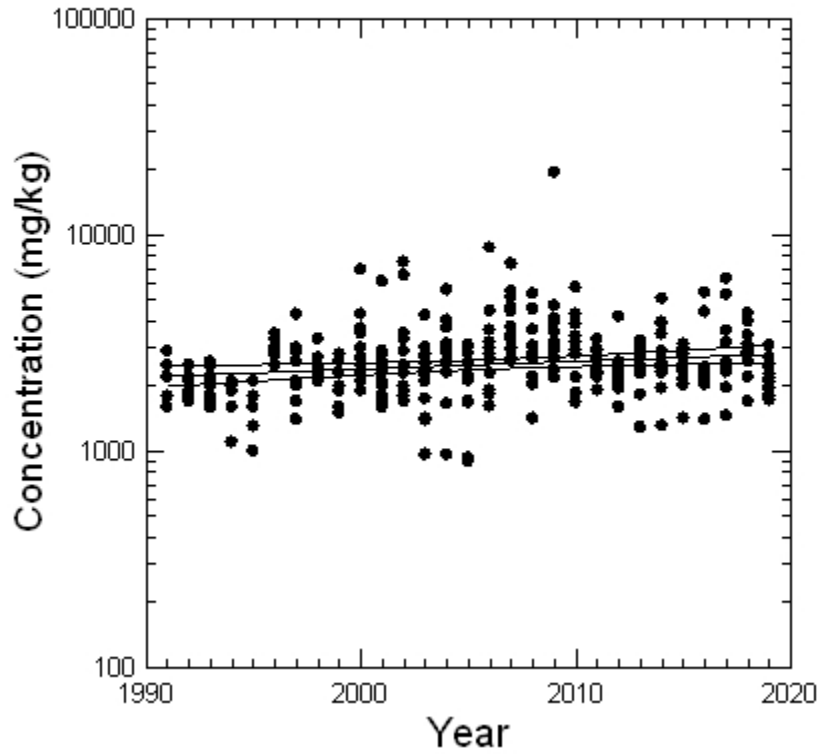
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Magnesium NG



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Magnesium	NG	1991	312	0.031	0.004	-3.783	0.002	Increasing



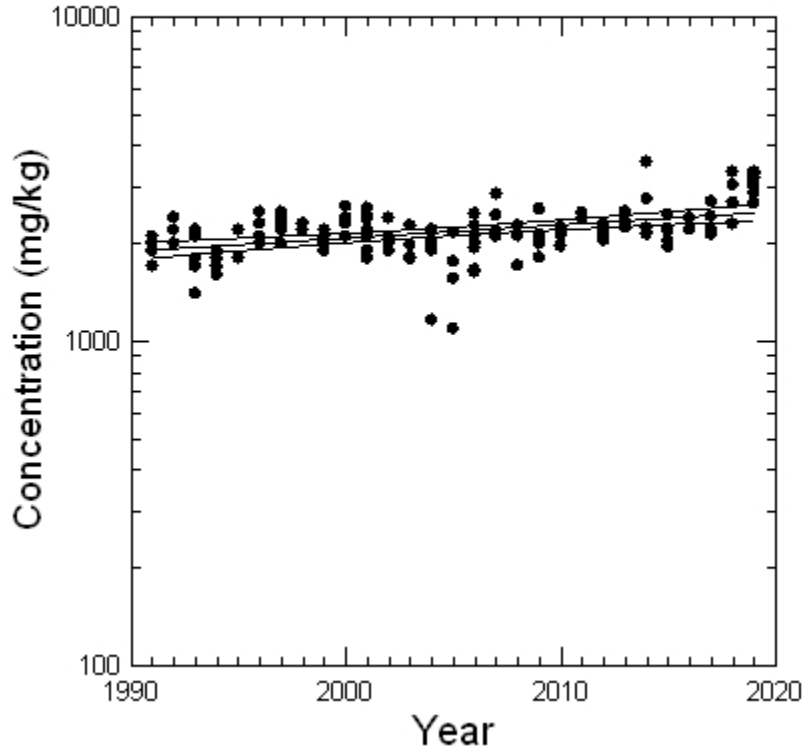
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Magnesium SB



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Magnesium	SB	1991	163	0.216	0.004	-4.836	<0.001	Increasing



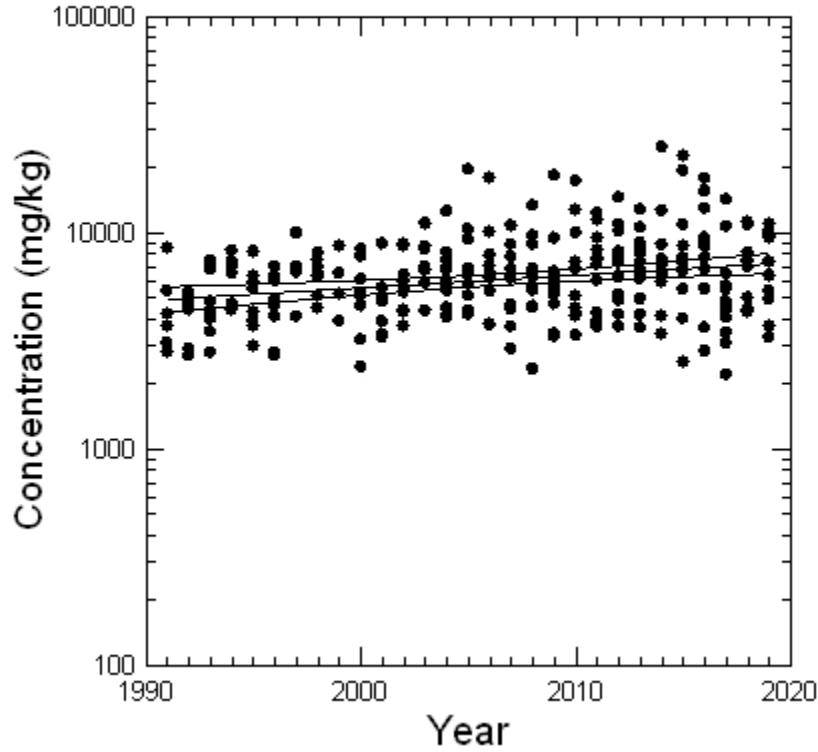
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Magnesium SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Magnesium	SS	1991	288	0.066	0.006	-7.999	<0.001	Increasing



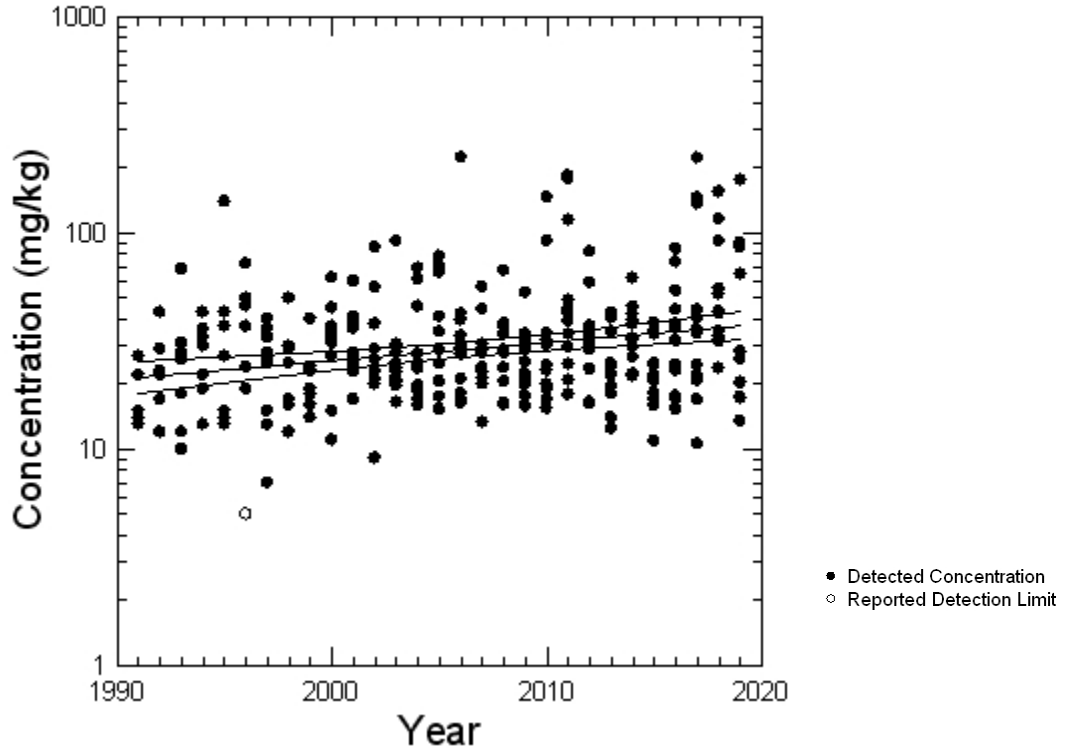
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Manganese NG



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Manganese	NG	1991	310	0.067	0.008	-14.94	<0.001	Increasing



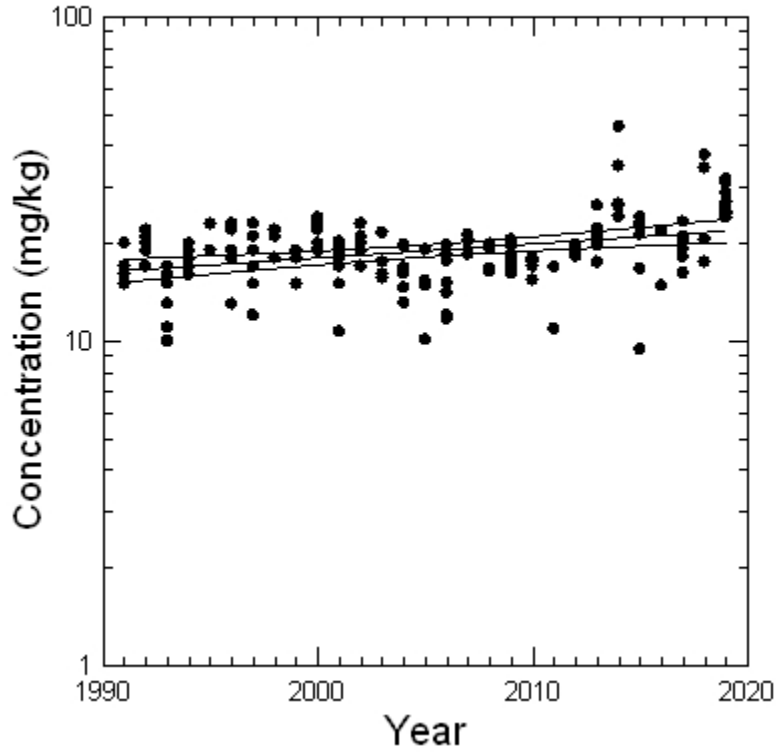
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Manganese SB



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Manganese	SB	1991	163	0.132	0.004	-7.445	<0.001	Increasing



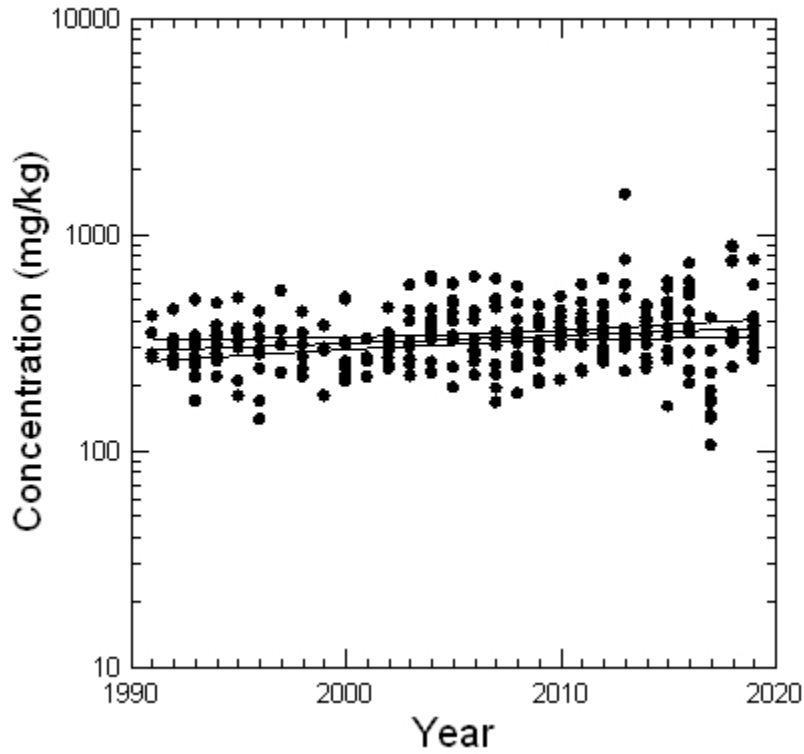
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Manganese SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Manganese	SS	1991	288	0.035	0.004	-4.778	0.001	Increasing



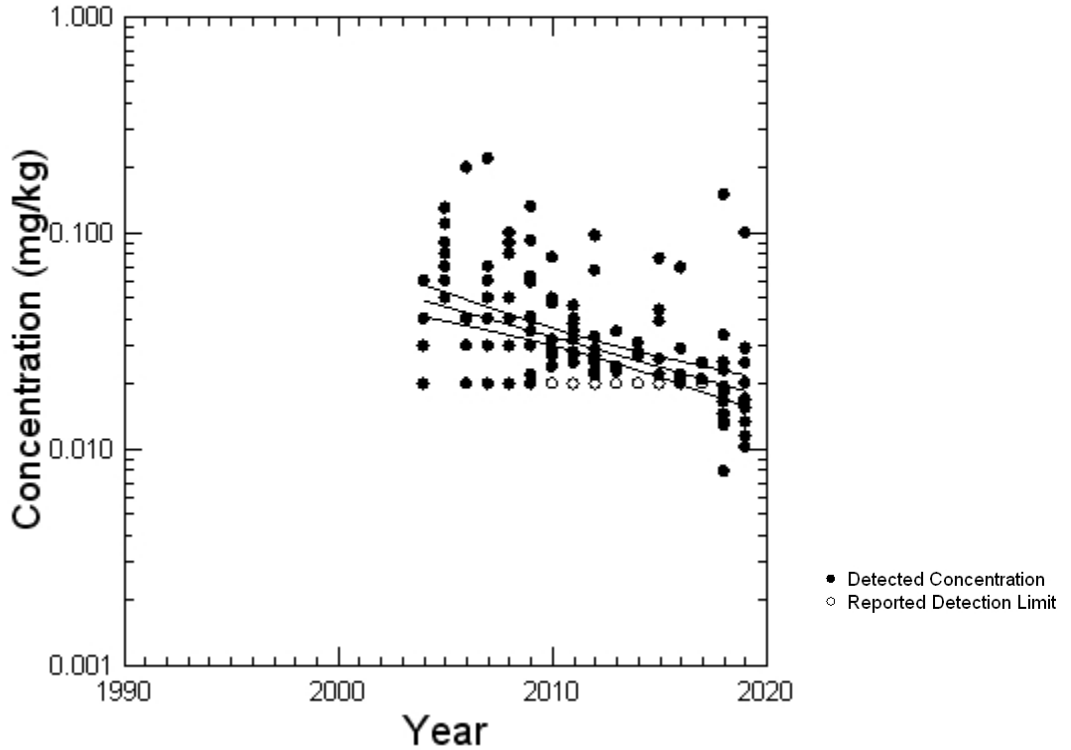
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Mercury NG



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Mercury	NG	2004	193	0.262	-0.028	54.511	<0.001	Decreasing



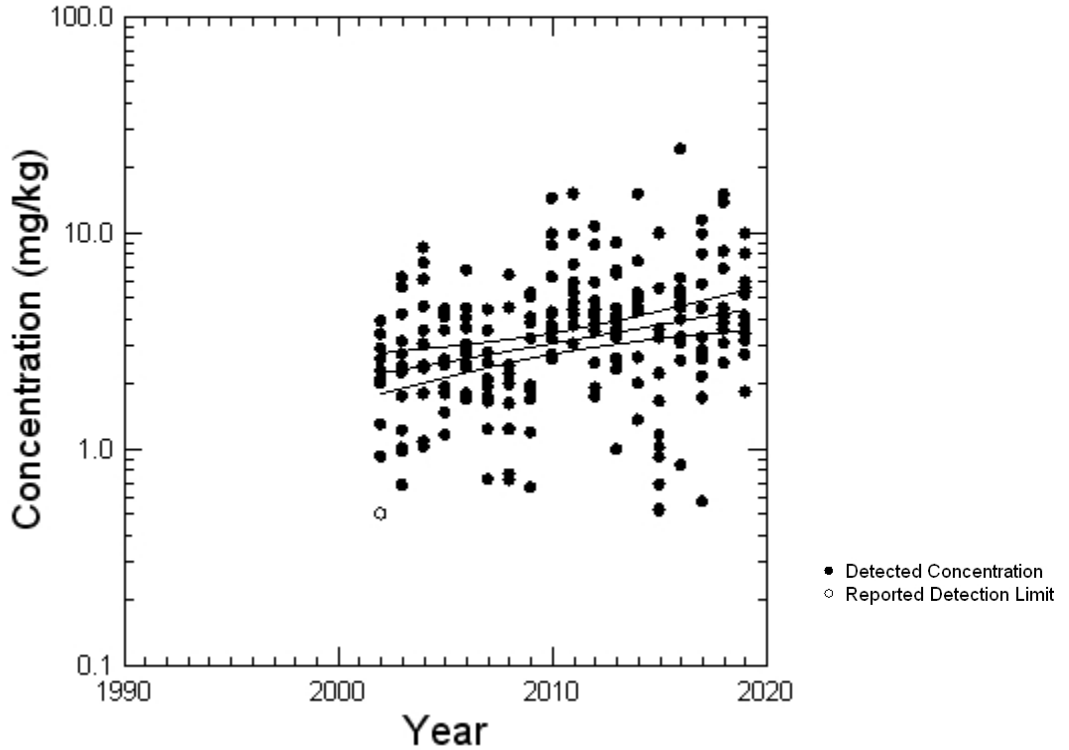
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Molybdenum NG



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Molybdenum	NG	2002	216	0.089	0.017	-34.13	<0.001	Increasing



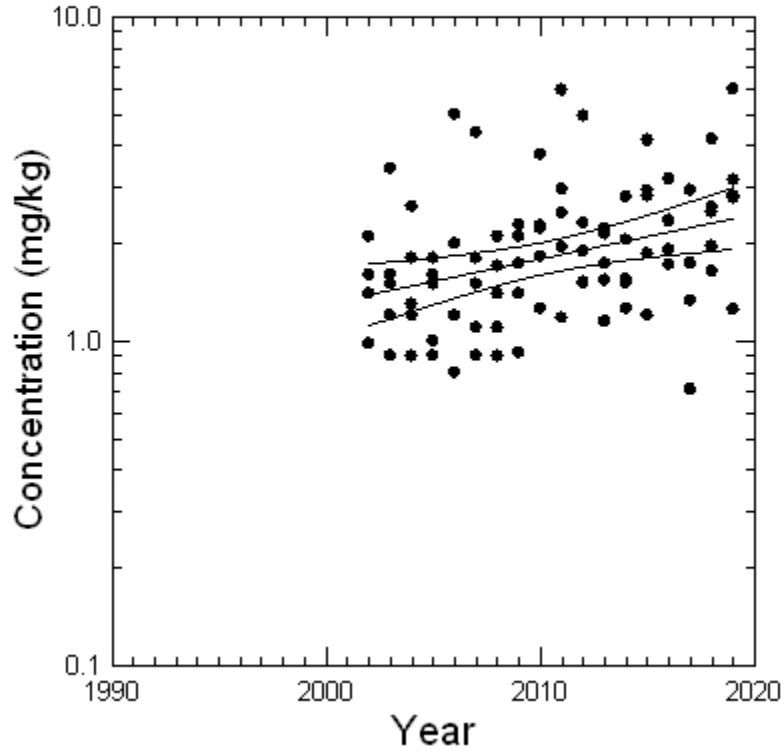
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Molybdenum SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Molybdenum	SD	2002	90	0.128	0.014	-27.52	0.001	Increasing



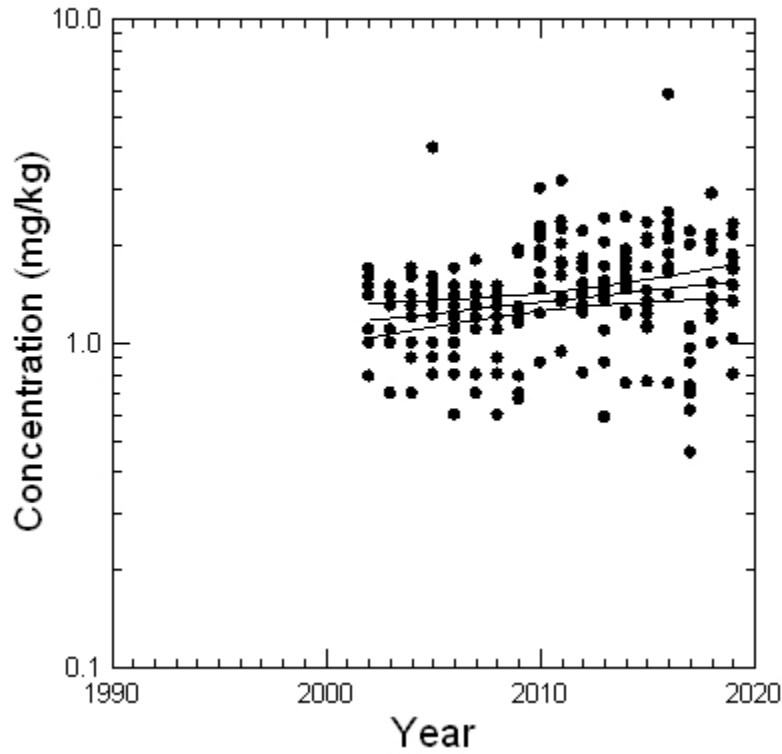
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Molybdenum SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Molybdenum	SS	2002	212	0.049	0.007	-14.09	0.001	Increasing



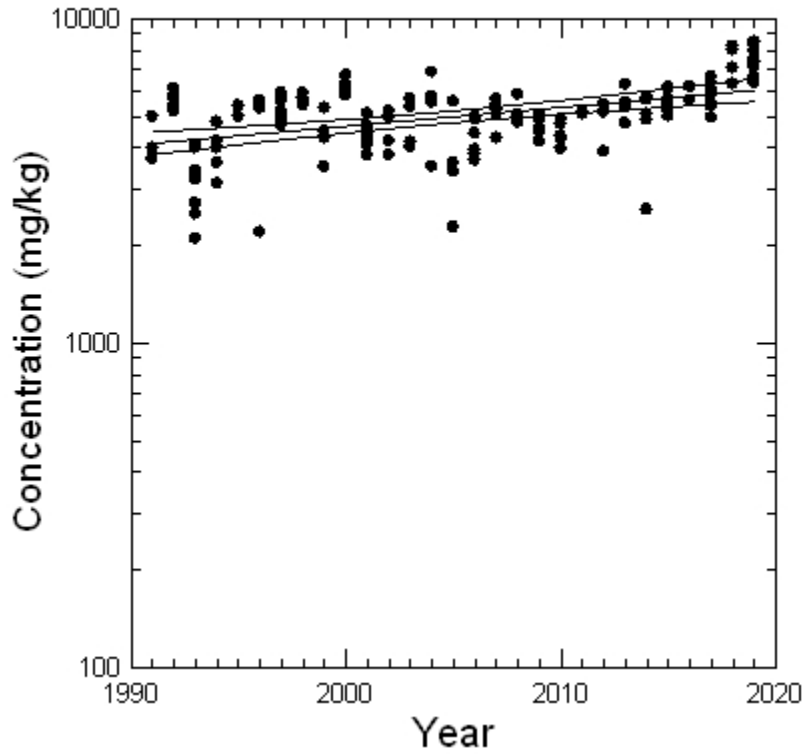
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Phosphorus SB



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Phosphorus	SB	1991	162	0.222	0.006	-7.981	<0.001	Increasing



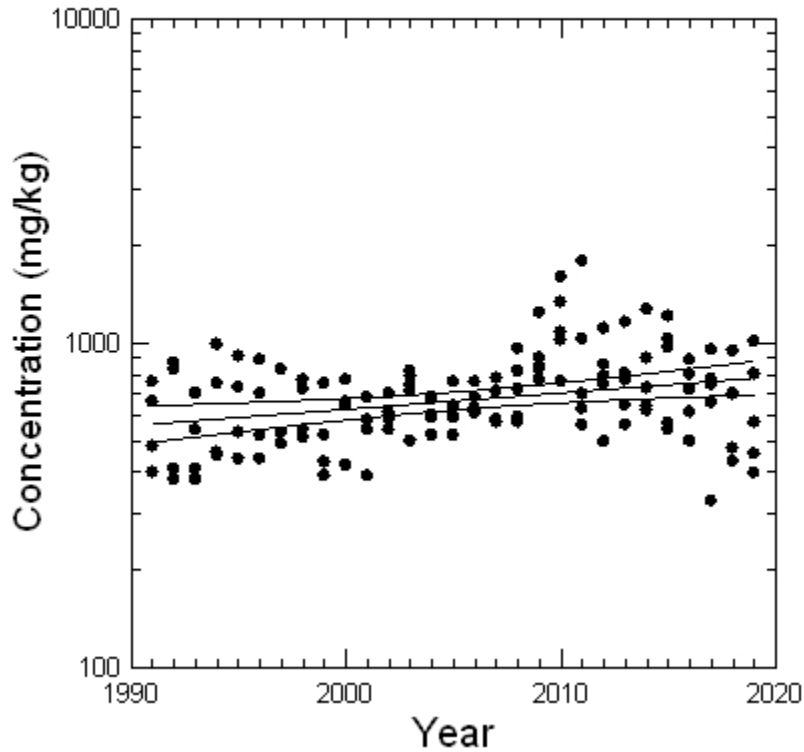
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Phosphorus SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Phosphorus	SD	1991	134	0.097	0.005	-7.298	<0.001	Increasing



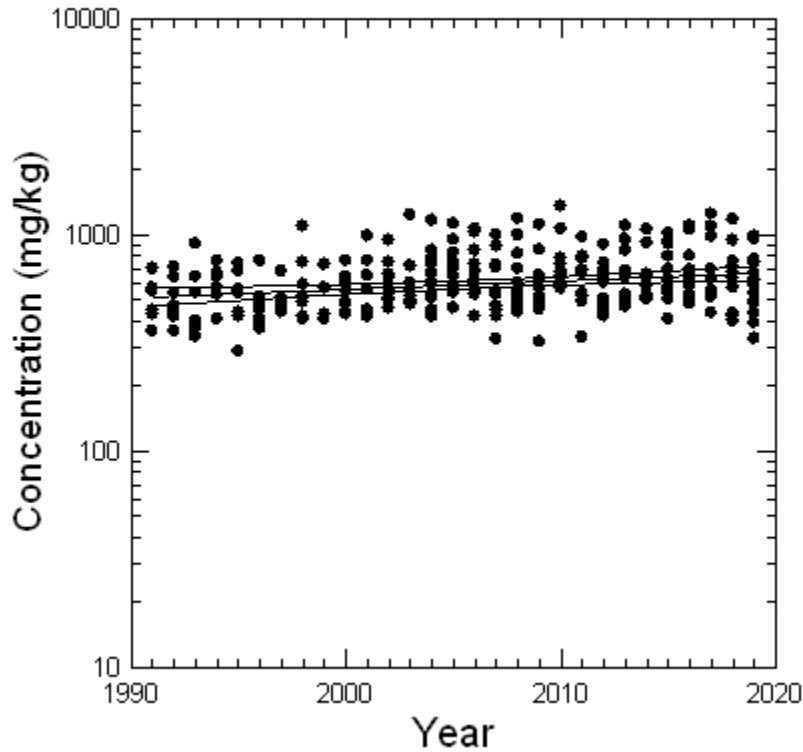
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Phosphorus SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Phosphorus	SS	1991	288	0.061	0.004	-5.089	<0.001	Increasing



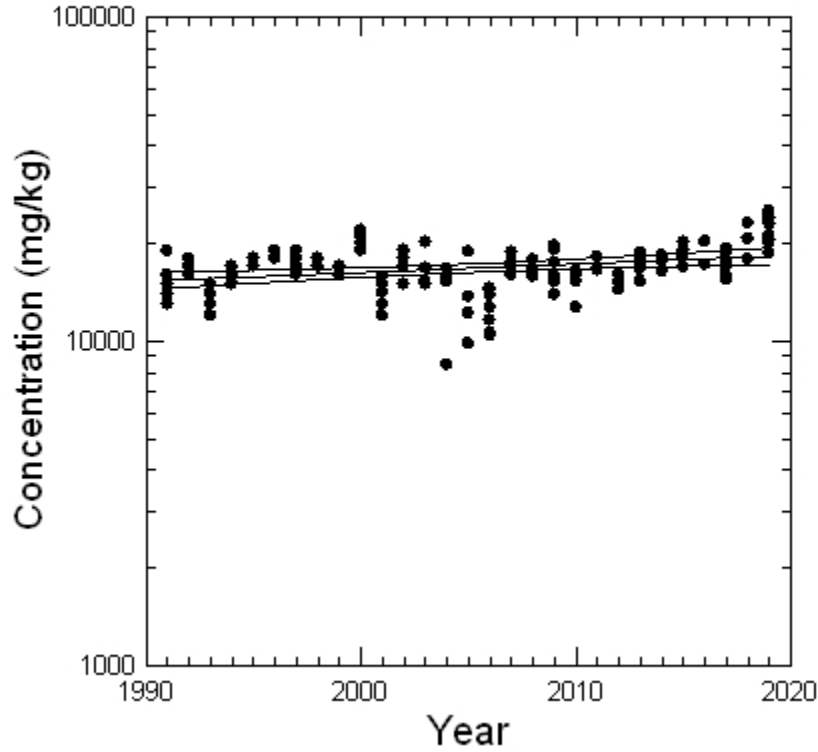
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Potassium SB



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Potassium	SB	1991	163	0.101	0.003	-1.072	<0.001	Increasing



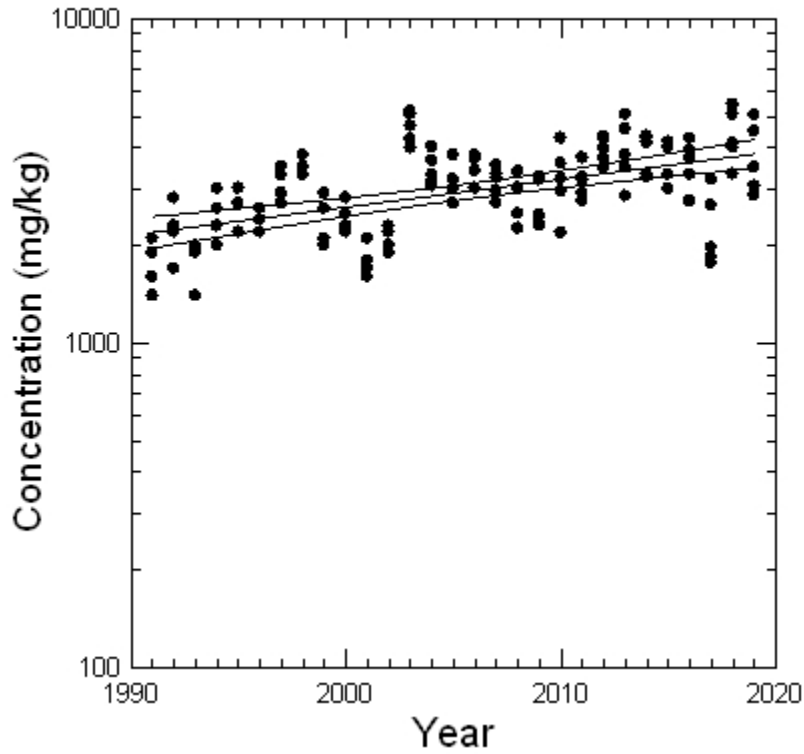
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Potassium SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Potassium	SD	1991	134	0.297	0.009	-13.81	<0.001	Increasing



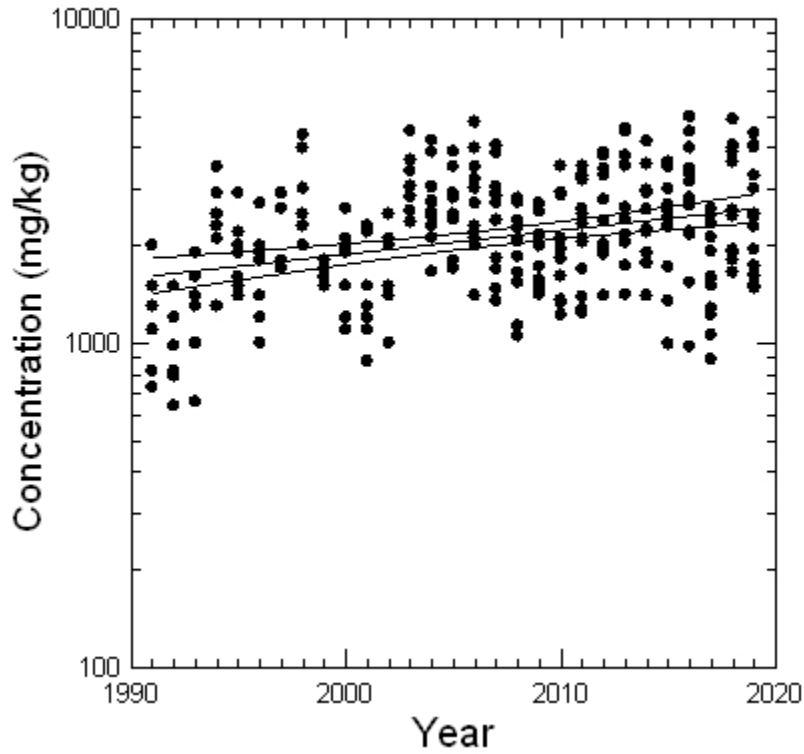
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Potassium SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Potassium	SS	1991	287	0.11	0.007	-11.47	<0.001	Increasing



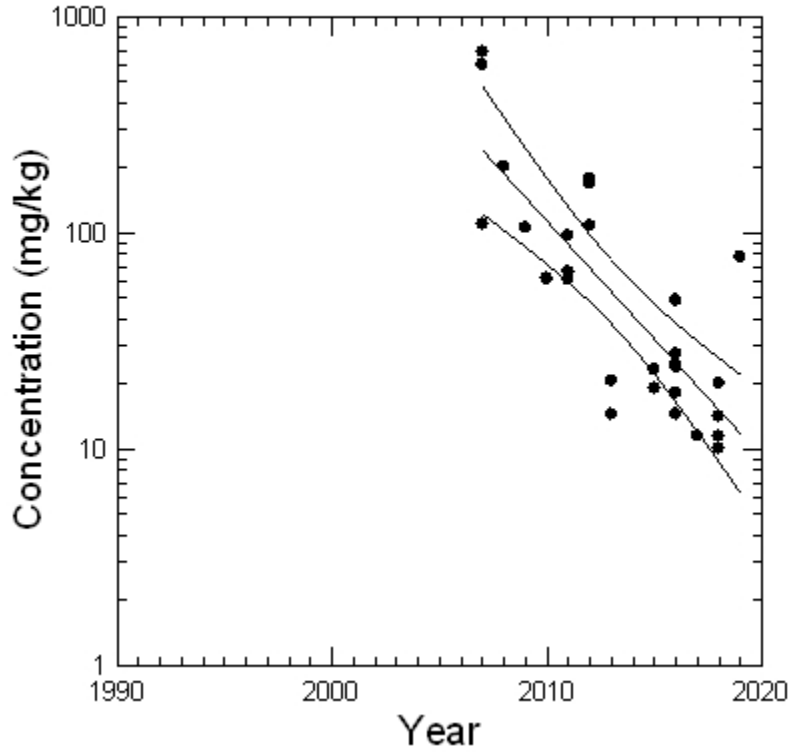
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Silicon FC



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Silicon	FC	2006	30	0.633	-0.109	221.46	<0.001	Decreasing



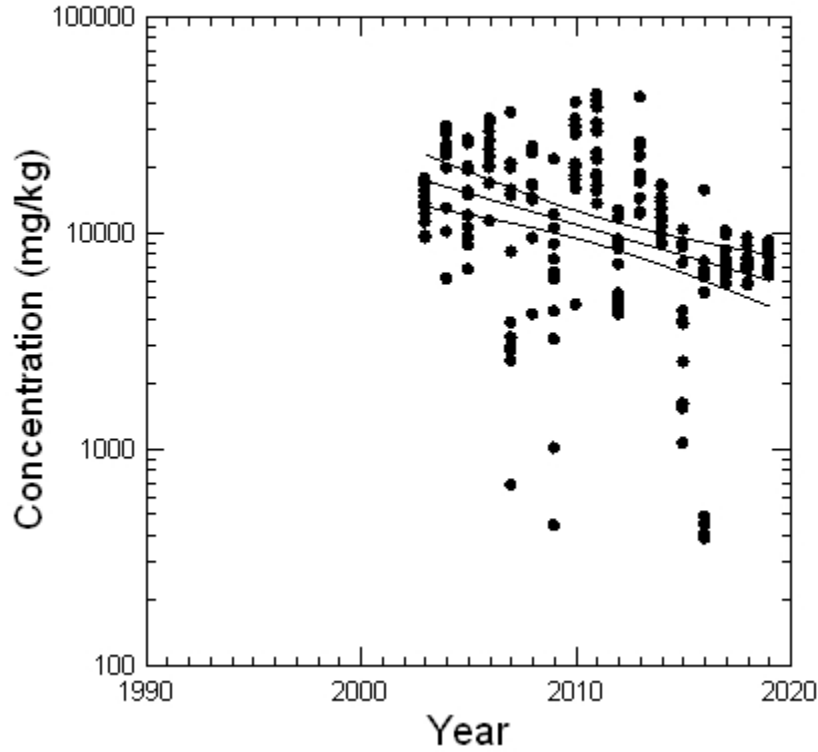
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Silicon NG



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Silicon	NG	2003	203	0.135	-0.029	62.109	<0.001	Decreasing



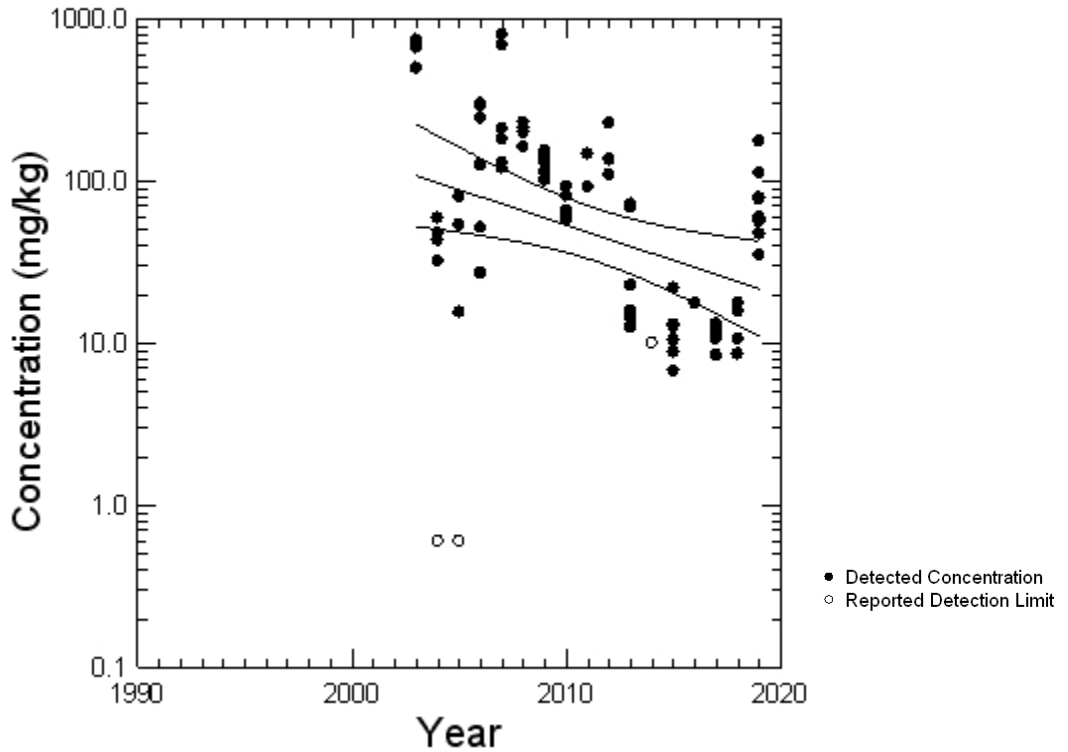
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Silicon SB



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Silicon	SB	2003	89	0.116	-0.044	89.413	0.001	Decreasing



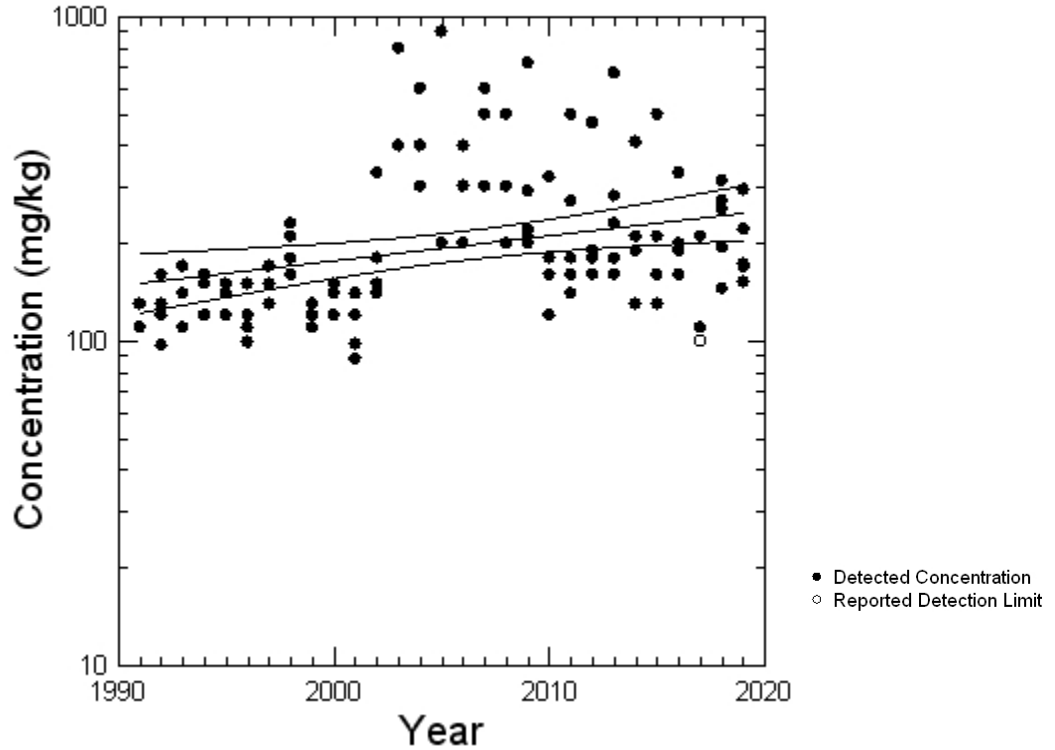
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Sodium SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Sodium	SD	1991	134	0.086	0.008	-13.22	0.001	Increasing



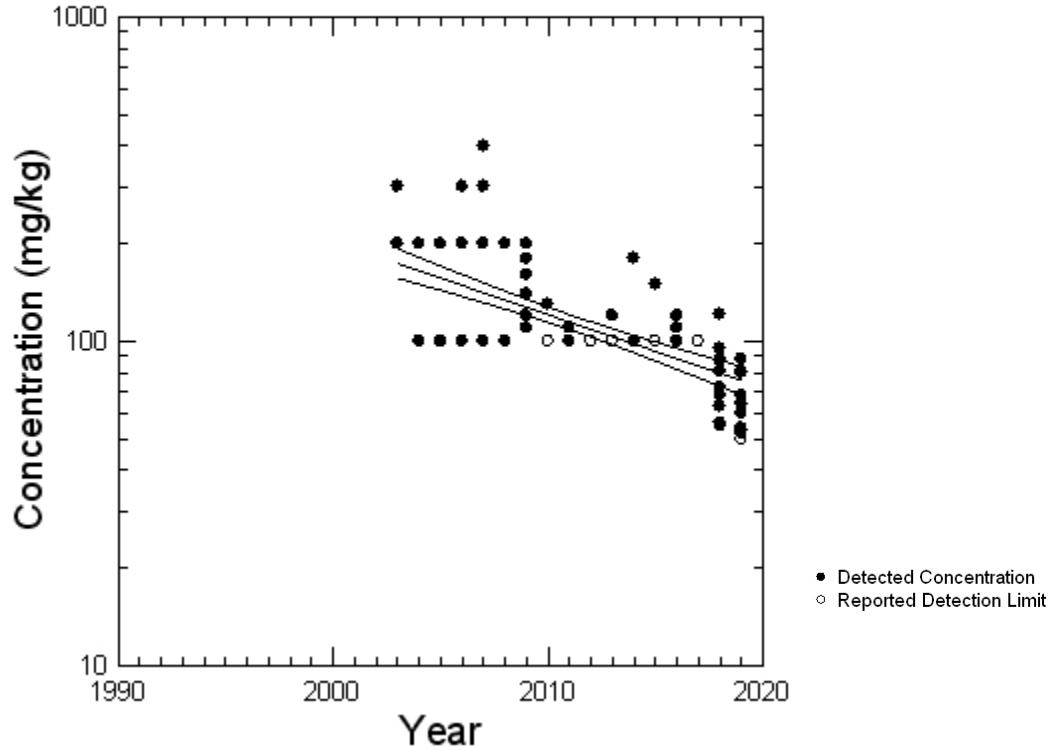
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Sodium SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Sodium	SS	2003	201	0.406	-0.023	47.539	<0.001	Decreasing



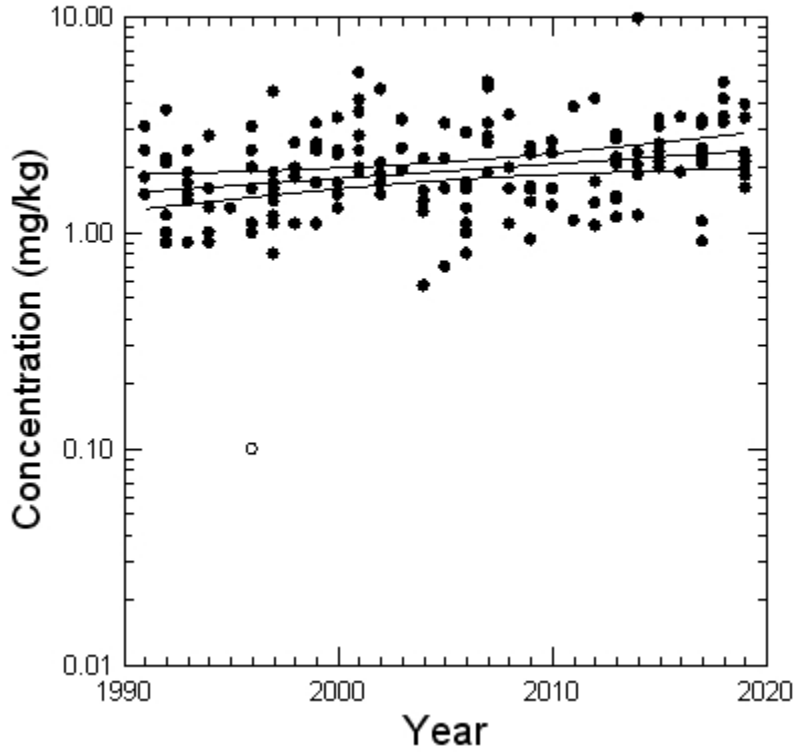
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Strontium SB



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Strontium	SB	1991	163	0.066	0.007	-13.18	0.001	Increasing



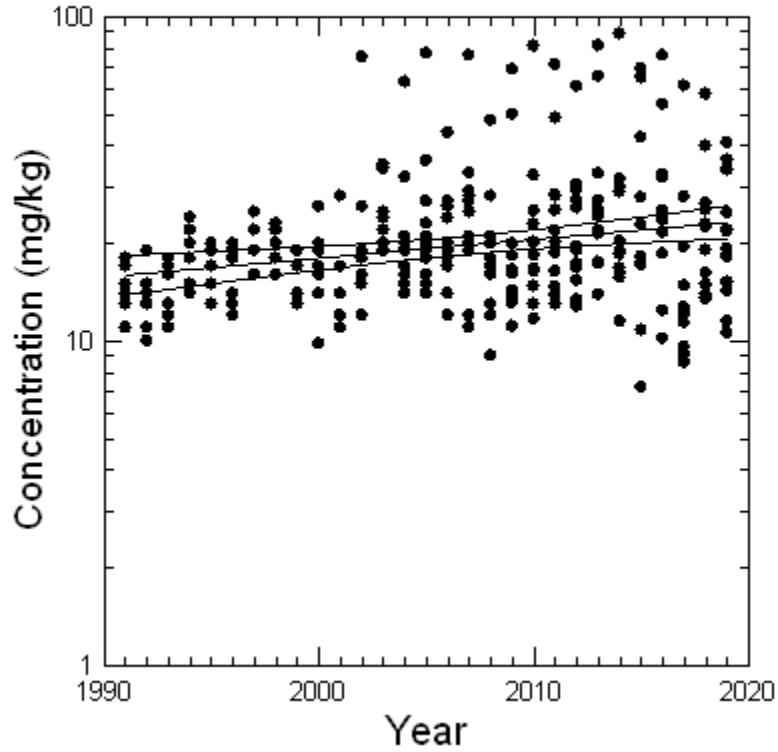
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Strontium SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Strontium	SS	1991	288	0.056	0.006	-10.35	<0.001	Increasing



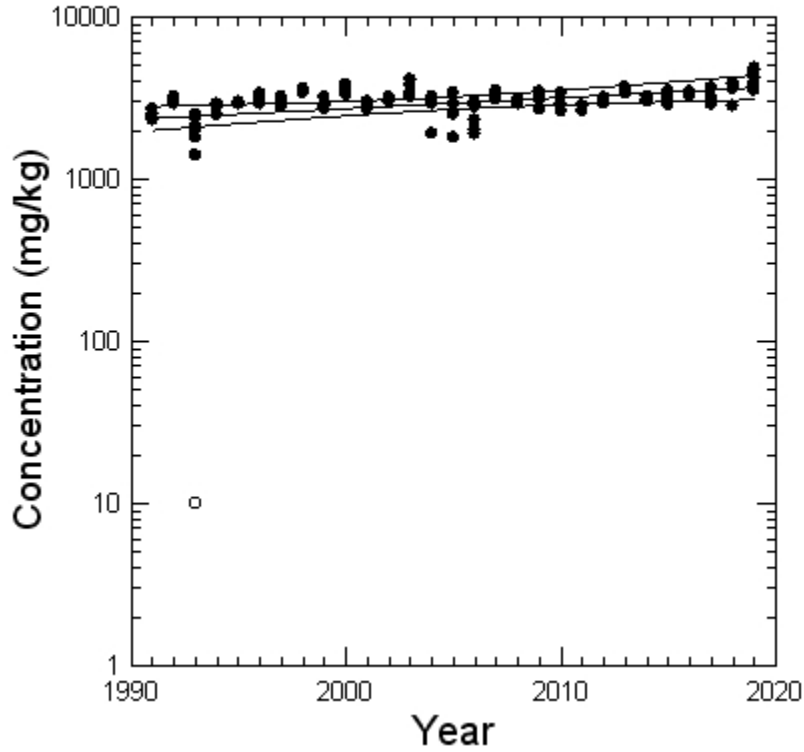
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Sulfur SB



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Sulfur	SB	1991	163	0.078	0.007	-10.14	<0.001	Increasing



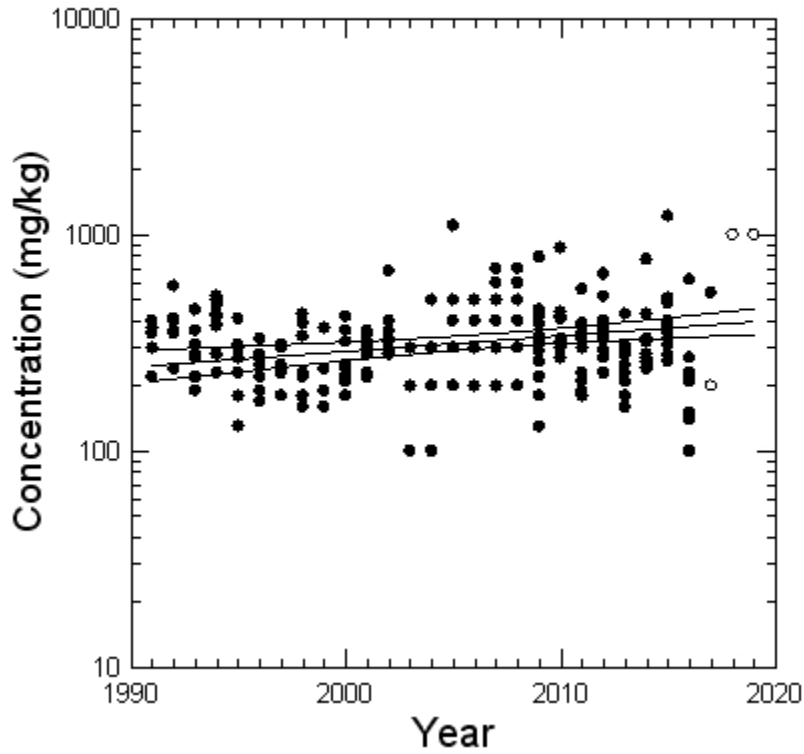
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Sulfur SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Sulfur	SS	1991	288	0.061	0.007	-11.99	<0.001	Increasing



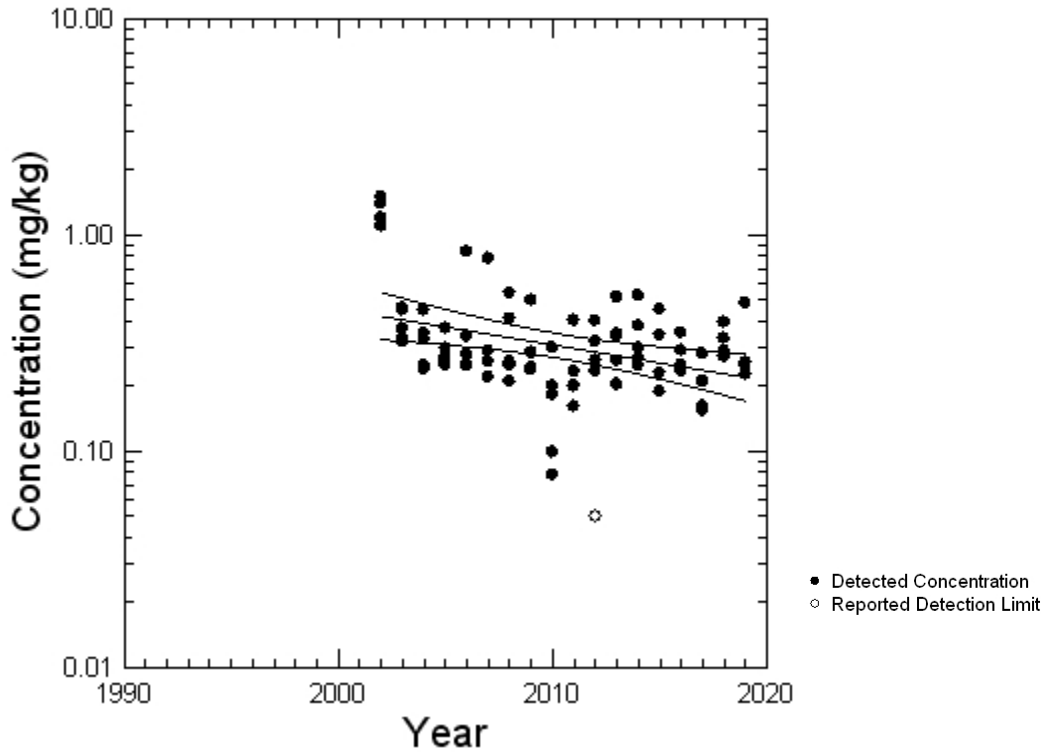
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Thallium SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Thallium	SD	2002	90	0.141	-0.017	32.93	<0.001	Decreasing



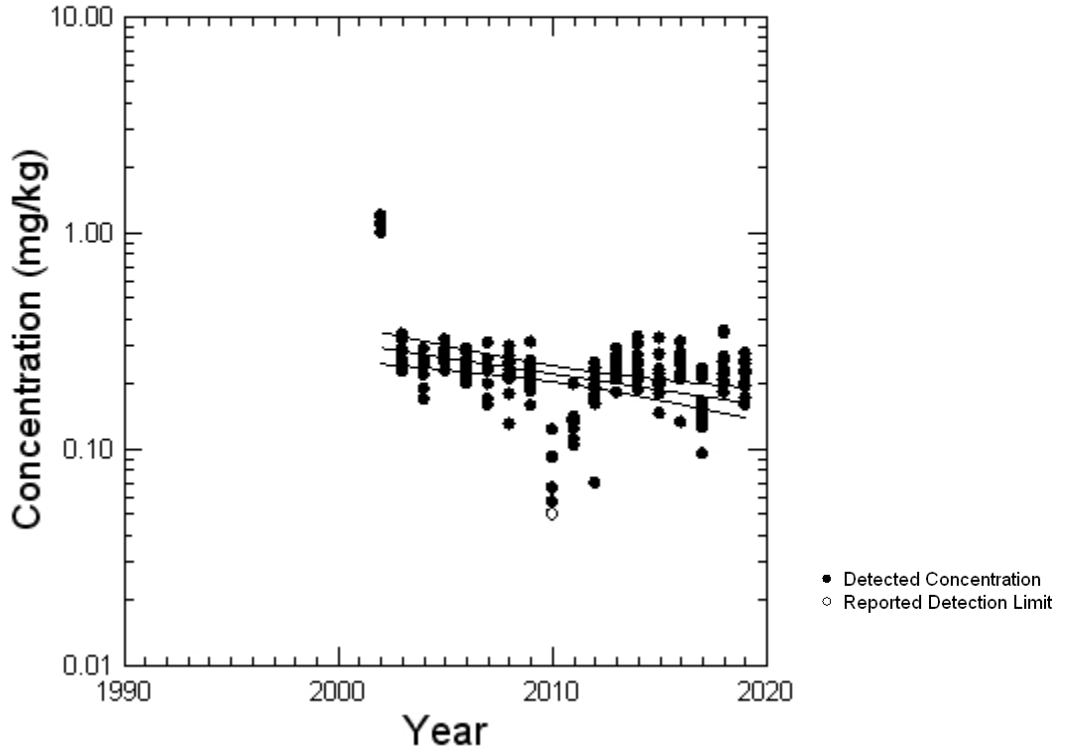
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Thallium SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Thallium	SS	2002	212	0.109	-0.015	29.188	<0.001	Decreasing



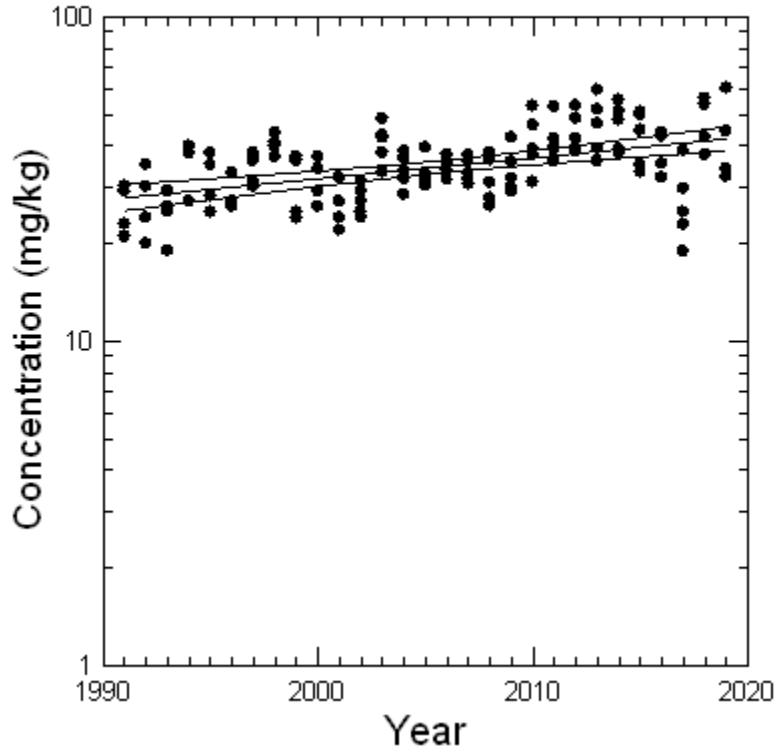
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Vanadium SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Vanadium	SD	1991	134	0.254	0.006	-11.44	<0.001	Increasing



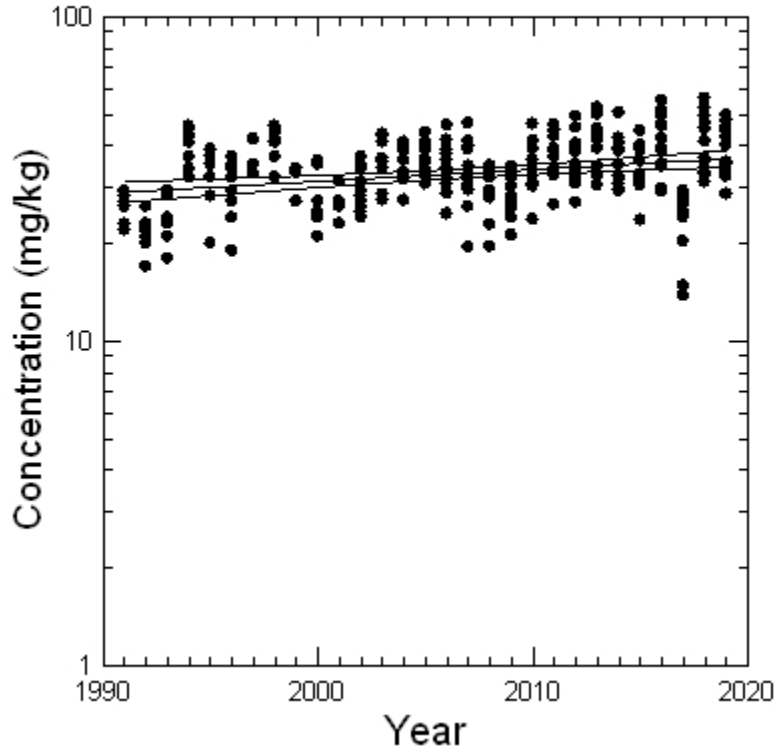
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Vanadium SS



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Vanadium	SS	1991	288	0.081	0.004	-5.819	<0.001	Increasing



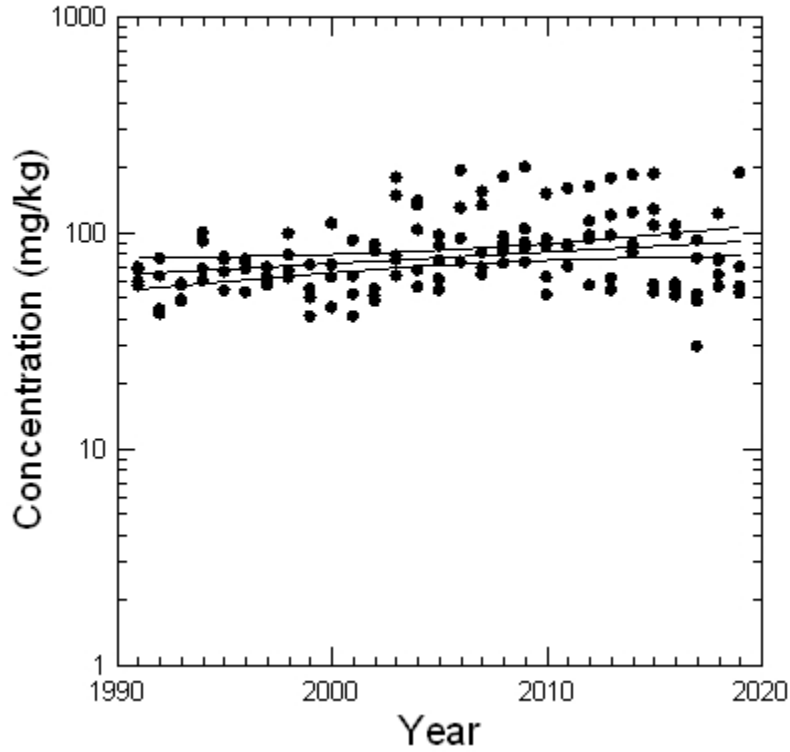
Appendix F-2

Site-Wide Inorganic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Zinc SD



Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Zinc	SD	1991	134	0.069	0.005	-8.813	0.002	Increasing



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix F Regression Analyses
February 8, 2021

F.3 SITE-WIDE ORGANIC TREND LINE GRAPHS (P<0.003)



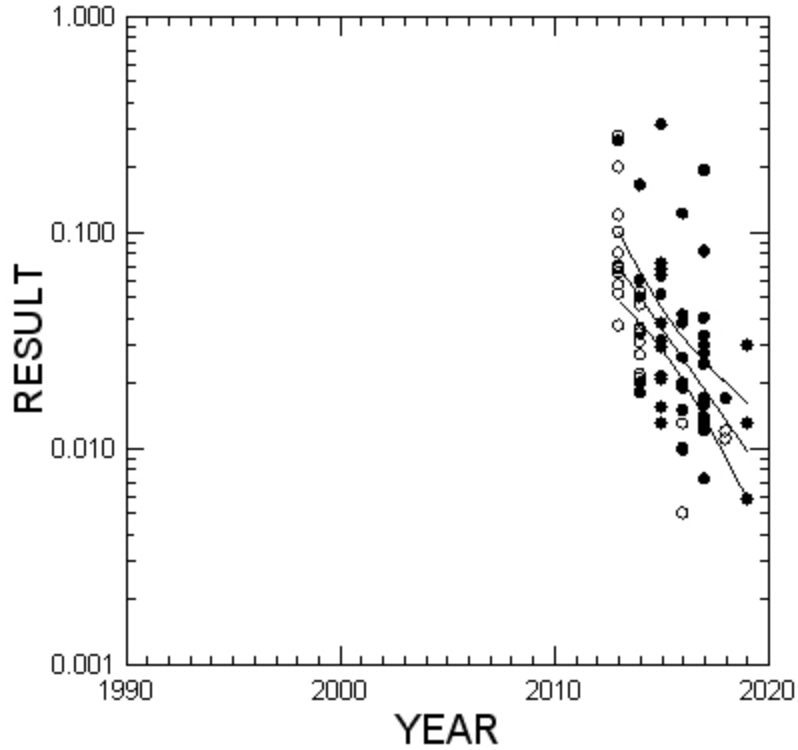
Appendix F-3

Site-Wide Organic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

DDD_SS



Analyte Group	Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
CH13_grp3_OCPs	DDD (p,p'-DDD)	SS	2013	77	0.356	-0.142	285.143	<0.001	Decreasing



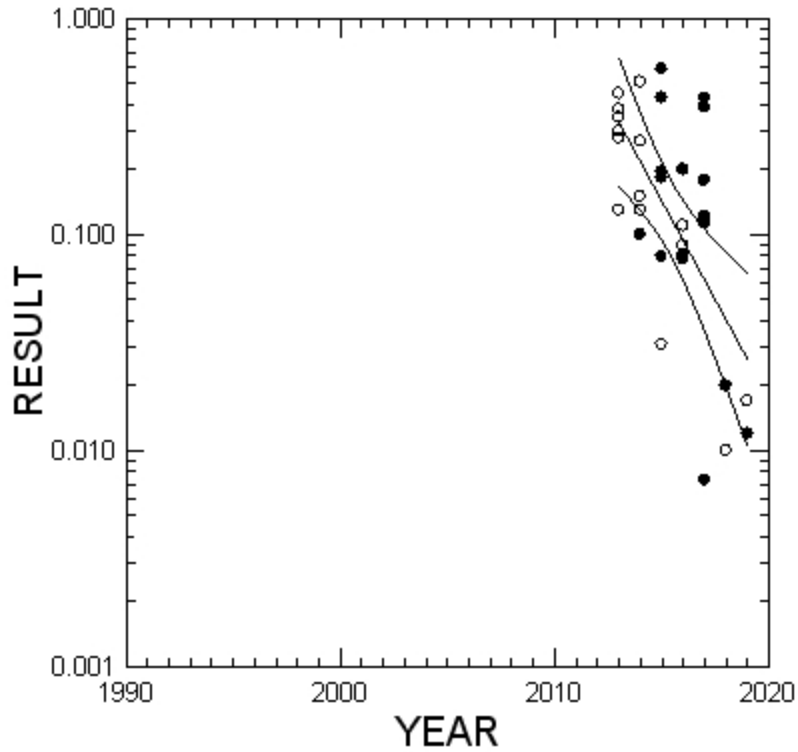
Appendix F-3

Site-Wide Organic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

DDT_SD



Analyte Group	Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
CH13_grp3_OCPs	DDT (p,p'-DDT)	SD	2013	34	0.406	-0.183	368	<0.001	Decreasing



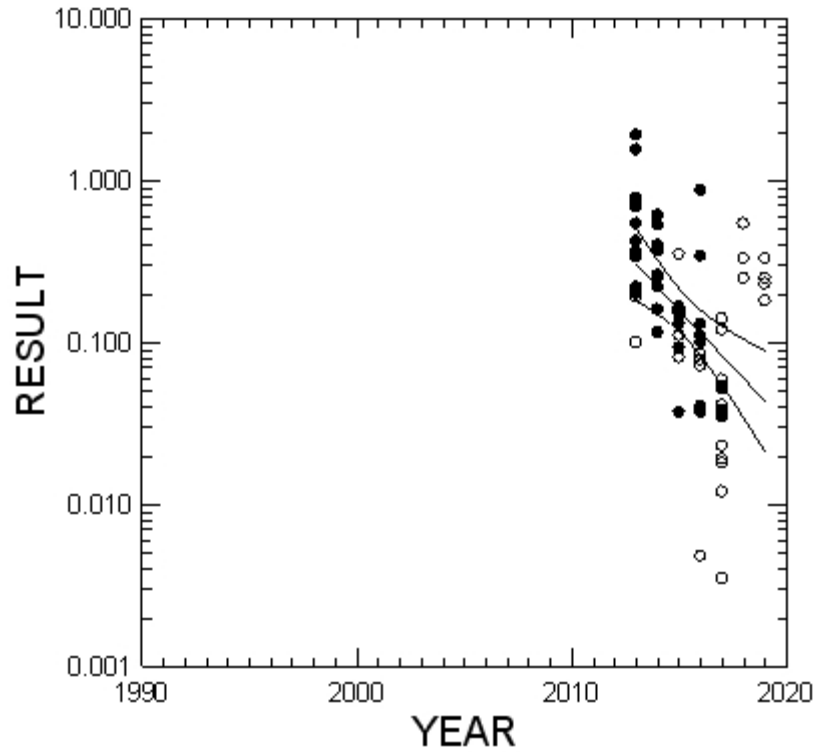
Appendix F-3

Site-Wide Organic Trend Line Graphs p<0.003

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Endosulfan Sulfate_NG



Analyte Group	Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
CH13_grp3_OCPs	Endosulfan Sulfate	NG	2013	77	0.218	-0.141	282.937	<0.001	Decreasing



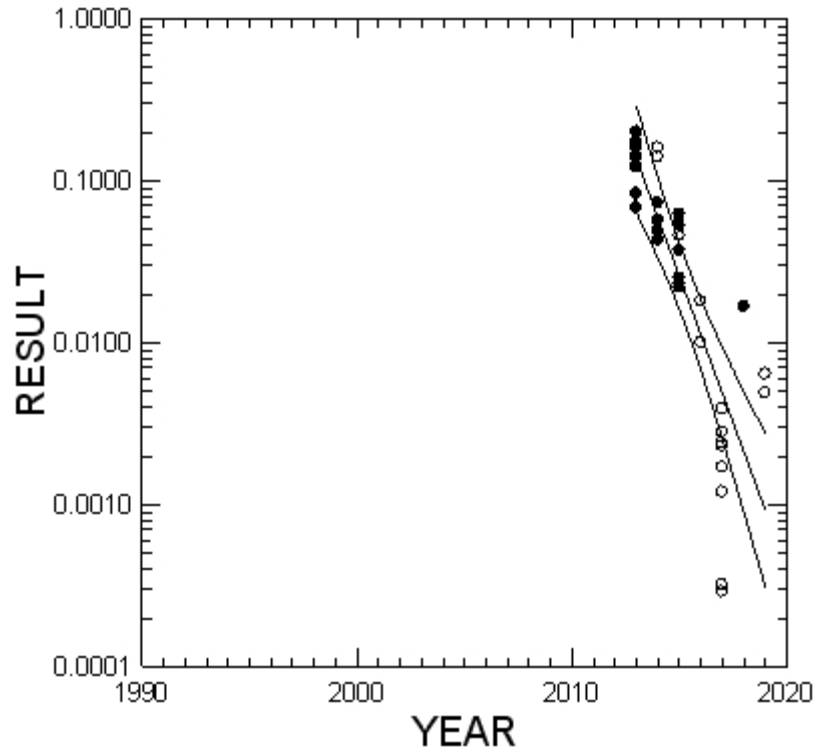
Appendix F-3

Site-Wide Organic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Endosulfan Sulfate_SB



Analyte Group	Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
CH13_grp3_OCPs	Endosulfan Sulfate	SB	2013	34	0.671	-0.361	726.588	<0.001	Decreasing



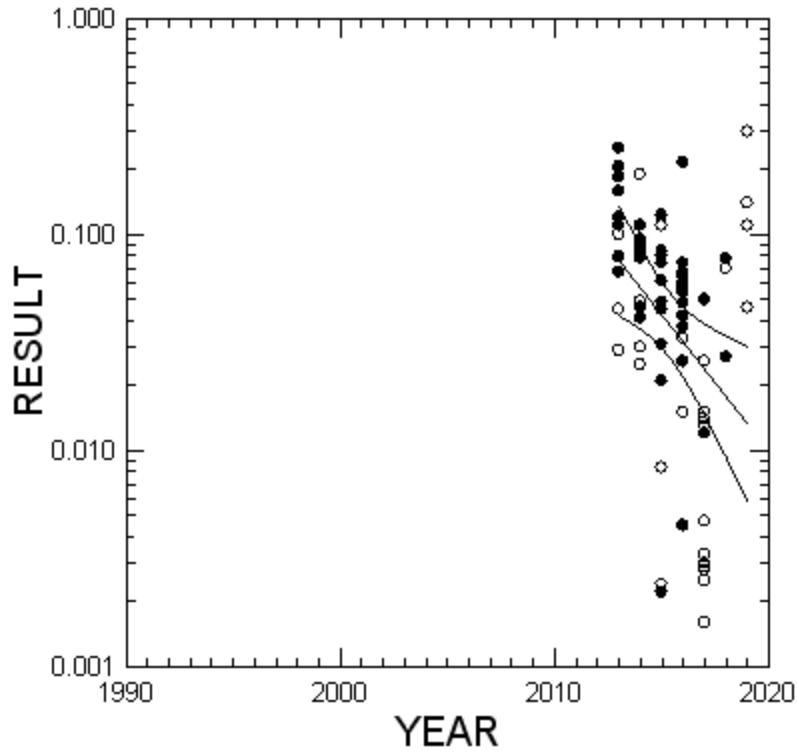
Appendix F-3

Site-Wide Organic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Heptachlor Epoxide_NG



Analyte Group	Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
CH13_grp3_OCPs	Heptachlor Epoxide	NG	2013	77	0.144	-0.126	252.705	0.001	Decreasing



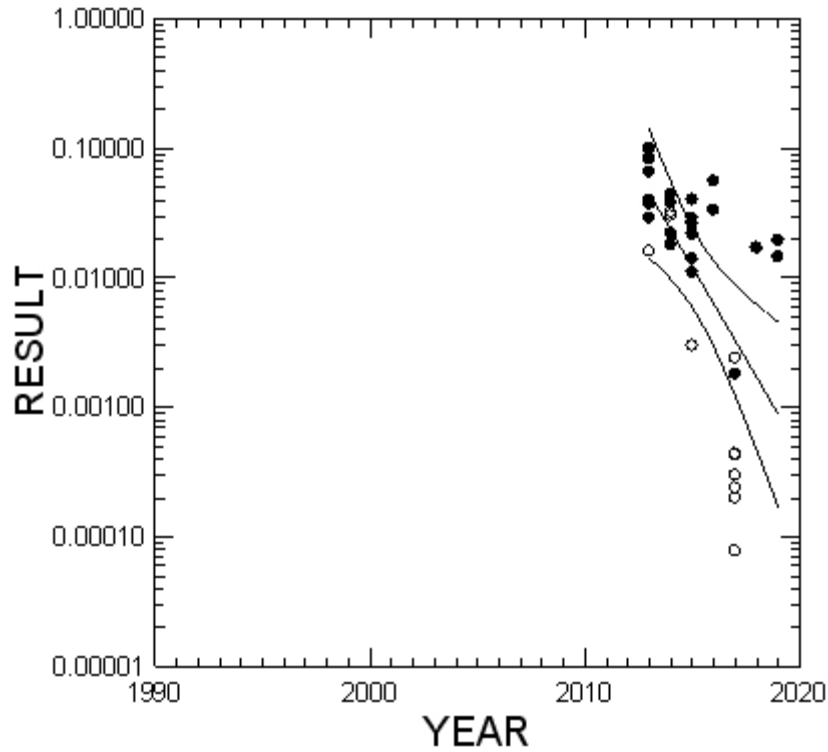
Appendix F-3

Site-Wide Organic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Heptachlor Epoxide_SB



Analyte Group	Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
CH13_grp3_OCPs	Heptachlor Epoxide	SB	2013	34	0.357	-0.284	570.552	<0.001	Decreasing



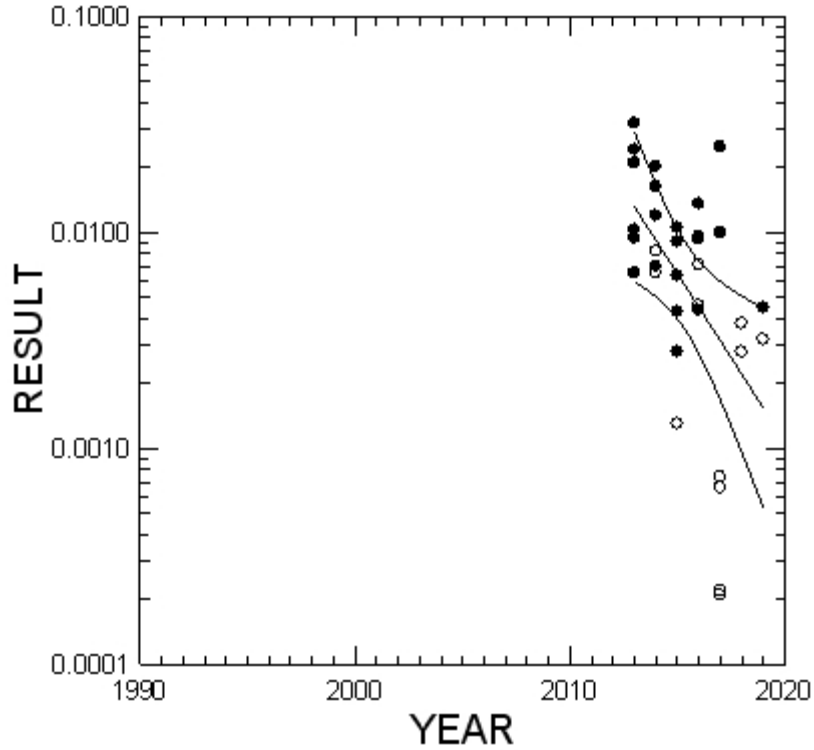
Appendix F-3

Site-Wide Organic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Heptachlor Epoxide_SD



Analyte Group	Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
CH13_grp3_OCPs	Heptachlor Epoxide	SD	2013	34	0.269	-0.155	310.315	0.002	Decreasing



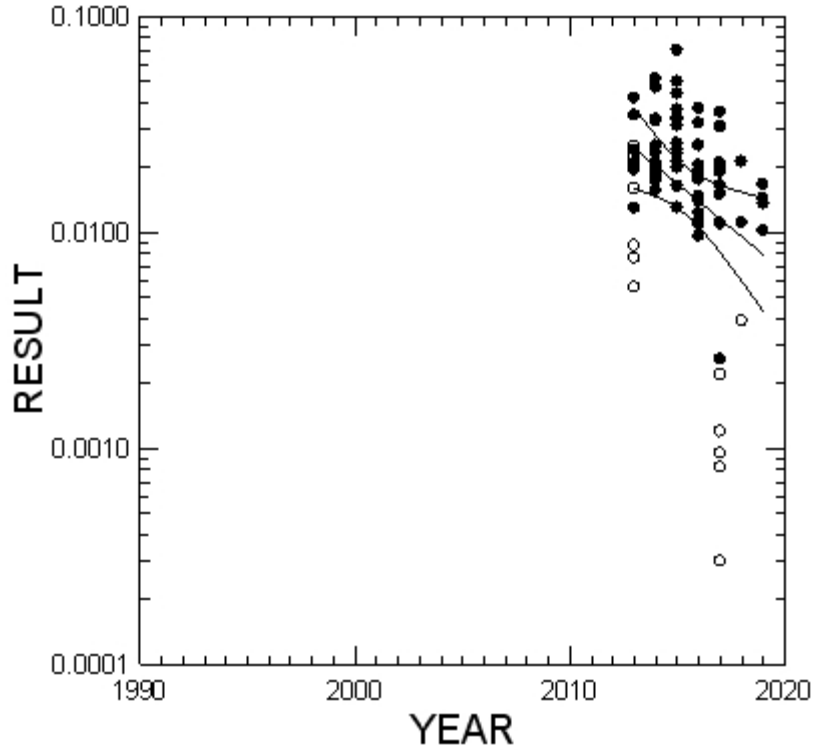
Appendix F-3

Site-Wide Organic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Heptachlor Epoxide_SS



Analyte Group	Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
CH13_grp3_OCPs	Heptachlor Epoxide	SS	2013	77	0.116	-0.082	163.351	0.002	Decreasing



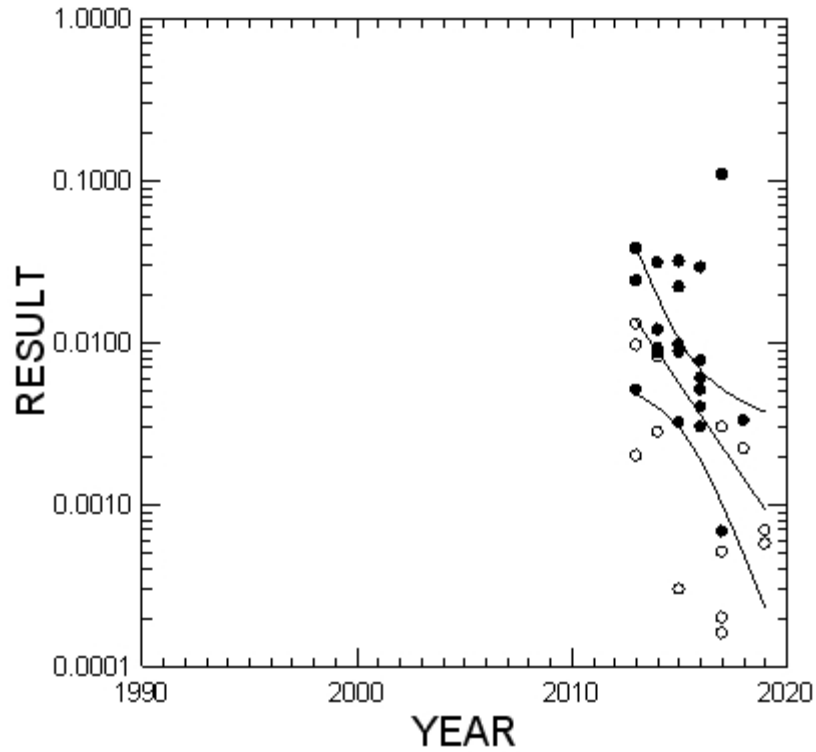
Appendix F-3

Site-Wide Organic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Mirex_SD



Analyte Group	Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
CH13_grp3_OCPs	Mirex	SD	2013	34	0.253	-0.194	389.404	0.002	Decreasing



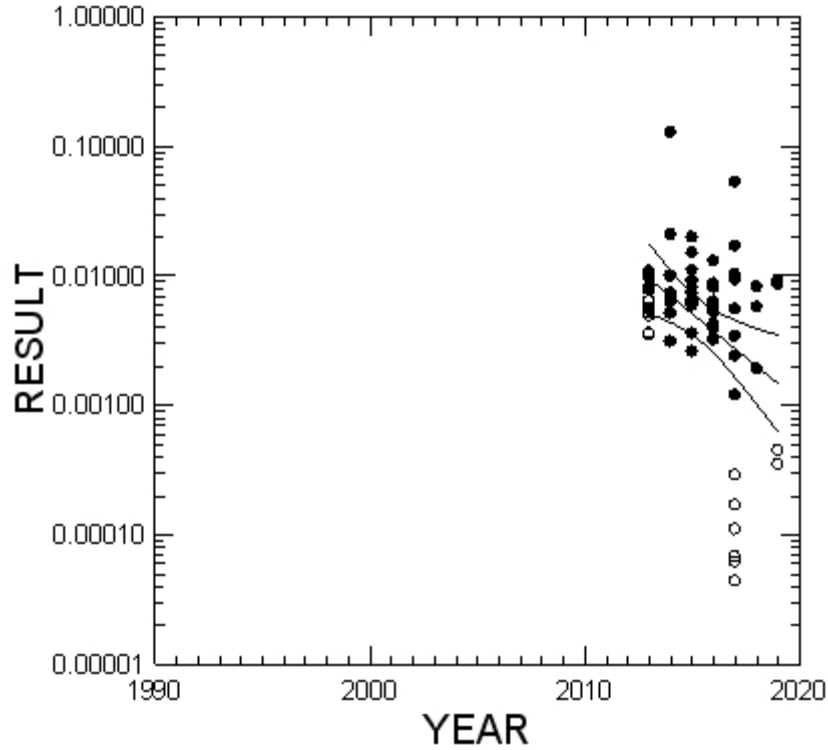
Appendix F-3

Site-Wide Organic Trend Line Graphs $p < 0.003$

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Mirex_SS



Analyte Group	Analyte	Matrix	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
CH13_grp3_OCPs	Mirex	SS	2013	77	0.149	-0.135	269.342	0.001	Decreasing



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix F Regression Analyses
February 8, 2021

F.4 SITE-SPECIFIC ORGANIC TREND LINE GRAPHS P<0.003'



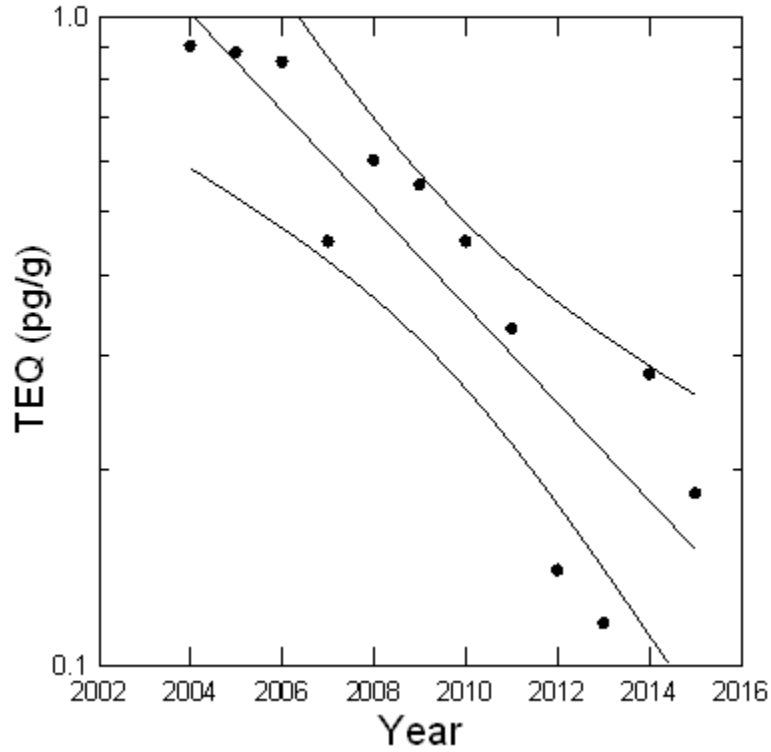
Appendix F-4

Site-Specific Organic Trend Line Graphs p<0.003

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Upper Bound PCDD/F TEQ _NG_S3



Analyte	Matrix	Site	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Upper Bound PCDD/F TEQ (WHO 2005)	NG	S3	2004	12	0.775	-0.075	150.668	<0.001	Decreasing



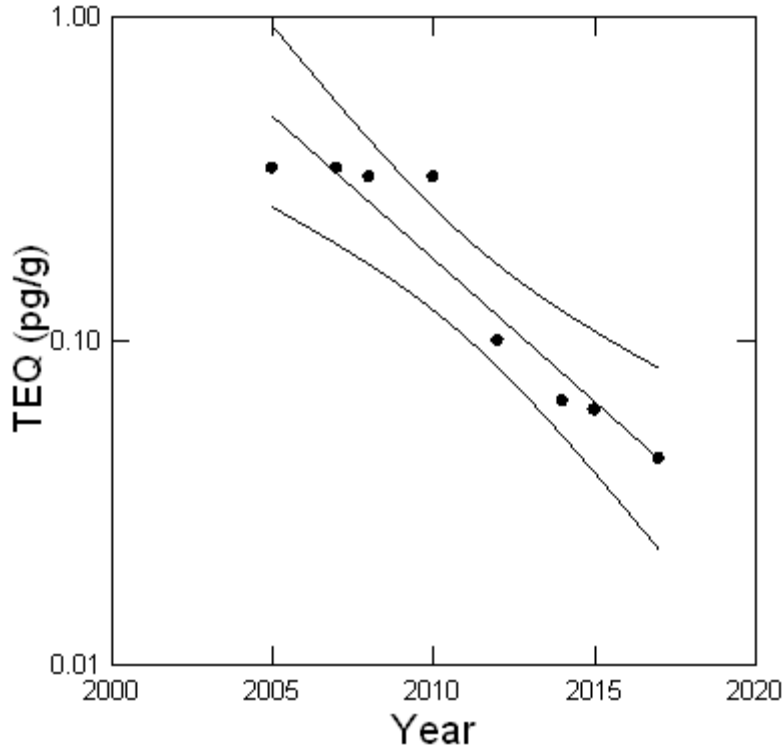
Appendix F-4

Site-Specific Organic Trend Line Graphs p<0.003

Lambton Facility 2020 Annual Landfill Report Biomonitoring Program

2019 Field Year

Upper Bound PCDD/F TEQ_NG_S3



Analyte	Matrix	Site	Regression Start Year	Number of Samples (n)	R ²	Slope	Intercept	p-value	Direction of Significant Trend
Upper Bound PCDD/F TEQ (WHO 2005)	SB	S5	2004	8	0.898	-0.088	176.449	<0.001	Decreasing



**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix G Approved Changes to the Biomonitoring Program
February 8, 2021

**Appendix G APPROVED CHANGES TO THE BIOMONITORING
PROGRAM**



Ministry of the Environment
and Climate Change

Ministère de l'Environnement
et de l'Action en matière de
changement climatique



733 Exeter Road
London ON N6E 1L3
Tel: 519 873-5000
Fax: 519 873-5020

733, rue Exeter
London ON N6E 1L3
Tél.: 519 873-5000
Fax: 519 873-5020

February 12, 2018

Mr. Michael E. Parker
Vice President, Canadian Environmental Compliance
Clean Harbors Canada, Inc.
4090 Telfer Road, R.R. No. 1
Corunna ON N0N 1G0

**Re: Clean Harbors Hazardous Waste Landfill
Approval of the Bio-Monitoring Plan
Environmental Compliance Approval No. A031806**

This letter is being provided pursuant to Condition 9 (a) (i) of Notice No. 9 of Environmental Compliance Approval No. A031806, issued to Clean Harbors Canada Inc. (the "Company") for the hazardous waste landfill.

This is to confirm that the ministry has completed its review of the Company's bio-monitoring plan, and the Company has satisfactorily addressed the ministry's review comments. Therefore, I approve the final Bio-Monitoring Plan outlined in the report titled "Bio-Monitoring Program Lambton Facility, Corunna, Ontario", prepared by Stantec Consulting Limited dated November 26, 2015, and amendments dated September 6, 2016, and April 20, 2017.

The Company shall not make changes to the Bio-Monitoring Program unless such changes have been authorized by or requested by the Regional Director, in writing.

Sincerely,

A handwritten signature in cursive script that reads "Angela McGonigal".

Angela McGonigal
Director (A)
Southwest Region

- c. Mike Moroney, MOECC Sarnia District Office
- Sean Morrison, MOECC Sarnia District Office
- Don Hayes, MOECC Sarnia District Office
- Andrew McDonough, MOECC Environmental Sciences and Standards Division



Clean Harbors Canada, Inc.
4090 Telfer Road, R.R. #1
Corunna, ON N0N 1G0
Tel: 519.864.1021
Fax: 519.864.1437
www.cleanharbors.com

April 20, 2017

Mr. Aaron Todd
Supervisor
Terrestrial Assessment and Field Services Unit
Ministry of the Environment and Climate Change
Environmental Monitoring and Reporting Branch
125 Resources Road
Etobicoke ON M9P 3V6

Re: Memorandum – Review of Summary of Proposed Changes to Clean Harbors Biomonitoring Program

Dear Mr. Todd,

This letter is in response to the memorandum titled “Review of Summary of Proposed Changes to Clean Harbors Biomonitoring Program”, issued by the Ministry of Environment and Climate Change (MOECC) to Clean Harbors on March 29, 2017.

Environmental Media (Maple Leaves) and Addition of Fluoride as a Chemical Analyte

In September 2002, the MOECC provided the preliminary report titled Phytotoxicology 1999, 2000, and 2001 Investigations: Safety-Kleen Limited – Moore Township (Gizyn, 2002). In response to a request from MOECC, Clean Harbors Canada Inc. (formerly Safety-Kleen Limited) volunteered and initiated its own maple leaf sampling program. As such, the maple leaf sampling program is not part of the core mandatory Clean Harbors biomonitoring program as outlined in the ECA no. A031806, and instead is a voluntary program that Clean Harbors is engaged in.

Fluoride testing in the Clean Harbors maple leaf sampling program has not been conducted, and as such Clean Harbors cannot comment on the fluoride concentration differences between the control site and the rest of the onsite locations tested. On the other hand, the MOECC sampling program did include fluoride testing and it is on the basis of the MOECC’s fluoride



results in maple leaves that Stantec Consulting Ltd. recommended adding fluoride as an analyte to the biomonitoring program.

As required in Condition no. 9 (a) (i) of ECA no. A031806, and in response to concerns from the District office, an updated biomonitoring program was submitted to MOECC which proposed adding fluoride testing to the core program. At the same time it is the company's opinion that the maple leaf program provides no benefit to the core program. Thus, the company is withdrawing its support from the maple leaf program. The addition of the fluoride testing within the biomonitoring program would fulfill the purpose to determine if fluoride is higher closer to the facility.

Clean Harbors feels that this approach would accomplish the study of fluoride on and off the facility. The maple leaf study results obtained by the company thus far have shown no significant difference between the control sites and the rest of the locations, and as such the company would require suitable justification from the District to continue with this study.

Change in Test Sites Surrounding the Lambton Facility

We appreciate the MOECC support for the rationale establishing a new test site to the northeast of the Facility, and removing Site S5 to the south. We are also in agreement that the data should inform decisions regarding the discontinuation of a site, and that quantitative evidence of the similarities between Sites S2 and S5 would provide additional support. In order to support the removal of Site S5 from the Biomonitoring Program, an evaluation of all data collected was conducted in all media (soil, natural grasses and agricultural crops) and all chemical of concern, CoC.

Specifically in the case of the inorganic contaminants, statistical comparison was conducted between the inorganic upper and lower limits (UL15 and LL15) at Sites S2 and S5 from all available media to determine if the means of the limits were equal for the two sites. Two analysis of variances (ANOVA) were conducted to determine if there were significant differences in the means of the upper and lower limits. The results of the ANOVA support the hypothesis that there are no statistically significant differences between the two sites for both the upper and lower limits ($p > 0.05$).

Given that the upper and lower limits can be used to define the "normal" or "expected" variability of the annual mean concentrations of the analytes in a sampling media, and represent the typical ranges of concentrations expected at a specific site, the finding of the ANOVA comparison of the mean upper and lower limits indicates a similarity in inorganic parameters between S2 and S5.



Upper limits are not available for organic parameters due to the large number of non-detect (ND) concentrations. Therefore, for organic parameters, two lines of evidence were reviewed: 1) a comparison to available standards and 2) the number of detected concentrations measured at each site. The results of each review are below:

- 1) Since the inception of the program (1991) most of the data shows ND. From the detected data none of it was identified at concentrations which exceeded applicable criteria (where available, such as the Ontario Typical Range (MOECC, 2011), the Upper Limit of Normal (MOECC, 1989), or the Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act (MOECC, 2011).
- 2) The number of detected concentrations is provided in the enclosed tables. Fewer detected concentrations were measured at Site S5 compared to Sites S2, suggesting that the organic concentrations at Site S5 are generally lower than at Site S2.

Therefore, based on the review of both the inorganic and organic data at Sites S2 and S5, it is recommended that Site S5 be removed from the Biomonitoring Program.

Clean Harbors proposes a meeting between the company, the company's consulting firm (Stantec Consulting Ltd.), the District and yourself. During this meeting the parties involved can discuss the elements of the core biomonitoring program, and thus work towards the final acceptance of a new program, and how acceptance of this program will be communicated to the company. We are available at any time for this meeting.

Please feel free to reach out to the undersigned should you require any further information, and to discuss the prospect of a meeting.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Erica Carabott'.

Erica Carabott
Senior Compliance Manager
Clean Harbors Canada, Inc.

519-864-3890
carabott.eric@cleanharbors.com

Parameters	Number of Detected Concentrations (1991-2015)	
	52	55
Dioxins/Furans		
C14-Tetrachlorodibenzofuran, 2,3,7,8-	6	9
C14-Tetrachlorodibenzo-p-Dioxin, 2,3,7,8-	5	4
C15-Pentachlorodibenzofuran, 1,2,3,7,8-	5	7
C15-Pentachlorodibenzofuran, 2,3,4,7,8-	5	9
C15-Pentachlorodibenzo-p-Dioxin, 1,2,3,7,8-	4	4
C16-Hexachlorodibenzofuran, 1,2,3,4,7,8-	10	9
C16-Hexachlorodibenzofuran, 1,2,3,6,7,8-	10	9
C16-Hexachlorodibenzofuran, 1,2,3,7,8,9-	3	3
C16-Hexachlorodibenzofuran, 2,3,4,6,7,8-	5	7
C16-Hexachlorodibenzo-p-Dioxin, 1,2,3,4,7,8-	4	4
C16-Hexachlorodibenzo-p-Dioxin, 1,2,3,6,7,8-	6	6
C16-Hexachlorodibenzo-p-Dioxin, 1,2,3,7,8,9-	9	8
C17-Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	9	7
C17-Heptachlorodibenzofuran, 1,2,3,4,7,8,9-	6	5
C17-Heptachlorodibenzo-p-Dioxin, 1,2,3,4,6,7,8-	20	17
C18-Octachlorodibenzofuran	14	13
C18-Octachlorodibenzo-p-dioxin	24	20
Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	23	25
Heptachlorodibenzofuran, 1,2,3,4,7,8,9-	7	7
Heptachlorodibenzo-p-Dioxin, 1,2,3,4,6,7,8-	32	31
Hexachlorodibenzofuran, 1,2,3,4,7,8-	18	17
Hexachlorodibenzofuran, 1,2,3,6,7,8-	15	13
Hexachlorodibenzofuran, 1,2,3,7,8,9-	11	9
Hexachlorodibenzofuran, 2,3,4,6,7,8-	16	15
Hexachlorodibenzo-p-Dioxin, 1,2,3,4,7,8-	9	6
Hexachlorodibenzo-p-Dioxin, 1,2,3,6,7,8-	13	12
Hexachlorodibenzo-p-Dioxin, 1,2,3,7,8,9-	10	13
Octachlorodibenzofuran	34	35
Octachlorodibenzo-p-dioxin	60	55
Pentachlorodibenzofuran, 1,2,3,7,8-	11	11
Pentachlorodibenzofuran, 2,3,4,7,8-	13	10
Pentachlorodibenzo-p-Dioxin, 1,2,3,7,8-	7	7
Tetrachlorodibenzofuran, 2,3,7,8-	6	5
Tetrachlorodibenzo-p-Dioxin, 2,3,7,8-	7	6
Total Heptachlorodibenzofuran	18	17
Total Heptachlorodibenzo-p-dioxin	30	28
Total Hexachlorodibenzofuran	18	22
Total Hexachlorodibenzo-p-dioxin	24	29
Total Pentachlorodibenzofuran	14	13
Total Pentachlorodibenzo-p-dioxin	13	13
Total polychlorinated dibenzofurans (PCDFs)	23	22
Total polychlorinated dibenzo-p-dioxins (PCDDs)	28	27
Total TEQ (ND=0) (WHO Calc)	47	42
Total TEQ (ND=0.5DL) (WHO Calc)	33	33
Total TEQ (ND=DL) (WHO Calc)	33	33
Total Tetrachlorodibenzofuran	12	9
Total Tetrachlorodibenzo-p-dioxin	18	16
OCPs		
Aldrin	1	0
BHC, alpha-	5	3
Chlordane, alpha-	7	2
Chlordane, trans- (gamma-Chlordane)	4	3
DDD (p,p'-DDD)	1	1
DDE (p,p'-DDE)	14	10
DDT (p,p'-DDT)	5	6
Dieldrin	11	10
Endosulfan I	7	4
Endosulfan II	1	3
Endosulfan Sulfate	6	7
Endrin	1	4
Endrin Aldehyde	5	3
Heptachlor	3	3
Heptachlor Epoxide	7	8
Lindane (Hexachlorocyclohexane, gamma)	1	0
Methoxychlor (4,4'-Methoxychlor)	2	1
Mirex	8	7
PARLAR 50	0	1
PCBs		
Polychlorinated Biphenyls (PCBs)	0	0
PCPs		

The Mixed Procedure

Model Information	
Data Set	WORK.S2S5
Dependent Variable	UL15_log_normal
Covariance Structure	Diagonal
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Residual

Class Level Information		
Class	Levels	Values
Site	2	S2 S5
Analyte	31	Aluminum Arsenic Barium Beryllium Boron Cadmium Calcium Chloride Chromium (Total Cobalt Copper Iron Lead Magnesium Manganese Mercury Molybdenum Nickel Phosphorus Potassium Silico. Silicon Silver Sodium Strontium Sulfur Thallium Titanium Vanadium Zirconium

Dimensions	
Covariance Parameters	1
Columns in X	3
Columns in Z	0
Subjects	1
Max Obs per Subject	256

Number of Observations	
Number of Observations Read	258
Number of Observations Used	256
Number of Observations Not Used	2

Covariance Parameter Estimates	
Cov Parm	Estimate
Residual	3.7326E9

Fit Statistics	
-2 Res Log Likelihood	6328.8
AIC (Smaller is Better)	6330.8
AICC (Smaller is Better)	6330.8
BIC (Smaller is Better)	6334.3

The Mixed Procedure

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
Site	1	254	0.31	0.5756

Least Squares Means						
Effect	Site	Estimate	Standard Error	DF	t Value	Pr > t
Site	S2	7045.98	5400.05	254	1.30	0.1931
Site	S5	11327	5400.05	254	2.10	0.0369

Differences of Least Squares Means							
Effect	Site	_Site	Estimate	Standard Error	DF	t Value	Pr > t
Site	S2	S5	-4280.79	7636.83	254	-0.56	0.5756

The Mixed Procedure

Model Information	
Data Set	WORK.S2S5
Dependent Variable	LL15_log_normal
Covariance Structure	Diagonal
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Residual

Class Level Information		
Class	Levels	Values
Site	2	S2 S5
Analyte	31	Aluminum Arsenic Barium Beryllium Boron Cadmium Calcium Chloride Chromium (Total Cobalt Copper Iron Lead Magnesium Manganese Mercury Molybdenum Nickel Phosphorus Potassium Silico. Silicon Silver Sodium Strontium Sulfur Thallium Titanium Vanadium Zirconium

Dimensions	
Covariance Parameters	1
Columns in X	3
Columns in Z	0
Subjects	1
Max Obs per Subject	256

Number of Observations	
Number of Observations Read	258
Number of Observations Used	256
Number of Observations Not Used	2

Covariance Parameter Estimates	
Cov Parm	Estimate
Residual	5253740

Fit Statistics	
-2 Res Log Likelihood	4661.0
AIC (Smaller is Better)	4663.0
AICC (Smaller is Better)	4663.1
BIC (Smaller is Better)	4666.6

The Mixed Procedure

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
Site	1	254	0.02	0.9007

Least Squares Means						
Effect	Site	Estimate	Standard Error	DF	t Value	Pr > t
Site	S2	659.88	202.60	254	3.26	0.0013
Site	S5	695.68	202.60	254	3.43	0.0007

Differences of Least Squares Means							
Effect	Site	_Site	Estimate	Standard Error	DF	t Value	Pr > t
Site	S2	S5	-35.8036	286.51	254	-0.12	0.9007



Stantec

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.



Reference: Summary of Proposed Changes to Clean Harbors Biomonitoring Program

Table 1 – Summary of Proposed Changes to the Biomonitoring Program

Type of Change	Proposed Changes
Test Sites	<p>Sites within Lambton Facility affected by Landfill Expansion</p> <ul style="list-style-type: none"> • 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. <p>Sites in Surrounding Area of Lambton Facility</p> <ul style="list-style-type: none"> • 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).



September 6, 2016
Erica Carabott
Page 3 of 7

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.



September 6, 2016
Erica Carabott
Page 4 of 7

Reference: Summary of Proposed Changes to Clean Harbors Biomonitoring Program

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.



September 6, 2016
Erica Carabott
Page 5 of 7

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.

Design with community in mind



September 6, 2016
Erica Carabott
Page 6 of 7

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

rt \\cd1220-f02\root\work_group\01221\active\122160003\2016_field-
year\correspondence\proposed_changes_biom_sept_2016\let_biom_changes_20160906.docx



September 6, 2016
Erica Carabott
Page 7 of 7

Reference: Summary of Proposed Changes to Clean Harbors Biomonitoring Program

REFERENCES

Clean Harbors Canada Inc., 2014a. Lambton Landfill Expansion Environmental Assessment: Final Environmental Assessment Report.

Clean Harbors Canada Inc. 2014b. 2014 Annual Landfill Report. Corunna, ON.

DeBrou, Gary. 2010. Phytotoxicology 2008 & 2009 Investigations: Clean Harbors Environmental Services Inc. Moore Township. Technical Memorandum. Report No.: Phyto S1688 2009. Ontario Ministry of the Environment and Climate Change. Environmental Monitoring and Reporting Branch. Biomonitoring Section, Air Monitoring and Reporting Section. Toronto, ON.

Dijk, C., Doorn, W., and van Alfen, B., 2015. Long term plant biomonitoring in the vicinity of waste incinerators in the Netherlands. Chemosphere 122, 45-51.

Ontario Ministry of the Environment and Climate Change (MOECC). 2006. Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines.

Stantec Consulting Ltd., 2014. 2014 Maple Leaf Sampling Program, 2013 Field Year.

Stantec Consulting Ltd., 2013. 2013 Maple Leaf Sampling Program, 2012 Field Year.

Stantec Consulting Ltd., 2012. 2012 Maple Leaf Sampling Program, 2011 Field Year.

Stantec Consulting Ltd., 2010. 2010 Maple Leaf Sampling Program, 2009 Field Year.

Stantec Consulting Ltd., 2009. 2009 Maple Leaf Sampling Program, 2008 Field Year.

ATTACHMENT FIGURES



Legend

- | | |
|--|---|
| <ul style="list-style-type: none"> ★ Existing Sampling Locations (Approximate) ▲ Proposed Sampling Location (Approximate) ■ Existing Sampling Station to be Removed (Approximate) — Watercourse | <ul style="list-style-type: none"> Building Lambton Facility Waterbody Wooded Area |
|--|---|

Client/Project

Clean Harbors Canada Inc.
Lambton Landfill Expansion

Figure No.

1

Title

Existing and Proposed
Sampling Locations

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.

\\cd1220402\work_group\01221\active\122160003_drawing\MXD_2016_Q3_SamplingLocations_20160003_2016_Q3_Fig02_Existing_ProposedSamplingLocations_20160003.mxd
 Revised: 2016-09-05 By: vandamme



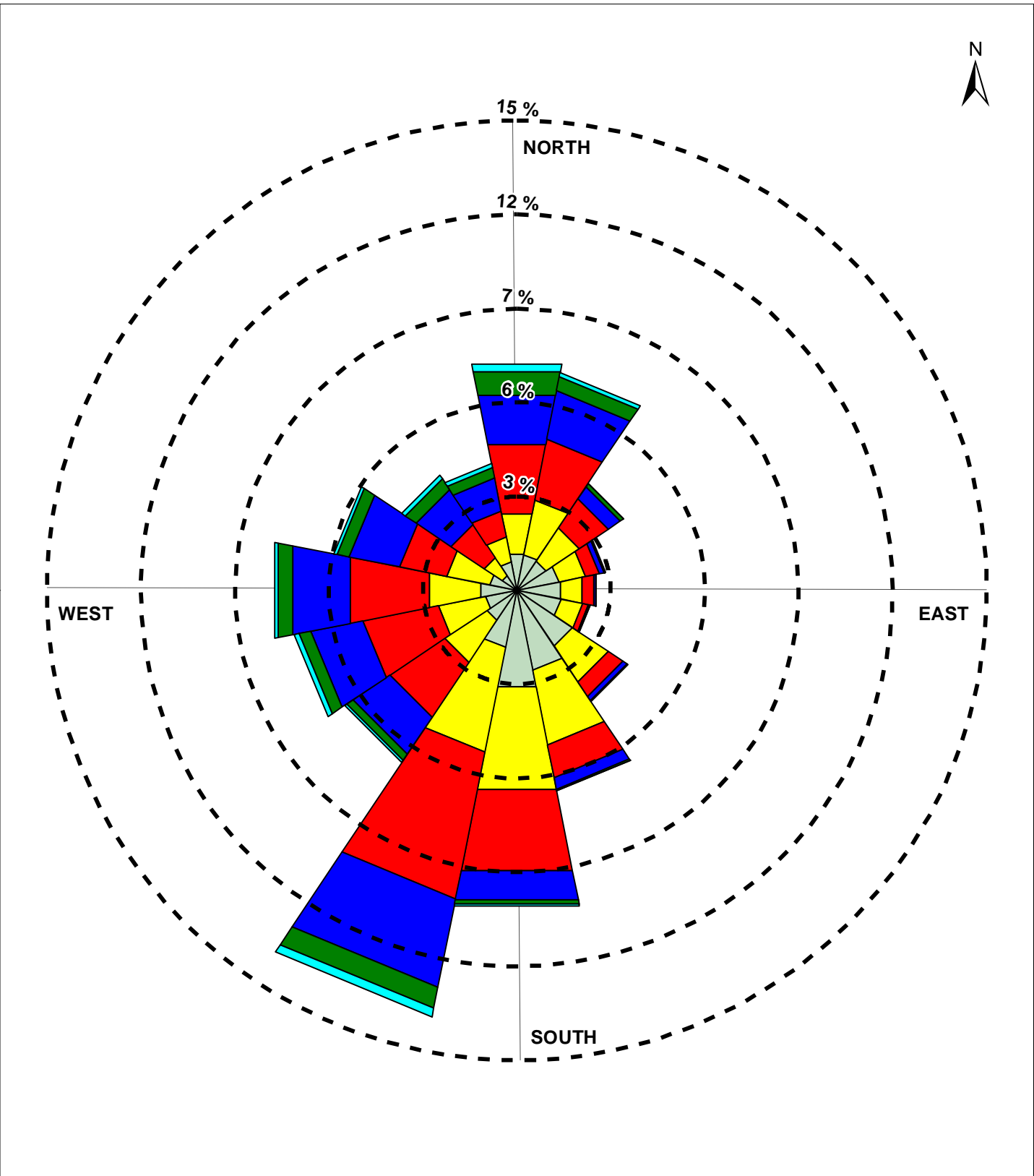
Stantec
Notes
 1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

- 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.
2
 Title
Existing and Proposed Sampling Locations

\\cd1220-102\Work_group\01221\active\122160003\drawing\MXD\2016_Q3_SamplingStations\122160003_2016_Q3_Fig03_WindRose.mxd
 Revised: 2016-09-05 By: sverdamme



Notes
 1. Not to scale.

Legend

Wind Speed (Knots)
>= 22
17 - 21
11 - 17
7 - 11
4 - 7
1 - 4

Calms: 3.06%

September 2016
 122160003

Client/Project
 Clean Harbors Canada Inc.
 Lambton Landfill Expansion

Figure No.
 3

Title
 Wind Speed Direction
 (blowing from)

LAMBTON FACILITY 2015 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM 2014 FIELD YEAR

Follow-Up of Recommendations from Previous Biomonitoring Reports
November 26, 2015

4.0 FOLLOW-UP OF RECOMMENDATIONS FROM PREVIOUS BIOMONITORING REPORTS

Table 4-1 presents the status of conclusions and recommendations presented previously in the 2013 and 2014 Biomonitoring Program reports which are to be addressed in 2015.

Discussion of recommended changes to the Biomonitoring Program is also provided.

**LAMBTON FACILITY 2015 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2014 FIELD YEAR**

Follow-Up of Recommendations from Previous Biomonitoring Reports
November 26, 2015

Table 4-1: Status of Historical Conclusions and Recommendations

Item No.	Report	Conclusions and Recommendations Requiring Follow-up	Discussion	Status
1.	2014 Annual Landfill Report, 2013 Field Year	Molybdenum investigation	<p>Molybdenum in Soil (Discussed in Section 3.2.6.1)</p> <p>A literature review based on the phytotoxicity of molybdenum in soil was completed due to the high soil concentrations observed at Site S3. Plant tissue concentrations from the 2013 and 2014 Field Year were below the phytotoxic limit of 100 mg/kg, suggesting that current concentrations of molybdenum in soil are not resulting in phytotoxic concentrations in plants.</p>	Based on results of the literature review, no further investigation is required; however, monitoring will continue.
2.	Clean Harbors Biomonitoring Program – Recommended Changes Letter (July, 2015)	It is recommended that PCB analysis continue on a 3-year from an annual sample collection schedule in all media.	PCBs have rarely been detected at concentrations above the reporting limit. Where no observations of PCBs have occurred in the last fourteen years of the program. Decreasing the frequency of analysis will help streamline the program.	<p>A letter summarizing recommended changes to the Biomonitoring Program was submitted to Clean Harbors Environmental Services in July 2015.</p> <p>Comments on the recommended changes were received from Neegan Burnside and the MOECC in September 2015. Neegan Burnside proposed a PCB sample collection schedule of 2 years. The MOECC proposed an annual collection cycle, with only samples from the site with highest historical PCB concentrations and also the control site being submitted for analysis. In the event that PCB/PCP/OCP concentrations are detected above the RDL, the remaining samples can be sent in for analysis. It was also proposed by the MOECC that, on a three year schedule, all samples collected from all</p>



**LAMBTON FACILITY 2015 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2014 FIELD YEAR**

Follow-Up of Recommendations from Previous Biomonitoring Reports
November 26, 2015

Table 4-1: Status of Historical Conclusions and Recommendations

Item No.	Report	Conclusions and Recommendations Requiring Follow-up	Discussion	Status
				sites should be analyzed. Stantec is currently in the process of investigating these options and responding to stakeholder comments.
3.	Clean Harbors Biomonitoring Program – Recommended Changes Letter (July, 2015)	It is recommended that PCP analysis continue on a 3-year from an annual sample collection schedule in all media.	PCP has been detected above the reporting limits in only 4/24 years of the Biomonitoring Program (1998, 1999, 2002 and 2009). Decreasing the frequency of analysis will help streamline the program.	A letter summarizing recommended changes to the Biomonitoring Program was submitted to Clean Harbors Environmental Services in July 2015. Comments on the recommended changes were received from Neegan Burnside and the MOECC in September 2015. Neegan Burnside proposed a PCB sample collection schedule of 2 years. The MOECC proposed an annual collection cycle, with only samples from the site with highest historical PCB concentrations and also the control site being submitted for analysis. In the event that PCB/PCP/OCP concentrations are detected above the RDL, the remaining samples can be sent in for analysis. It was also proposed by the MOECC that, on a three year schedule, all samples collected from all sites should be analyzed. Stantec is currently in the process of investigating these options and responding to stakeholder comments.

**LAMBTON FACILITY 2015 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2014 FIELD YEAR**

Follow-Up of Recommendations from Previous Biomonitoring Reports
November 26, 2015

Table 4-1: Status of Historical Conclusions and Recommendations

Item No.	Report	Conclusions and Recommendations Requiring Follow-up	Discussion	Status
4.	Clean Harbors Biomonitoring Program – Recommended Changes Letter (July, 2015)	It is recommended that OCP analysis continue on a 3-year from an annual sample collection schedule in all media.	As indicated in Table C-2f , OCP are rarely detected at concentrations above the reporting limit. Dieldrin, endosulfan, sulphate, p,p'-DDE, and p,p'-DDT, are the few chemicals which have been reported at detected concentrations in at least 10% of samples. However, there have been no detected concentrations of OCPs which have exceeded the applicable guidelines for these chemicals. Decreasing the frequency of analysis will help streamline the program.	A letter summarizing recommended changes to the Biomonitoring Program was submitted to Clean Harbors Environmental Services in July 2015. Comments on the recommended changes were received from Neegan Burnside and the MOECC in September 2015. Neegan Burnside proposed a PCB sample collection schedule of 2 years. The MOECC proposed an annual collection cycle, with only samples from the site with highest historical PCB concentrations and also the control site being submitted for analysis. In the event that PCB/PCP/OCP concentrations are detected above the RDL, the remaining samples can be sent in for analysis. It was also proposed by the MOECC that, on a three year schedule, all samples collected from all sites should be analyzed. Stantec is currently in the process of investigating these options and responding to stakeholder comments.

**LAMBTON FACILITY 2015 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2014 FIELD YEAR**

Follow-Up of Recommendations from Previous Biomonitoring Reports
November 26, 2015

Table 4-1: Status of Historical Conclusions and Recommendations

Item No.	Report	Conclusions and Recommendations Requiring Follow-up	Discussion	Status
5.	Clean Harbors Biomonitoring Program – Recommended Changes Letter (July, 2015)	It is recommended that sites be added to, or removed from, the Biomonitoring program.	Based on a review of scientific literature, it is recommended that a new site be added to the northeast of the incinerator 2-2.5 km away within the maximum deposition area. Additionally, a control site may be added to monitor regional background concentrations unaffected by facility operations. Due to the sufficient coverage offered by currently established sites south of the facility, it is recommended that Site S5 can be removed to streamline the Biomonitoring Program.	A letter summarizing recommended changes to the Biomonitoring Program was submitted to Clean Harbors Environmental Services in July 2015. Comments on the recommended changes were received from Neegan Burnside and the MOECC in September 2015. Neegan Burnside indicated that they concur with the addition of new sites, and are comfortable with the removal of one test site. The MOECC suggested a revision of the proposed locations of the new sites, but agree with the proposed removal of Site S5 on the condition that a data comparison between S2 and S5 is completed to demonstrate that the two sites are similar. Stantec is currently in the process of reviewing the comments and responding to stakeholders.
6.	Clean Harbors Biomonitoring Program – Recommended Changes Letter (July, 2015)	It is recommended that sediment particle size distribution (texture) analysis continue on a 3-year schedule.	Sediment particle size distribution (texture) has shown little variation annually so the frequency of analysis for sediment fertility and characterization is recommended to be changed to every three years.	A letter summarizing recommended changes to the Biomonitoring Program was submitted to Clean Harbors Environmental Services in July 2015. Comments on the recommended changes were received from Neegan Burnside and the MOECC in September 2015. Neegan Burnside did not comment on the proposed revision of the sediment characterization/fertility



**LAMBTON FACILITY 2015 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2014 FIELD YEAR**

Follow-Up of Recommendations from Previous Biomonitoring Reports
November 26, 2015

Table 4-1: Status of Historical Conclusions and Recommendations

Item No.	Report	Conclusions and Recommendations Requiring Follow-up	Discussion	Status
				<p>analysis schedule, while the MOECC is in agreement.</p> <p>Following acceptance of these proposed changes by Clean Harbors, sediment fertility and characterization (texture) analysis will continue on a 3-year sample collection schedule.</p>
7.	Clean Harbors Biomonitoring Program – Recommended Changes Letter (July, 2015)	It is recommended that fluoride be added as an analyte sampled in the Biomonitoring Program.	Based on a review of the two most recent Clean Harbors Maple Leaf Monitoring reports and the Annual Landfill Report, high fluoride concentrations have been identified in silver maple foliage and groundwater.	<p>A letter summarizing recommended changes to the Biomonitoring Program was submitted to Clean Harbors Environmental Services in July 2015. Comments on the recommended changes were received from Neegan Burnside and the MOECC in September 2015. Both stakeholders are in agreement that fluoride should be added as an analyte to the Biomonitoring Program.</p> <p>Following acceptance of these proposed changes by Clean Harbors, fluoride will be added as an analyte sampled in the Biomonitoring Program.</p>
8.	2014 Annual Landfill Report, 2013 Field Year	Entering the remaining analytes into a database	Two sets of parameters (PCDD and PCDF) were entered into the EQUIS database this year to improve data management efficiency. The remaining parameters should be entered into the EQUIS database.	Historic PCP and PCB data should be imported into the EQUIS database next year.

**LAMBTON FACILITY 2020 ANNUAL LANDFILL REPORT BIOMONITORING PROGRAM
2019 FIELD YEAR**

Appendix H Laboratory Certificates
February 8, 2021

Appendix H LABORATORY CERTIFICATES





Date received **2020-01-31**
 Issued **2020-02-14**

ALS Life Sciences Division
Lynne Wrona

1435 Norjohn Court, Unit 1
L7L 0E6 Burlington
Canada

Project **L2387288**

Analysis: M4-CM

Your ID	L2387288-2 19-W2-NG-CH-003				
LabID	U11706994				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	49.5	%	1	W	TV
Si *	7900	mg/kg DW	2	S	IR

Your ID	L2387288-3 19-W2-SB-CH-005				
LabID	U11706995				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	66.1	%	1	W	TV
Si *	56.1	mg/kg DW	2	S	IR

Your ID	L2387288-5 19-W4-NG-CH-009				
LabID	U11706996				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	27.0	%	1	W	TV
Si *	8740	mg/kg DW	2	S	IR

Your ID	L2387288-6 19-W4-SB-CH-011				
LabID	U11706997				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	43.7	%	1	W	TV
Si *	47.2	mg/kg DW	2	S	IR

Your ID	L2387288-9 19-N2-NG-CH-019				
LabID	U11706998				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	51.9	%	1	W	TV
Si *	6650	mg/kg DW	2	S	IR



Your ID	L2387288-10 19-N2-SB-CH-021				
LabID	U11706999				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	47.7	%	1	W	TV
Si *	34.9	mg/kg DW	2	S	IR

Your ID	L2387288-12 19-N4-NG-CH-025				
LabID	U11707000				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	44.6	%	1	W	TV
Si *	8940	mg/kg DW	2	S	IR

Your ID	L2387288-13 19-N4-SB-CH-027				
LabID	U11707001				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	51.8	%	1	W	TV
Si *	59.5	mg/kg DW	2	S	IR

Your ID	L2387288-16 19-N5-NG-CH-035				
LabID	U11707002				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	49.8	%	1	W	TV
Si *	8590	mg/kg DW	2	S	IR

Your ID	L2387288-18 19-E1-NG-CH-039				
LabID	U11707003				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	27.6	%	1	W	TV
Si *	9130	mg/kg DW	2	S	IR

Your ID	L2387288-19 19-E1-SB-CH-042				
LabID	U11707004				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	41.5	%	1	W	TV
Si *	176	mg/kg DW	2	S	IR



Your ID	L2387288-22 19-E2-NG-CH-049				
LabID	U11707005				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	61.0	%	1	W	TV
Si *	8080	mg/kg DW	2	S	IR

Your ID	L2387288-23 19-E2-FC-CH-051				
LabID	U11707006				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	64.4	%	1	W	TV
Si *	77.6	mg/kg DW	2	S	IR

Your ID	L2387288-25 19-E5-NG-CH-055				
LabID	U11707007				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	58.7	%	1	W	TV
Si *	6940	mg/kg DW	2	S	IR

Your ID	L2387288-26 19-E5-SB-CH-057				
LabID	U11707008				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	49.4	%	1	W	TV
Si *	77.1	mg/kg DW	2	S	IR

Your ID	L2387288-28 19-E6-NG-CH-061				
LabID	U11707009				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	57.8	%	1	W	TV
Si *	7670	mg/kg DW	2	S	IR

Your ID	L2387288-30 19-E7-NG-CH-305				
LabID	U11707010				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	31.0	%	1	W	TV
Si *	8450	mg/kg DW	2	S	IR



Your ID	L2387288-31 19-E7-SB-CH-300				
LabID	U11707011				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	91.3	%	1	W	TV
Si *	78.9	mg/kg DW	2	S	IR

Your ID	L2387288-34 19-S1-NG-CH-069				
LabID	U11707012				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	52.1	%	1	W	TV
Si *	6340	mg/kg DW	2	S	IR

Your ID	L2387288-35 19-S1-SB-CH-071				
LabID	U11707013				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	74.6	%	1	W	TV
Si *	57.3	mg/kg DW	2	S	IR

Your ID	L2387288-37 19-S2-NG-CH-075				
LabID	U11707014				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	59.3	%	1	W	TV
Si *	9000	mg/kg DW	2	S	IR

Your ID	L2387288-38 19-S2-SB-CH-077				
LabID	U11707015				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	63.1	%	1	W	TV
Si *	112	mg/kg DW	2	S	IR

Your ID	L2387288-41 19-S4-NG-CH-093				
LabID	U11707016				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	30.3	%	1	W	TV
Si *	7650	mg/kg DW	2	S	IR



Your ID	L2387288-42 19-S4-SB-CH-095				
LabID	U11707017				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	83.9	%	1	W	TV
Si *	76.9	mg/kg DW	2	S	IR

Your ID	L2387288-45 19-D3-NG-CH-203				
LabID	U11707018				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	57.4	%	1	W	TV
Si *	7400	mg/kg DW	2	S	IR

Your ID	L2387288-46 19-D8-NG-CH-208				
LabID	U11707019				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	72.2	%	1	W	TV
Si *	8050	mg/kg DW	2	S	IR

Your ID	L2387288-46 - Duplicate 19-D8-NG-CH-208					
LabID	U11707020					
Analysis	Results	Uncertainty (±)	Unit	Method	Issuer	Sign
Dry matter	72.2	2.0	%	1	I	TV
Si *	7270		mg/kg DW	2	S	IR

Your ID	L2387288-48 19-D5-SB-CH-206				
LabID	U11707021				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	56.5	%	1	W	TV
Si *	56.3	mg/kg DW	2	S	IR

Your ID	L2387288-49 19-D6-FC-CH-207				
LabID	U11707022				
Analysis	Results	Unit	Method	Issuer	Sign
Dry matter *	67.6	%	1	W	TV
Si *	77.5	mg/kg DW	2	S	IR



Your ID	Blank				
LabID	U11707023				
Analysis	Results	Unit	Method	Issuer	Sign
Si*	5.8	mg/kg DW	2	S	IR

Your ID	QC				
LabID	U11707024				
Analysis	Results	Unit	Method	Issuer	Sign
Si*	1310	mg/kg DW	2	S	IR



Method specification	
1	Analysed according to SS 02 81 13-1 Torrsubstansbestämning.
2	<p>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.</p> <p>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).</p> <p>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.</p>

Approver	
IR	Iliia Rodushkin
TV	Tiina Vikeväinen

Issuer ¹	
I	Man.Inm.
S	ICP-SFMS
W	Vätkemi

* indicates unaccredited analysis.

The uncertainty is given as extended uncertainty (according to the definition in "Guide to the Expression of Uncertainty in Measurement", JCGM 100:2008 Corrected version 2010) calculated with a coverage factor of 2, which gives a confidence level of approximately 95%.

Measurement of uncertainty is reported only for detected substances with levels above the reporting limits.

The uncertainty from subcontractors is often given as extended uncertainty calculated with a coverage factor of 2. Contact the laboratory for further information.

This report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

The results apply only to the material that has been identified, received, and tested.

Regarding the laboratory's liability in relation to assignment, please refer to our latest product catalogue or website <http://www.alsglobal.se>

The digitally signed PDF file represents the original report. Any printouts are to be considered as copies.

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

Report

Page 1 (6)



L2002997

29DANCY18MR



Date received **2020-01-31**
Issued **2020-02-25**

ALS Life Sciences Division
Lynne Wrona

1435 Norjohn Court, Unit 1
L7L 0E6 Burlington
Canada

Project **L2387288**

Analysis: TC-2

Your ID	L2387288-1 19-W2-SS-CH-001					
LabID	U11706970					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	88.0		%	2	W	TV
Si	325000	59300	mg/kg DW	3	H	SVS

Your ID	L2387288-4 19-W4-SS-CH-007					
LabID	U11706971					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	81.1		%	2	W	TV
Si	344000	63100	mg/kg DW	3	H	SVS

Your ID	L2387288-7 19-N2-SS-CH-013					
LabID	U11706972					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	80.1		%	2	W	TV
Si	289000	52800	mg/kg DW	3	H	SVS

Your ID	L2387288-8 19-N2-SD-CH-015					
LabID	U11706973					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	84.4		%	2	W	TV
Si	210000	38300	mg/kg DW	3	H	SVS

Report

Page 2 (6)



L2002997

29DANCY18MR



Your ID	L2387288-11 19-N4-SS-CH-023					
LabID	U11706974					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	84.4		%	2	W	TV
Si	316000	58000	mg/kg DW	3	H	SVS

Your ID	L2387288-14 19-N5-SS-CH-029					
LabID	U11706975					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	84.1		%	2	W	TV
Si	286000	52400	mg/kg DW	3	H	SVS

Your ID	L2387288-15 19-N5-SD-CH-031					
LabID	U11706976					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	40.3		%	2	W	TV
Si	198000	36200	mg/kg DW	3	H	SVS

Your ID	L2387288-17 19-E1-SS-CH-037					
LabID	U11706977					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	89.6		%	2	W	TV
Si	356000	64500	mg/kg DW	3	H	SVS

Your ID	L2387288-20 19-E2-SS-CH-043					
LabID	U11706978					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	82.6		%	2	W	TV
Si	305000	55600	mg/kg DW	3	H	SVS

Report

Page 3 (6)



L2002997

29DANCY18MR



Your ID	L2387288-21 19-E2-SD-CH-045					
LabID	U11706979					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	83.2		%	2	W	TV
Si	212000	39000	mg/kg DW	3	H	SVS

Your ID	L2387288-24 19-E5-SS-CH-053					
LabID	U11706980					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	87.7		%	2	W	TV
Si	324000	59300	mg/kg DW	3	H	SVS

Your ID	L2387288-27 19-E6-SS-CH-059					
LabID	U11706981					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	90.6		%	2	W	TV
Si	302000	54900	mg/kg DW	3	H	SVS

Your ID	L2387288-29 19-E7-SS-CH-303					
LabID	U11706982					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	86.7		%	2	W	TV
Si	317000	57600	mg/kg DW	3	H	SVS

Your ID	L2387288-32 19-S1-SS-CH-063					
LabID	U11706983					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	85.8		%	2	W	TV
Si	284000	51600	mg/kg DW	3	H	SVS

Report

Page 4 (6)



L2002997

29DANCY18MR



Your ID	L2387288-33 19-S1-SD-CH-065					
LabID	U11706984					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	71.3		%	2	W	TV
Si	238000	43200	mg/kg DW	3	H	SVS

Your ID	L2387288-36 19-S2-SS-CH-073					
LabID	U11706985					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	81.4		%	2	W	TV
Si	310000	57400	mg/kg DW	3	H	SVS

Your ID	L2387288-39 19-S4-SS-CH-087					
LabID	U11706986					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	83.4		%	2	W	TV
Si	253000	46100	mg/kg DW	3	H	SVS

Your ID	L2387288-40 19-S4-SD-CH-089					
LabID	U11706987					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	60.8		%	2	W	TV
Si	207000	37600	mg/kg DW	3	H	SVS

Your ID	L2387288-43 19-D1-SS-CH-200					
LabID	U11706988					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	82.9		%	2	W	TV
Si	287000	52300	mg/kg DW	3	H	SVS

Report

Page 5 (6)



L2002997

29DANCY18MR



Your ID	L2387288-44 19-D2-SS-CH-201					
LabID	U11706989					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	84.6		%	2	W	TV
Si	332000	60300	mg/kg DW	3	H	SVS

Your ID	L2387288-47 19-D4-SD-CH-204					
LabID	U11706990					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
Pulverizing mill *	ja		Operation	1	I	STRO
TS 105°C *	82.8		%	2	W	TV
Si	210000	39400	mg/kg DW	3	H	SVS

Your ID	L2387288-47 - Duplicate 19-D4-SD-CH-204					
LabID	U11706991					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
TS 105°C	82.8	2.0	%	2	I	TV
Si	197000	35800	mg/kg DW	3	H	SVS

Your ID	Blank					
LabID	U11706992					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
TS 105°C	-----	2.0	%	2	I	TV
Si	<400		mg/kg DW	3	H	SVS

Your ID	QC					
LabID	U11706993					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
TS 105°C	-----	2.0	%	2	I	TV
Si	174000	31600	mg/kg DW	3	H	SVS

Method specification	
1	Sample preparation pulverizing mill.
2	Analysed according to SS 028113.
3	<p>The sample was dried at 105°C according to Swedish Standard SS 28113:1981.</p> <p>Dried sample was fused LiBO₂ and dissolved in HNO₃ according to ASTM D3682:2013 and ASTM D4503:2008. LOI (loss on ignition) is done at 1000°C.</p> <p>The ICP-SFMS analyses were carried out according to SS EN ISO 17294- 2: 2016 and US EPA Method 200.8: 1994</p> <p>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.</p>

Approver	
STRO	Stanislav Rodushkin
SVS	Svetlana Senioukh
TV	Tiina Vikeväinen

Issuer ¹	
H	ICP-SFMS
I	Man.Inm.
W	Våtkemi

* indicates unaccredited analysis.

The uncertainty is given as extended uncertainty (according to the definition in "Guide to the Expression of Uncertainty in Measurement", JCGM 100:2008 Corrected version 2010) calculated with a coverage factor of 2, which gives a confidence level of approximately 95%.

Measurement of uncertainty is reported only for detected substances with levels above the reporting limits.

The uncertainty from subcontractors is often given as extended uncertainty calculated with a coverage factor of 2. Contact the laboratory for further information.

This report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

The results apply only to the material that has been identified, received, and tested.

Regarding the laboratory's liability in relation to assignment, please refer to our latest product catalogue or website <http://www.alsglobal.se>

The digitally signed PDF file represents the original report. Any printouts are to be considered as copies.

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



February 12, 2020

Service Request No:K2000799

Lynne Wrona
ALS Environmental - Canada
1435 Norjohn Court #1
Burlington, ON L7L 0E6

Laboratory Results for: CLEAN HARBORS

Dear Lynne,

Enclosed are the results of the sample(s) submitted to our laboratory January 28, 2020
For your reference, these analyses have been assigned our service request number **K2000799**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental



Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: ALS Environmental - Canada
Project: CLEAN HARBORS
Sample Matrix: Plant Tissue

Service Request: K2000799
Date Received: 01/28/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Twenty eight plant tissue samples were received for analysis at ALS Environmental on 01/28/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

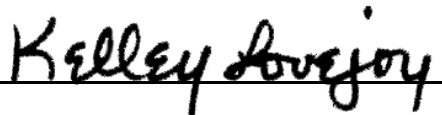
Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

Method SM 4500-F- C Modified, 02/05,10/2020: The matrix spike recoveries of Fluoride for samples 19-W2-NG-CH-003, 19-E5-NG-CH-055, and 19-S4-SB-CH-095 were outside control criteria. Recoveries in the Laboratory Control Samples (LCS) were acceptable, which indicated the analytical batches were in control. The matrix spike outliers suggested a potential low bias in this matrix. No further corrective action was appropriate.

Approved by



Date

02/12/2020



SAMPLE DETECTION SUMMARY

CLIENT ID: 19-W2-NG-CH-003 **Lab ID: K2000799-001**

Analyte	Results	Flag	MDL	MRL	Units	Method
Fluoride	91			40	mg/Kg	SM 4500-F- C Modified
Total Solids	26.1				Percent	Freeze Dry

CLIENT ID: 19-W2-SB-CH-005 **Lab ID: K2000799-002**

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	69.7				Percent	Freeze Dry

CLIENT ID: 19-W4-NG-CH-009 **Lab ID: K2000799-003**

Analyte	Results	Flag	MDL	MRL	Units	Method
Fluoride	46			40	mg/Kg	SM 4500-F- C Modified
Total Solids	32.1				Percent	Freeze Dry

CLIENT ID: 19-W4-SB-CH-011 **Lab ID: K2000799-004**

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	46.4				Percent	Freeze Dry

CLIENT ID: 19-N2-NG-CH-019 **Lab ID: K2000799-005**

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	45.2				Percent	Freeze Dry

CLIENT ID: 19-N2-SB-CH-021 **Lab ID: K2000799-006**

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	49.0				Percent	Freeze Dry

CLIENT ID: 19-N4-NG-CH-025 **Lab ID: K2000799-007**

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	44.6				Percent	Freeze Dry

CLIENT ID: 19-N4-SB-CH-027 **Lab ID: K2000799-008**

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	54.6				Percent	Freeze Dry

CLIENT ID: 19-N5-NG-CH-035 **Lab ID: K2000799-009**

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	45.0				Percent	Freeze Dry

CLIENT ID: 19-E1-NG-CH-039 **Lab ID: K2000799-010**

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	25.5				Percent	Freeze Dry

CLIENT ID: 19-E1-SB-CH-042 **Lab ID: K2000799-011**

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	42.9				Percent	Freeze Dry



SAMPLE DETECTION SUMMARY

CLIENT ID: 19-E2-NG-CH-049		Lab ID: K2000799-012					
Analyte	Results	Flag	MDL	MRL	Units	Method	
Total Solids	61.3				Percent	Freeze Dry	
CLIENT ID: 19-E2-FC-CH-051		Lab ID: K2000799-013					
Analyte	Results	Flag	MDL	MRL	Units	Method	
Total Solids	63.6				Percent	Freeze Dry	
CLIENT ID: 19-E5-NG-CH-055		Lab ID: K2000799-014					
Analyte	Results	Flag	MDL	MRL	Units	Method	
Total Solids	36.4				Percent	Freeze Dry	
CLIENT ID: 19-E5-SB-CH-057		Lab ID: K2000799-015					
Analyte	Results	Flag	MDL	MRL	Units	Method	
Total Solids	43.0				Percent	Freeze Dry	
CLIENT ID: 19-E6-NG-CH-061		Lab ID: K2000799-016					
Analyte	Results	Flag	MDL	MRL	Units	Method	
Total Solids	47.4				Percent	Freeze Dry	
CLIENT ID: 19-E7-NG-CH-305		Lab ID: K2000799-017					
Analyte	Results	Flag	MDL	MRL	Units	Method	
Total Solids	29.6				Percent	Freeze Dry	
CLIENT ID: 19-E7-SB-CH-300		Lab ID: K2000799-018					
Analyte	Results	Flag	MDL	MRL	Units	Method	
Total Solids	86.7				Percent	Freeze Dry	
CLIENT ID: 19-S1-NG-CH-069		Lab ID: K2000799-019					
Analyte	Results	Flag	MDL	MRL	Units	Method	
Total Solids	52.3				Percent	Freeze Dry	
CLIENT ID: 19-S1-SB-CH-071		Lab ID: K2000799-020					
Analyte	Results	Flag	MDL	MRL	Units	Method	
Total Solids	76.4				Percent	Freeze Dry	
CLIENT ID: 19-S2-NG-CH-075		Lab ID: K2000799-021					
Analyte	Results	Flag	MDL	MRL	Units	Method	
Total Solids	44.0				Percent	Freeze Dry	
CLIENT ID: 19-S2-SB-CH-077		Lab ID: K2000799-022					
Analyte	Results	Flag	MDL	MRL	Units	Method	
Total Solids	66.4				Percent	Freeze Dry	
CLIENT ID: 19-S4-NG-CH-093		Lab ID: K2000799-023					
Analyte	Results	Flag	MDL	MRL	Units	Method	
Total Solids	35.8				Percent	Freeze Dry	



SAMPLE DETECTION SUMMARY

CLIENT ID: 19-S4-SB-CH-095				Lab ID: K2000799-024			
-----------------------------------	--	--	--	-----------------------------	--	--	--

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	82.4				Percent	Freeze Dry

CLIENT ID: 19-D3-NG-CH-203				Lab ID: K2000799-025			
-----------------------------------	--	--	--	-----------------------------	--	--	--

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	46.0				Percent	Freeze Dry

CLIENT ID: 19-D8-NG-CH-208				Lab ID: K2000799-026			
-----------------------------------	--	--	--	-----------------------------	--	--	--

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	52.1				Percent	Freeze Dry

CLIENT ID: 19-D5-SB-CH-206				Lab ID: K2000799-027			
-----------------------------------	--	--	--	-----------------------------	--	--	--

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	56.0				Percent	Freeze Dry

CLIENT ID: 19-D6-FC-CH-207				Lab ID: K2000799-028			
-----------------------------------	--	--	--	-----------------------------	--	--	--

Analyte	Results	Flag	MDL	MRL	Units	Method
Total Solids	62.7				Percent	Freeze Dry



Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003

Service Request:K2000799

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
K2000799-001	19-W2-NG-CH-003	10/10/2019	0900
K2000799-002	19-W2-SB-CH-005	10/10/2019	0930
K2000799-003	19-W4-NG-CH-009	10/9/2019	1615
K2000799-004	19-W4-SB-CH-011	10/9/2019	1630
K2000799-005	19-N2-NG-CH-019	10/8/2019	1500
K2000799-006	19-N2-SB-CH-021	10/8/2019	1530
K2000799-007	19-N4-NG-CH-025	10/8/2019	1240
K2000799-008	19-N4-SB-CH-027	10/8/2019	1300
K2000799-009	19-N5-NG-CH-035	8/14/2019	1515
K2000799-010	19-E1-NG-CH-039	10/9/2019	0930
K2000799-011	19-E1-SB-CH-042	10/9/2019	0920
K2000799-012	19-E2-NG-CH-049	10/10/2019	1600
K2000799-013	19-E2-FC-CH-051	10/10/2019	1630
K2000799-014	19-E5-NG-CH-055	10/9/2019	1030
K2000799-015	19-E5-SB-CH-057	10/9/2019	1015
K2000799-016	19-E6-NG-CH-061	8/14/2019	1245
K2000799-017	19-E7-NG-CH-305	10/9/2019	1330
K2000799-018	19-E7-SB-CH-300	10/1/2019	1230
K2000799-019	19-S1-NG-CH-069	10/10/2019	1130
K2000799-020	19-S1-SB-CH-071	10/10/2019	1145
K2000799-021	19-S2-NG-CH-075	10/10/2019	1030
K2000799-022	19-S2-SB-CH-077	10/10/2019	1100
K2000799-023	19-S4-NG-CH-093	10/9/2019	1430
K2000799-024	19-S4-SB-CH-095	10/1/2019	1330
K2000799-025	19-D3-NG-CH-203	10/8/2019	1510
K2000799-026	19-D8-NG-CH-208	10/10/2019	1410
K2000799-027	19-D5-SB-CH-206	10/8/2019	1540
K2000799-028	19-D6-FC-CH-207	10/10/2019	1640



ADDRESS 1317 South 13th Ave., Keiso, WA 98626
 PHONE 1 360 577 7222 FAX 1 360 636 1068

Chain of Custody

Work Order No. K 2000799

Part of the ALS Group A Campbell Brothers Limited Company

Project Manager: Lynne Wrona					Bill to: Same as Previous					
Client Name: ALS Environmental					Company:					
Address: 1435 Norjohn Court, Unit 1					Address:					
City, State ZIP: Burlington, ON, Canada					City, State ZIP:					
Email: lynne.wrona@aisglobal.com			Phone: 905-331-3111		Email:					
Project Name: CLEAN HARBORS					REQUESTED ANALYSIS					TAT
Project Number: 122160003					No. of Containers Fluoride via SM4500F --C including Bellack Distillation Freeze Dry					<input checked="" type="checkbox"/> Routine
P.O. Number: L2387288										<input type="checkbox"/> Same Day ***
Sampler's Name: Client										<input type="checkbox"/> Next Day ***
										<input type="checkbox"/> 3 Day
					<input type="checkbox"/> 5 Day	*** Please call for availability				
SAMPLE RECEIPT										
Temperature (°C):		Temp Blank Present								
Received Intact:		Yes	No	N/A	Wet ice / Blue Ice					
Cooler Custody Seals:		Yes	No	N/A	Total Containers:					
Sample Custody Seals:		Yes	No	N/A						
Sample Identification	Matrix	Date Sampled	Time Sampled	Lab ID						
19-W2-NG-CH-003	Plant Tissue	10-Oct-19	9:00 AM	1	1	X	X			
19-W2-SB-CH-005	Plant Tissue	10-Oct-19	9:30 AM	2	1	X	X			
19-W4-NG-CH-009	Plant Tissue	9-Oct-19	4:15 PM	3	1	X	X			
19-W4-SB-CH-011	Plant Tissue	9-Oct-19	4:30 PM	4	1	X	X			
19-N2-NG-CH-019	Plant Tissue	8-Oct-19	3:00 PM	5	1	X	X			
19-N2-SB-CH-021	Plant Tissue	8-Oct-19	3:30 PM	6	1	X	X			
19-N4-NG-CH-025	Plant Tissue	8-Oct-19	12:40 PM	7	1	X	X			
19-N4-SB-CH-027	Plant Tissue	8-Oct-19	1:00 PM	8	1	X	X			
19-N5-NG-CH-035	Plant Tissue	14-Aug-19	3:15 PM	9	1	X	X			
19-E1-NG-CH-039	Plant Tissue	9-Oct-19	9:30 AM	10	1	X	X			
19-E1-SB-CH-042	Plant Tissue	9-Oct-19	9:20 AM	11	1	X	X			
Please freeze dry all tissues before analysis.					Additional Methods					
Samples have been stored frozen.					Available Upon Request					
RELINQUISHED BY					RECEIVED BY					
Print Name		Signature		Date/Time		Print Name		Signature		Date/Time
Aaron Burton				27-Jan-2020		Cody Caraves				1/28/2020 0940



ADDRESS 1317 South 13th Ave., Keiso, WA 98626
 PHONE 1 360 577 7222 FAX 1 360 636 1058

Chain of Custody

Work Order No.:

K2000799

Part of the ALS Group A Campbell Brothers Limited Company

Project Manager: Lynne Wrona					Bill to: Same as Previous																																																																																																																								
Client Name: ALS Environmental					Company:																																																																																																																								
Address: 1435 Norjohn Court, Unit 1					Address:																																																																																																																								
City, State ZIP: Burlington, ON, Canada					City, State ZIP:																																																																																																																								
Email: lynne.wrona@aisglobal.com			Phone: 905-331-3111		Email:																																																																																																																								
Project Name: CLEAN HARBORS					REQUESTED ANALYSIS																																																																																																																								
Project Number: 122160003																																																																																																																													
P.O. Number: L2387288																																																																																																																													
Sampler's Name: Client																																																																																																																													
TAT																																																																																																																													
<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Same Day *** <input type="checkbox"/> Next Day *** <input type="checkbox"/> 3 Day <input type="checkbox"/> 5 Day *** Please call for availability																																																																																																																													
Comments																																																																																																																													
<table border="1"> <thead> <tr> <th colspan="7">SAMPLE RECEIPT</th> </tr> <tr> <td colspan="2">Temperature (C):</td> <td colspan="2">Temp Blank Present</td> <td colspan="3"></td> </tr> <tr> <td colspan="2">Received Intact:</td> <td>Yes</td> <td>No</td> <td>N/A</td> <td colspan="2">Wet Ice / Blue Ice</td> </tr> <tr> <td colspan="2">Cooler Custody Seals:</td> <td>Yes</td> <td>No</td> <td>N/A</td> <td colspan="2">Total Containers:</td> </tr> <tr> <td colspan="2">Sample Custody Seals:</td> <td>Yes</td> <td>No</td> <td>N/A</td> <td colspan="2"></td> </tr> <tr> <th>Sample Identification</th> <th>Matrix</th> <th>Date Sampled</th> <th>Time Sampled</th> <th>Lab ID</th> <th>No. of Containers</th> <th></th> </tr> </thead> <tbody> <tr> <td>19-E2-NG-CH-049</td> <td>Plant Tissue</td> <td>10-Oct-19</td> <td>4:00 PM</td> <td>12</td> <td>1</td> <td>X X</td> </tr> <tr> <td>19-E2-FC-CH-051</td> <td>Plant Tissue</td> <td>10-Oct-19</td> <td>4:30 PM</td> <td>13</td> <td>1</td> <td>X X</td> </tr> <tr> <td>19-E5-NG-CH-055</td> <td>Plant Tissue</td> <td>9-Oct-19</td> <td>10:30 AM</td> <td>14</td> <td>1</td> <td>X X</td> </tr> <tr> <td>19-E5-SB-CH-057</td> <td>Plant Tissue</td> <td>9-Oct-19</td> <td>10:15 AM</td> <td>15</td> <td>1</td> <td>X X</td> </tr> <tr> <td>19-E6-NG-CH-061</td> <td>Plant Tissue</td> <td>14-Aug-19</td> <td>12:45 PM</td> <td>16</td> <td>1</td> <td>X X</td> </tr> <tr> <td>19-E7-NG-CH-305</td> <td>Plant Tissue</td> <td>9-Oct-19</td> <td>1:30 PM</td> <td>17</td> <td>1</td> <td>X X</td> </tr> <tr> <td>19-E7-SB-CH-300</td> <td>Plant Tissue</td> <td>1-Oct-19</td> <td>12:30 PM</td> <td>18</td> <td>1</td> <td>X X</td> </tr> <tr> <td>19-S1-NG-CH-069</td> <td>Plant Tissue</td> <td>10-Oct-19</td> <td>11:30 AM</td> <td>19</td> <td>1</td> <td>X X</td> </tr> <tr> <td>19-S1-SB-CH-071</td> <td>Plant Tissue</td> <td>10-Oct-19</td> <td>11:45 AM</td> <td>20</td> <td>1</td> <td>X X</td> </tr> <tr> <td>19-S2-NG-CH-075</td> <td>Plant Tissue</td> <td>10-Oct-19</td> <td>10:30 AM</td> <td>21</td> <td>1</td> <td>X X</td> </tr> <tr> <td>19-S2-SB-CH-077</td> <td>Plant Tissue</td> <td>10-Oct-19</td> <td>11:00 AM</td> <td>22</td> <td>1</td> <td>X X</td> </tr> </tbody> </table>							SAMPLE RECEIPT							Temperature (C):		Temp Blank Present					Received Intact:		Yes	No	N/A	Wet Ice / Blue Ice		Cooler Custody Seals:		Yes	No	N/A	Total Containers:		Sample Custody Seals:		Yes	No	N/A			Sample Identification	Matrix	Date Sampled	Time Sampled	Lab ID	No. of Containers		19-E2-NG-CH-049	Plant Tissue	10-Oct-19	4:00 PM	12	1	X X	19-E2-FC-CH-051	Plant Tissue	10-Oct-19	4:30 PM	13	1	X X	19-E5-NG-CH-055	Plant Tissue	9-Oct-19	10:30 AM	14	1	X X	19-E5-SB-CH-057	Plant Tissue	9-Oct-19	10:15 AM	15	1	X X	19-E6-NG-CH-061	Plant Tissue	14-Aug-19	12:45 PM	16	1	X X	19-E7-NG-CH-305	Plant Tissue	9-Oct-19	1:30 PM	17	1	X X	19-E7-SB-CH-300	Plant Tissue	1-Oct-19	12:30 PM	18	1	X X	19-S1-NG-CH-069	Plant Tissue	10-Oct-19	11:30 AM	19	1	X X	19-S1-SB-CH-071	Plant Tissue	10-Oct-19	11:45 AM	20	1	X X	19-S2-NG-CH-075	Plant Tissue	10-Oct-19	10:30 AM	21	1	X X	19-S2-SB-CH-077	Plant Tissue	10-Oct-19	11:00 AM	22	1	X X
SAMPLE RECEIPT																																																																																																																													
Temperature (C):		Temp Blank Present																																																																																																																											
Received Intact:		Yes	No	N/A	Wet Ice / Blue Ice																																																																																																																								
Cooler Custody Seals:		Yes	No	N/A	Total Containers:																																																																																																																								
Sample Custody Seals:		Yes	No	N/A																																																																																																																									
Sample Identification	Matrix	Date Sampled	Time Sampled	Lab ID	No. of Containers																																																																																																																								
19-E2-NG-CH-049	Plant Tissue	10-Oct-19	4:00 PM	12	1	X X																																																																																																																							
19-E2-FC-CH-051	Plant Tissue	10-Oct-19	4:30 PM	13	1	X X																																																																																																																							
19-E5-NG-CH-055	Plant Tissue	9-Oct-19	10:30 AM	14	1	X X																																																																																																																							
19-E5-SB-CH-057	Plant Tissue	9-Oct-19	10:15 AM	15	1	X X																																																																																																																							
19-E6-NG-CH-061	Plant Tissue	14-Aug-19	12:45 PM	16	1	X X																																																																																																																							
19-E7-NG-CH-305	Plant Tissue	9-Oct-19	1:30 PM	17	1	X X																																																																																																																							
19-E7-SB-CH-300	Plant Tissue	1-Oct-19	12:30 PM	18	1	X X																																																																																																																							
19-S1-NG-CH-069	Plant Tissue	10-Oct-19	11:30 AM	19	1	X X																																																																																																																							
19-S1-SB-CH-071	Plant Tissue	10-Oct-19	11:45 AM	20	1	X X																																																																																																																							
19-S2-NG-CH-075	Plant Tissue	10-Oct-19	10:30 AM	21	1	X X																																																																																																																							
19-S2-SB-CH-077	Plant Tissue	10-Oct-19	11:00 AM	22	1	X X																																																																																																																							
Please freeze dry all tissues before analysis.					Additional Methods																																																																																																																								
Samples have been stored frozen.					Available Upon Request																																																																																																																								
RELINQUISHED BY				RECEIVED BY																																																																																																																									
Print Name	Signature		Date/Time	Print Name	Signature	Date/Time																																																																																																																							
Aaron Burton			27-Jan-2020	Cody Graves		1/28/2020 0940																																																																																																																							



ADDRESS 1317 South 13th Ave., Kelso, WA 98626
 PHONE 1 360 577 7222 FAX 1 360 636 1058

Chain of Custody

Work Order No.:

K2000799

Part of the ALS Group A Campbell Brothers Limited Company

Project Manager: Lynne Wrona		Bill to: Same as Previous																																																																																					
Client Name: ALS Environmental		Company:																																																																																					
Address: 1435 Norjohn Court, Unit 1		Address:																																																																																					
City, State ZIP: Burlington, ON, Canada		City, State ZIP:																																																																																					
Email: lynne.wrona@alsglobal.com	Phone: 905-331-3111	Email:																																																																																					
Project Name: CLEAN HARBORS		REQUESTED ANALYSIS																																																																																					
Project Number: 122160003																																																																																							
P.O. Number: L2387288																																																																																							
Sampler's Name: Client																																																																																							
TAT																																																																																							
		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Same Day *** <input type="checkbox"/> Next Day *** <input type="checkbox"/> 3 Day <input type="checkbox"/> 5 Day																																																																																					
*** Please call for availability																																																																																							
Comments																																																																																							
<table border="1"> <thead> <tr> <th colspan="5">SAMPLE RECEIPT</th> <th rowspan="4">No. of Containers</th> <th rowspan="4">Fluoride via SM4500F - C including Bellack Distillation</th> <th rowspan="4">Freeze Dry</th> </tr> <tr> <th>Temperature (°C):</th> <th colspan="3">Temp Blank Present</th> <th></th> </tr> <tr> <th>Received Intact:</th> <th>Yes</th> <th>No</th> <th>N/A</th> <th>Wet Ice / Blue Ice</th> </tr> <tr> <th>Cooler Custody Seals:</th> <th>Yes</th> <th>No</th> <th>N/A</th> <th>Total Containers:</th> </tr> <tr> <th>Sample Custody Seals:</th> <th>Yes</th> <th>No</th> <th>N/A</th> <th></th> </tr> <tr> <th>Sample Identification</th> <th>Matrix</th> <th>Date Sampled</th> <th>Time Sampled</th> <th>Lab ID</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>19-S4-NG-CH-093</td> <td>Plant Tissue</td> <td>9-Oct-19</td> <td>2:30 PM</td> <td>23</td> <td>1</td> <td>X</td> <td>X</td> </tr> <tr> <td>19-S4-SB-CH-095</td> <td>Plant Tissue</td> <td>1-Oct-19</td> <td>1:30 PM</td> <td>24</td> <td>1</td> <td>X</td> <td>X</td> </tr> <tr> <td>19-D3-NG-CH-203</td> <td>Plant Tissue</td> <td>8-Oct-19</td> <td>3:10 PM</td> <td>25</td> <td>1</td> <td>X</td> <td>X</td> </tr> <tr> <td>19-D8-NG-CH-208</td> <td>Plant Tissue</td> <td>10-Oct-19</td> <td>4:10 PM</td> <td>26</td> <td>1</td> <td>X</td> <td>X</td> </tr> <tr> <td>19-D5-SB-CH-206</td> <td>Plant Tissue</td> <td>8-Oct-19</td> <td>3:40 PM</td> <td>27</td> <td>1</td> <td>X</td> <td>X</td> </tr> <tr> <td>19-D6-FC-CH-207</td> <td>Plant Tissue</td> <td>10-Oct-19</td> <td>4:40 PM</td> <td>28</td> <td>1</td> <td>X</td> <td>X</td> </tr> </tbody> </table>				SAMPLE RECEIPT					No. of Containers	Fluoride via SM4500F - C including Bellack Distillation	Freeze Dry	Temperature (°C):	Temp Blank Present				Received Intact:	Yes	No	N/A	Wet Ice / Blue Ice	Cooler Custody Seals:	Yes	No	N/A	Total Containers:	Sample Custody Seals:	Yes	No	N/A		Sample Identification	Matrix	Date Sampled	Time Sampled	Lab ID				19-S4-NG-CH-093	Plant Tissue	9-Oct-19	2:30 PM	23	1	X	X	19-S4-SB-CH-095	Plant Tissue	1-Oct-19	1:30 PM	24	1	X	X	19-D3-NG-CH-203	Plant Tissue	8-Oct-19	3:10 PM	25	1	X	X	19-D8-NG-CH-208	Plant Tissue	10-Oct-19	4:10 PM	26	1	X	X	19-D5-SB-CH-206	Plant Tissue	8-Oct-19	3:40 PM	27	1	X	X	19-D6-FC-CH-207	Plant Tissue	10-Oct-19	4:40 PM	28	1	X	X
SAMPLE RECEIPT					No. of Containers	Fluoride via SM4500F - C including Bellack Distillation	Freeze Dry																																																																																
Temperature (°C):	Temp Blank Present																																																																																						
Received Intact:	Yes	No	N/A	Wet Ice / Blue Ice																																																																																			
Cooler Custody Seals:	Yes	No	N/A	Total Containers:																																																																																			
Sample Custody Seals:	Yes	No	N/A																																																																																				
Sample Identification	Matrix	Date Sampled	Time Sampled	Lab ID																																																																																			
19-S4-NG-CH-093	Plant Tissue	9-Oct-19	2:30 PM	23	1	X	X																																																																																
19-S4-SB-CH-095	Plant Tissue	1-Oct-19	1:30 PM	24	1	X	X																																																																																
19-D3-NG-CH-203	Plant Tissue	8-Oct-19	3:10 PM	25	1	X	X																																																																																
19-D8-NG-CH-208	Plant Tissue	10-Oct-19	4:10 PM	26	1	X	X																																																																																
19-D5-SB-CH-206	Plant Tissue	8-Oct-19	3:40 PM	27	1	X	X																																																																																
19-D6-FC-CH-207	Plant Tissue	10-Oct-19	4:40 PM	28	1	X	X																																																																																
Please freeze dry all tissues before analysis.		Additional Methods Available Upon Request																																																																																					
Samples have been stored frozen.																																																																																							
RELINQUISHED BY																																																																																							
Print Name	Signature	Date/Time	RECEIVED BY																																																																																				
Aaron Burton		27-Jan-2020	<table border="1"> <tr> <td>Print Name</td> <td>Signature</td> <td>Date/Time</td> </tr> <tr> <td>Cody Graves</td> <td></td> <td>1/28/20 0940</td> </tr> </table>	Print Name	Signature	Date/Time	Cody Graves		1/28/20 0940																																																																														
Print Name	Signature	Date/Time																																																																																					
Cody Graves		1/28/20 0940																																																																																					



PC KL

Cooler Receipt and Preservation Form

Client ALS/Canada Service Request K2000799
 Received: 1/28/20 Opened: 1/28/20 By: [Signature] Unloaded: 1/28/20 By: [Signature]

- Samples were received via? **USPS** Fed Ex **UPS** **DHL** **PDX** **Courier** **Hand Delivered**
- Samples were received in: (circle) Cooler **Box** **Envelope** **Other** NA
- Were custody seals on coolers? **NA** **Y** N If yes, how many and where? _____
 If present, were custody seals intact? **Y** **N** If present, were they signed and dated? **Y** **N**

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
-8.1	-8.1	-	-	0	385	NA	7776 1033 4173	NA	

- Packing material: **Inserts** **Baggies** Bubble Wrap **Gel Packs** **Wet Ice** Dry Ice **Sleeves** Paper
- Were custody papers properly filled out (ink, signed, etc.)? **NA** Y **N**
- Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* **NA** Y **N**
 If applicable, tissue samples were received: Frozen **Partially Thawed** **Thawed**
- Were all sample labels complete (i.e analysis, preservation, etc.)? **NA** Y **N**
- Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* **NA** Y **N**
- Were appropriate bottles/containers and volumes received for the tests indicated? **NA** Y **N**
- Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA **Y** **N**
- Were VOA vials received without headspace? *Indicate in the table below.* NA **Y** **N**
- Was C12/Res negative? NA **Y** **N**

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____



Miscellaneous Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
 - i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
 - i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

**ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses**

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003

Service Request: K2000799

Sample Name: 19-W2-NG-CH-003
Lab Code: K2000799-001
Sample Matrix: Plant Tissue

Date Collected: 10/10/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-W2-SB-CH-005
Lab Code: K2000799-002
Sample Matrix: Plant Tissue

Date Collected: 10/10/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-W4-NG-CH-009
Lab Code: K2000799-003
Sample Matrix: Plant Tissue

Date Collected: 10/9/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-W4-SB-CH-011
Lab Code: K2000799-004
Sample Matrix: Plant Tissue

Date Collected: 10/9/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003

Service Request: K2000799

Sample Name: 19-N2-NG-CH-019
Lab Code: K2000799-005
Sample Matrix: Plant Tissue

Date Collected: 10/8/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-N2-SB-CH-021
Lab Code: K2000799-006
Sample Matrix: Plant Tissue

Date Collected: 10/8/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-N4-NG-CH-025
Lab Code: K2000799-007
Sample Matrix: Plant Tissue

Date Collected: 10/8/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-N4-SB-CH-027
Lab Code: K2000799-008
Sample Matrix: Plant Tissue

Date Collected: 10/8/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003

Service Request: K2000799

Sample Name: 19-N5-NG-CH-035
Lab Code: K2000799-009
Sample Matrix: Plant Tissue

Date Collected: 08/14/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-E1-NG-CH-039
Lab Code: K2000799-010
Sample Matrix: Plant Tissue

Date Collected: 10/9/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-E1-SB-CH-042
Lab Code: K2000799-011
Sample Matrix: Plant Tissue

Date Collected: 10/9/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-E2-NG-CH-049
Lab Code: K2000799-012
Sample Matrix: Plant Tissue

Date Collected: 10/10/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003

Service Request: K2000799

Sample Name: 19-E2-FC-CH-051
Lab Code: K2000799-013
Sample Matrix: Plant Tissue

Date Collected: 10/10/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-E5-NG-CH-055
Lab Code: K2000799-014
Sample Matrix: Plant Tissue

Date Collected: 10/9/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-E5-SB-CH-057
Lab Code: K2000799-015
Sample Matrix: Plant Tissue

Date Collected: 10/9/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-E6-NG-CH-061
Lab Code: K2000799-016
Sample Matrix: Plant Tissue

Date Collected: 08/14/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003

Service Request: K2000799

Sample Name: 19-E7-NG-CH-305
Lab Code: K2000799-017
Sample Matrix: Plant Tissue

Date Collected: 10/9/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-E7-SB-CH-300
Lab Code: K2000799-018
Sample Matrix: Plant Tissue

Date Collected: 10/1/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-S1-NG-CH-069
Lab Code: K2000799-019
Sample Matrix: Plant Tissue

Date Collected: 10/10/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-S1-SB-CH-071
Lab Code: K2000799-020
Sample Matrix: Plant Tissue

Date Collected: 10/10/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003

Service Request: K2000799

Sample Name: 19-S2-NG-CH-075
Lab Code: K2000799-021
Sample Matrix: Plant Tissue

Date Collected: 10/10/19
Date Received: 01/28/20

Analysis Method
Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By
CLUKKEN
ACHEATLEY

Sample Name: 19-S2-SB-CH-077
Lab Code: K2000799-022
Sample Matrix: Plant Tissue

Date Collected: 10/10/19
Date Received: 01/28/20

Analysis Method
Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By
CLUKKEN
ACHEATLEY

Sample Name: 19-S4-NG-CH-093
Lab Code: K2000799-023
Sample Matrix: Plant Tissue

Date Collected: 10/9/19
Date Received: 01/28/20

Analysis Method
Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By
CLUKKEN
ACHEATLEY

Sample Name: 19-S4-SB-CH-095
Lab Code: K2000799-024
Sample Matrix: Plant Tissue

Date Collected: 10/1/19
Date Received: 01/28/20

Analysis Method
Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By
CLUKKEN
ACHEATLEY

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003

Service Request: K2000799

Sample Name: 19-D3-NG-CH-203
Lab Code: K2000799-025
Sample Matrix: Plant Tissue

Date Collected: 10/8/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-D8-NG-CH-208
Lab Code: K2000799-026
Sample Matrix: Plant Tissue

Date Collected: 10/10/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-D5-SB-CH-206
Lab Code: K2000799-027
Sample Matrix: Plant Tissue

Date Collected: 10/8/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY

Sample Name: 19-D6-FC-CH-207
Lab Code: K2000799-028
Sample Matrix: Plant Tissue

Date Collected: 10/10/19
Date Received: 01/28/20

Analysis Method

Frz Dry
SM 4500-F- C Modified

Extracted/Digested By

ACHEATLEY

Analyzed By

CLUKKEN
ACHEATLEY



Sample Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-W2-NG-CH-003
Lab Code: K2000799-001

Service Request: K2000799
Date Collected: 10/10/19 09:00
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	26.1	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-W2-SB-CH-005
Lab Code: K2000799-002

Service Request: K2000799
Date Collected: 10/10/19 09:30
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	69.7	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-W4-NG-CH-009
Lab Code: K2000799-003

Service Request: K2000799
Date Collected: 10/09/19 16:15
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Total Solids	Freeze Dry	32.1	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-W4-SB-CH-011
Lab Code: K2000799-004

Service Request: K2000799
Date Collected: 10/09/19 16:30
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	46.4	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-N2-NG-CH-019
Lab Code: K2000799-005

Service Request: K2000799
Date Collected: 10/08/19 15:00
Date Received: 01/28/20 09:20

Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	45.2	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-N2-SB-CH-021
Lab Code: K2000799-006

Service Request: K2000799
Date Collected: 10/08/19 15:30
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	49.0	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-N4-NG-CH-025
Lab Code: K2000799-007

Service Request: K2000799
Date Collected: 10/08/19 12:40
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	44.6	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-N4-SB-CH-027
Lab Code: K2000799-008

Service Request: K2000799
Date Collected: 10/08/19 13:00
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Total Solids	Freeze Dry	54.6	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-N5-NG-CH-035
Lab Code: K2000799-009

Service Request: K2000799
Date Collected: 08/14/19 15:15
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Total Solids	Freeze Dry	45.0	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E1-NG-CH-039
Lab Code: K2000799-010

Service Request: K2000799
Date Collected: 10/09/19 09:30
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	25.5	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E1-SB-CH-042
Lab Code: K2000799-011

Service Request: K2000799
Date Collected: 10/09/19 09:20
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	42.9	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E2-NG-CH-049
Lab Code: K2000799-012

Service Request: K2000799
Date Collected: 10/10/19 16:00
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Total Solids	Freeze Dry	61.3	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E2-FC-CH-051
Lab Code: K2000799-013

Service Request: K2000799
Date Collected: 10/10/19 16:30
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	63.6	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E5-NG-CH-055
Lab Code: K2000799-014

Service Request: K2000799
Date Collected: 10/09/19 10:30
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Total Solids	Freeze Dry	36.4	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E5-SB-CH-057
Lab Code: K2000799-015

Service Request: K2000799
Date Collected: 10/09/19 10:15
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	43.0	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E6-NG-CH-061
Lab Code: K2000799-016

Service Request: K2000799
Date Collected: 08/14/19 12:45
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	47.4	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E7-NG-CH-305
Lab Code: K2000799-017

Service Request: K2000799
Date Collected: 10/09/19 13:30
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Total Solids	Freeze Dry	29.6	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E7-SB-CH-300
Lab Code: K2000799-018

Service Request: K2000799
Date Collected: 10/01/19 12:30
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	86.7	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-S1-NG-CH-069
Lab Code: K2000799-019

Service Request: K2000799
Date Collected: 10/10/19 11:30
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	52.3	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-S1-SB-CH-071
Lab Code: K2000799-020

Service Request: K2000799
Date Collected: 10/10/19 11:45
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	76.4	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-S2-NG-CH-075
Lab Code: K2000799-021

Service Request: K2000799
Date Collected: 10/10/19 10:30
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	44.0	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-S2-SB-CH-077
Lab Code: K2000799-022

Service Request: K2000799
Date Collected: 10/10/19 11:00
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Total Solids	Freeze Dry	66.4	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-S4-NG-CH-093
Lab Code: K2000799-023

Service Request: K2000799
Date Collected: 10/09/19 14:30
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	35.8	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-S4-SB-CH-095
Lab Code: K2000799-024

Service Request: K2000799
Date Collected: 10/01/19 13:30
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	82.4	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-D3-NG-CH-203
Lab Code: K2000799-025

Service Request: K2000799
Date Collected: 10/08/19 15:10
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	46.0	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-D8-NG-CH-208
Lab Code: K2000799-026

Service Request: K2000799
Date Collected: 10/10/19 14:10
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>MDL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Total Solids	Freeze Dry	52.1	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-D5-SB-CH-206
Lab Code: K2000799-027

Service Request: K2000799
Date Collected: 10/08/19 15:40
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Total Solids	Freeze Dry	56.0	Percent	-	-	1	01/31/20 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-D6-FC-CH-207
Lab Code: K2000799-028

Service Request: K2000799
Date Collected: 10/10/19 16:40
Date Received: 01/28/20 09:20
Basis: Wet

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Total Solids	Freeze Dry	62.7	Percent	-	-	1	01/31/20 16:34	



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-W2-NG-CH-003
Lab Code: K2000799-001

Service Request: K2000799
Date Collected: 10/10/19 09:00
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	91	mg/Kg	40	1	02/05/20 11:00	02/04/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-W2-SB-CH-005
Lab Code: K2000799-002

Service Request: K2000799
Date Collected: 10/10/19 09:30
Date Received: 01/28/20 09:20

Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/05/20 11:00	02/04/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-W4-NG-CH-009
Lab Code: K2000799-003

Service Request: K2000799
Date Collected: 10/09/19 16:15
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	46	mg/Kg	40	1	02/05/20 11:00	02/04/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-W4-SB-CH-011
Lab Code: K2000799-004

Service Request: K2000799
Date Collected: 10/09/19 16:30
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/05/20 11:00	02/04/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-N2-NG-CH-019
Lab Code: K2000799-005

Service Request: K2000799
Date Collected: 10/08/19 15:00
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/05/20 11:00	02/04/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-N2-SB-CH-021
Lab Code: K2000799-006

Service Request: K2000799
Date Collected: 10/08/19 15:30
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/05/20 11:00	02/04/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-N4-NG-CH-025
Lab Code: K2000799-007

Service Request: K2000799
Date Collected: 10/08/19 12:40
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/05/20 11:00	02/04/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-N4-SB-CH-027
Lab Code: K2000799-008

Service Request: K2000799
Date Collected: 10/08/19 13:00
Date Received: 01/28/20 09:20

Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/05/20 11:00	02/04/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-N5-NG-CH-035
Lab Code: K2000799-009

Service Request: K2000799
Date Collected: 08/14/19 15:15
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/05/20 11:00	02/04/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E1-NG-CH-039
Lab Code: K2000799-010

Service Request: K2000799
Date Collected: 10/09/19 09:30
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/05/20 11:00	02/04/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E1-SB-CH-042
Lab Code: K2000799-011

Service Request: K2000799
Date Collected: 10/09/19 09:20
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/05/20 11:00	02/04/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E2-NG-CH-049
Lab Code: K2000799-012

Service Request: K2000799
Date Collected: 10/10/19 16:00
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/05/20 11:00	02/04/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E2-FC-CH-051
Lab Code: K2000799-013

Service Request: K2000799
Date Collected: 10/10/19 16:30
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/06/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E5-NG-CH-055
Lab Code: K2000799-014

Service Request: K2000799
Date Collected: 10/09/19 10:30
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/06/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E5-SB-CH-057
Lab Code: K2000799-015

Service Request: K2000799
Date Collected: 10/09/19 10:15
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/06/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E6-NG-CH-061
Lab Code: K2000799-016

Service Request: K2000799
Date Collected: 08/14/19 12:45
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/06/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E7-NG-CH-305
Lab Code: K2000799-017

Service Request: K2000799
Date Collected: 10/09/19 13:30
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/06/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-E7-SB-CH-300
Lab Code: K2000799-018

Service Request: K2000799
Date Collected: 10/01/19 12:30
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/06/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-S1-NG-CH-069
Lab Code: K2000799-019

Service Request: K2000799
Date Collected: 10/10/19 11:30
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/06/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-S1-SB-CH-071
Lab Code: K2000799-020

Service Request: K2000799
Date Collected: 10/10/19 11:45
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/06/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-S2-NG-CH-075
Lab Code: K2000799-021

Service Request: K2000799
Date Collected: 10/10/19 10:30
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/06/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-S2-SB-CH-077
Lab Code: K2000799-022

Service Request: K2000799
Date Collected: 10/10/19 11:00
Date Received: 01/28/20 09:20

Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/10/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-S4-NG-CH-093
Lab Code: K2000799-023

Service Request: K2000799
Date Collected: 10/09/19 14:30
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/10/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-S4-SB-CH-095
Lab Code: K2000799-024

Service Request: K2000799
Date Collected: 10/01/19 13:30
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/10/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-D3-NG-CH-203
Lab Code: K2000799-025

Service Request: K2000799
Date Collected: 10/08/19 15:10
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/10/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-D8-NG-CH-208
Lab Code: K2000799-026

Service Request: K2000799
Date Collected: 10/10/19 14:10
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/10/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-D5-SB-CH-206
Lab Code: K2000799-027

Service Request: K2000799
Date Collected: 10/08/19 15:40
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/10/20	*

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: 19-D6-FC-CH-207
Lab Code: K2000799-028

Service Request: K2000799
Date Collected: 10/10/19 16:40
Date Received: 01/28/20 09:20
Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/10/20	*



QC Summary Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: Method Blank
Lab Code: K2000799-MB1

Service Request: K2000799
Date Collected: NA
Date Received: NA

Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/05/20 11:00	02/04/20	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: Method Blank
Lab Code: K2000799-MB2

Service Request: K2000799
Date Collected: NA
Date Received: NA

Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/06/20	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue
Sample Name: Method Blank
Lab Code: K2000799-MB3

Service Request: K2000799
Date Collected: NA
Date Received: NA

Basis: Dry, per Method

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Date Extracted</u>	<u>Q</u>
Fluoride	SM 4500-F- C Modified	ND U	mg/Kg	40	1	02/10/20 16:35	02/10/20	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue

Service Request: K2000799
Date Collected: 10/10/19
Date Received: 01/28/20
Date Analyzed: 02/5/20
Date Extracted: 02/4/20

Duplicate Matrix Spike Summary
Fluoride

Sample Name: 19-W2-NG-CH-003
Lab Code: K2000799-001
Analysis Method: SM 4500-F- C Modified
Prep Method: ALS SOP

Units: mg/Kg
Basis: Dry, per Method

Analyte Name	Sample Result	Result	Matrix Spike K2000799-001MS		Result	Duplicate Matrix Spike K2000799-001DMS		% Rec Limits	RPD	RPD Limit
			Spike Amount	% Rec		Spike Amount	% Rec			
Fluoride	91	1270	3050	39 *	1290	3110	38 *	56-130	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue

Service Request: K2000799
Date Collected: 10/09/19
Date Received: 01/28/20
Date Analyzed: 02/10/20
Date Extracted: 02/6/20

**Duplicate Matrix Spike Summary
Fluoride**

Sample Name: 19-E5-NG-CH-055
Lab Code: K2000799-014
Analysis Method: SM 4500-F- C Modified
Prep Method: ALS SOP

Units: mg/Kg
Basis: Dry, per Method

Analyte Name	Sample Result	Result	Matrix Spike K2000799-014MS		Duplicate Matrix Spike K2000799-014DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Fluoride	ND U	1470	3310	45 *	1390	3330	42 *	56-130	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue

Service Request: K2000799
Date Collected: 10/01/19
Date Received: 01/28/20
Date Analyzed: 02/10/20
Date Extracted: 02/10/20

**Duplicate Matrix Spike Summary
Fluoride**

Sample Name: 19-S4-SB-CH-095
Lab Code: K2000799-024
Analysis Method: SM 4500-F- C Modified
Prep Method: ALS SOP

Units: mg/Kg
Basis: Dry, per Method

Analyte Name	Sample Result	Result	Matrix Spike K2000799-024MS		Duplicate Matrix Spike K2000799-024DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Fluoride	ND U	481	988	49 *	425	985	43 *	56-130	12	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue

Service Request: K2000799
Date Collected: 10/10/19
Date Received: 01/28/20
Date Analyzed: 02/05/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name: 19-W2-NG-CH-003
Lab Code: K2000799-001

Units: mg/Kg
Basis: Dry, per Method

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>MRL</u>	<u>Sample Result</u>	<u>Duplicate Sample K2000799-001DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Fluoride	SM 4500-F- C Modified	40	91	94	92.6	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: ALS Environmental - Canada
Project CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue

Service Request: K2000799
Date Collected: 10/09/19
Date Received: 01/28/20
Date Analyzed: 02/10/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name: 19-E5-NG-CH-055
Lab Code: K2000799-014

Units: mg/Kg
Basis: Dry, per Method

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>MRL</u>	<u>Sample Result</u>	<u>Duplicate Sample K2000799-014DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Fluoride	SM 4500-F- C Modified	40	ND U	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue

Service Request: K2000799
Date Collected: 10/01/19
Date Received: 01/28/20
Date Analyzed: 02/10/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name: 19-S4-SB-CH-095
Lab Code: K2000799-024

Units: mg/Kg
Basis: Dry, per Method

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample K2000799-024DUP Result	Average	RPD	RPD Limit
Fluoride	SM 4500-F- C Modified	40	ND U	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue

Service Request: K2000799
Date Analyzed: 02/05/20
Date Extracted: 02/04/20

Lab Control Sample Summary
Fluoride

Analysis Method: SM 4500-F- C Modified
Prep Method: ALS SOP

Units: mg/Kg
Basis: Dry, per Method
Analysis Lot: 669072

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2000799-LCS1	573	639	90	85-115

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue

Service Request: K2000799
Date Analyzed: 02/10/20
Date Extracted: 02/06/20

Lab Control Sample Summary
Fluoride

Analysis Method: SM 4500-F- C Modified
Prep Method: ALS SOP

Units: mg/Kg
Basis: Dry, per Method
Analysis Lot: 669573

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2000799-LCS2	599	612	98	85-115

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - Canada
Project: CLEAN HARBORS/122160003
Sample Matrix: Plant Tissue

Service Request: K2000799
Date Analyzed: 02/10/20
Date Extracted: 02/10/20

Lab Control Sample Summary
Fluoride

Analysis Method: SM 4500-F- C Modified
Prep Method: ALS SOP

Units: mg/Kg
Basis: Dry, per Method
Analysis Lot: 669572

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2000799-LCS3	612	612	100	85-115



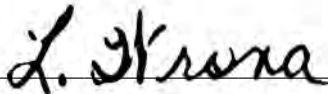
STANTEC CONSULTING LTD.
ATTN: Katherine Ketis
70 Southgate Dr, Suite 01
Guelph ON N1G 4P5

Date Received: 25-NOV-19
Report Date: 28-FEB-20 17:01 (MT)
Version: FINAL

Client Phone: 519-836-6050

Certificate of Analysis

Lab Work Order #: L2387288
Project P.O. #: NOT SUBMITTED
Job Reference: 122160003 CLEAN HARBORS
C of C Numbers:
Legal Site Desc:



Lynne Wrona, M.Sc.
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 1435 Norjohn Court, Unit 1, Burlington, ON, L7L 0E6 Canada | Phone: +1 905 331 3111 | Fax: +1 905 331 4567
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2387288-1 19-W2-SS-CH-001							
Sampled By: Client on 10-OCT-19 @ 08:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	17.1		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.49		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0471		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	16.7		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	14800		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.25		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.91		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	59.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.59		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	7.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.447		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	3680		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	20.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	7.11		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	12.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	17700		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	19.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	3710		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	416		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.87		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	17.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	484		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	1480		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.39		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	52		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	11.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.202		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	139		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.51		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	35.1		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	50.5		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	1.8		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.226	M,J	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.244	M,J	0.041	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.258	M,J	0.071	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.386	M,J	0.070	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.400	M,J,R	0.070	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	6.75		0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	37.4		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.295	M,J	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.252	M,J	0.063	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.720	[J]	0.050	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-1 19-W2-SS-CH-001							
Sampled By: Client on 10-OCT-19 @ 08:30							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8-HxCDF	0.476	M,J	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.310	M,J,R	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.565	M,J	0.082	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.16	M,J,R	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	2.30	[J]	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.160	M,J,R	0.074	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.91	[J]	0.059	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	0.226		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	1				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	1.87		0.041	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	4.99		0.071	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	4				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	13.0		0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	7.06		0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	11.2		0.063	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	5.48		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	3.68		0.074	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	73.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	76.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	71.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	70.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	45.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	70.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	68.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	72.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	64.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.994			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-2 19-W2-NG-CH-003							
Sampled By: Client on 10-OCT-19 @ 09:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	74.7		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	70.7		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	2300	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0292		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	0.0055		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-2 19-W2-NG-CH-003							
Sampled By: Client on 10-OCT-19 @ 09:00							
Matrix: Plant Tissue							
Sulfur (S)-Total	2350		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.44		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	47.5		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.025		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.046		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	9.67		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	0.021		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	11.7		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0937		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	8190		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0228		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.644		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.029		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	9.28		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	111		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.835		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2270		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	28.3		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.58		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.61		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2440		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	11900		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	2.50		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.689		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	27		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	13.6		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	0.14		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0049		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.17		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	26.7		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.088	[U]	0.088	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.093	M,J	0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.072	M,U	0.072	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.126	M,J	0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.110	M,J,R	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.54	[J]	0.062	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	4.85	[J]	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	0.106	M,J	0.078	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.059	[U]	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	0.100	M,J	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.096	M,J	0.067	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.110	M,J,R	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.087	M,U	0.087	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	<0.088	[U]	0.088	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.440	M,J,R	0.067	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-2 19-W2-NG-CH-003							
Sampled By: Client on 10-OCT-19 @ 09:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8,9-HpCDF	<0.090	M,U	0.090	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.21	[J]	0.060	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.482		0.088	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	2.03		0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	1.70		0.072	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	4				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	4.25		0.062	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.998		0.078	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.569		0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.232		0.088	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.090	[U]	0.090	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	60.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	69.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	56.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	63.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	61.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	57.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	61.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	68.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	68.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	58.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	61.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	51.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	56.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	61.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	64.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	66.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.173			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.257			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.314			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-3 19-W2-SB-CH-005							
Sampled By: Client on 10-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	34.7		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	33.1		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	44	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4210		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-3 19-W2-SB-CH-005							
Sampled By: Client on 10-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.05		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	32.4		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0380		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2810		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0137		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.121		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	12.4		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	72.2		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3240		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	28.7		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	10.6		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.49		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7370		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	23900		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	10.5		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.252		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	2.35		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	34.9		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.036	[U]	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.019	[U]	0.019	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.019	[U]	0.019	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.018	[U]	0.018	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.028	M,J,R	0.018	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.052	M,J,R	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	0.344	J,B	0.018	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.015	[U]	0.015	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.012	[U]	0.012	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.011	[U]	0.011	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.011	[U]	0.011	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.016	M,J,R	0.011	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.016	M,J,R	0.014	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	<0.010	[U]	0.010	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.012	[U]	0.012	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.165	M,J,B	0.017	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.036	[U]	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-3 19-W2-SB-CH-005							
Sampled By: Client on 10-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.019	[U]	0.019	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.019	[U]	0.019	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	0.039		0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.015	[U]	0.015	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	<0.014	[U]	0.014	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.012	[U]	0.012	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	48.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	56.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	50.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	48.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	48.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	50.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	47.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	55.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	53.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	49.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	50.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	48.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	46.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	50.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HpCDF	52.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	58.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.000153			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.0406			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.0745			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-4 19-W4-SS-CH-007							
Sampled By: Client on 09-OCT-19 @ 16:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	22.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	1.45		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0482		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	22.5		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	23300		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.26		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.22		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	94.3		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.98		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	<0.20		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	16.3		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-4 19-W4-SS-CH-007							
Sampled By: Client on 09-OCT-19 @ 16:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Cadmium (Cd)	0.472		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	4530		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	32.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	8.66		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	23.3		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	24000		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	15.4		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	27.8		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	6370		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	268		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	1.50		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	29.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	989		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	4070		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.50		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	64		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	18.2		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.277		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	112		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	2.11		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	42.7		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	87.6		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.3		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.600	M,J	0.091	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.411	M,J	0.040	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.397	[J]	0.097	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	1.28	[J]	0.096	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.891	M,J	0.095	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	25.6		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	116		0.20	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.530	M,J	0.085	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.339	M,J	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.687	[J]	0.068	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.588	M,J	0.088	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.476	M,J	0.088	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.794	[J]	0.095	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.15	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	8.93		0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.386	[J]	0.090	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	16.1		0.090	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	2.42		0.091	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	4.06		0.040	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	9.57		0.097	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-4 19-W4-SS-CH-007							
Sampled By: Client on 09-OCT-19 @ 16:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total-HpCDD	40.3		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	10.9		0.085	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	15				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	10.3		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	10.1		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	8				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	20.4		0.090	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	69.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	67.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	69.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	45.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	70.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	73.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	69.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	69.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	65.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	63.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	72.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	72.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	2.13			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	2.13			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	2.13			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-5 19-W4-NG-CH-009							
Sampled By: Client on 09-OCT-19 @ 16:15							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	70.8		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	68.1		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	8500	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0115		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	0.0052		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3110		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.32		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	62.0		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.019		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.138		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	10.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.3		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.180		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4410		20	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-5 19-W4-NG-CH-009							
Sampled By: Client on 09-OCT-19 @ 16:15							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Cesium (Cs)-Total	0.0418		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.290		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.096		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	8.25		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	122		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.234		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2520		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	90.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.94		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	1.29		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3760		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	24400		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	2.46		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.222		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	68		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	7.42		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0026		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	0.15		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0053		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.17		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	29.3		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.068	[U]	0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.071	M,J,R	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	0.058	M,J,R	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.150	M,J	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.160	M,J,R	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.32	[J]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	3.55	[J]	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	0.160	M,J	0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.096	M,J,R	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	0.085	M,J	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.072	M,J	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.067	M,J	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.064	M,J,R	0.047	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.075	M,J	0.043	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.344	[J]	0.024	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.029	[U]	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.653	[J]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.550		0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.45		0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	2.93		0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	4				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	3.66		0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.755		0.075	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-5 19-W4-NG-CH-009 Sampled By: Client on 09-OCT-19 @ 16:15 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total TCDF # Homologues	4				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.683		0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.521		0.047	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	6				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.479		0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	76.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	89.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	80.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	78.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	61.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	83.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	84.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	81.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	79.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	60.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	75.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	79.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	82.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	74.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0958			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.232			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.266			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-6 19-W4-SB-CH-011 Sampled By: Client on 09-OCT-19 @ 16:30 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	54.3		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	52.4		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	38	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4820		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.10		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	34.0		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.282		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2610		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0143		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.101		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-6 19-W4-SB-CH-011							
Sampled By: Client on 09-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Copper (Cu)-Total	16.7		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	78.9		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3200		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	24.0		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	8.82		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	3.50		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7990		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	23400		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	13.4		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.305		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	2.28		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	51.7		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.081	[U]	0.081	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.041	[U]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.028	[U]	0.028	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.057	M,J,R	0.021	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	0.301	J,B	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.045	[U]	0.045	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.026	[U]	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.021	[U]	0.021	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.016	[U]	0.016	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.017	[U]	0.017	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.017	[U]	0.017	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.027	M,J,R	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	<0.022	[U]	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.206	M,J,B	0.028	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.081	[U]	0.081	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.041	[U]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.028	[U]	0.028	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	0.036		0.021	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.045	[U]	0.045	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.026	[U]	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-6 19-W4-SB-CH-011							
Sampled By: Client on 09-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HxCDF	<0.022	[U]	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	76.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	90.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	80.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	90.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	91.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	71.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	86.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	87.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	77.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	76.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	74.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	72.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	85.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	93.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	76.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.000152			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.0771			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.151			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-7 19-N2-SS-CH-013							
Sampled By: Client on 08-OCT-19 @ 14:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	23.7		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.43		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0635		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	23.7		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	26200		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.33		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	4.94		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	120		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	1.16		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	0.23		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	15.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.473		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	5550		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	38.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	11.2		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	31.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	25000		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	15.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	35.6		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	7320		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	339		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.35		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-7 19-N2-SS-CH-013							
Sampled By: Client on 08-OCT-19 @ 14:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Nickel (Ni)	36.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	959		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	4010		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.60		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	64		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	21.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.228		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	128		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.87		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	44.3		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	82.9		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	6.4		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
CARB428 PCB TOTALS							
Total PCB	0.347		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	30.8		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	42.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	28.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	70.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	29.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	83.9		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	29.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	73.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	48.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	70.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	64.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	69.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	71.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	91.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	65.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	71.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	69.5	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	71.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	77.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	69.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	73.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	66.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	69.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	64.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	62.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.0068	[U]	0.0068	ng/g	22-JAN-20	10-FEB-20	R5007833
beta-BHC	<0.0087	[U]	0.0087	ng/g	22-JAN-20	10-FEB-20	R5007833
delta-BHC	<0.0089	[U]	0.0089	ng/g	22-JAN-20	10-FEB-20	R5007833
gamma-BHC	<0.0088	[U]	0.0088	ng/g	22-JAN-20	10-FEB-20	R5007833
Heptachlor	0.00210	M,J,R	0.00033	ng/g	22-JAN-20	10-FEB-20	R5007833
Aldrin	<0.00097	[U]	0.00097	ng/g	22-JAN-20	10-FEB-20	R5007833
Heptachlor Epoxide	0.0102	M,J	0.0010	ng/g	22-JAN-20	10-FEB-20	R5007833

* 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
L2387288-7 19-N2-SS-CH-013							
Sampled By: Client on 08-OCT-19 @ 14:00							
Matrix: Soil							
OC Pesticides by Method 1699							
trans-Chlordane	<0.0084	[U]	0.0084	ng/g	22-JAN-20	10-FEB-20	R5007833
cis-Chlordane	<0.0080	[U]	0.0080	ng/g	22-JAN-20	10-FEB-20	R5007833
Dieldrin	0.0240	M,J,R	0.0049	ng/g	22-JAN-20	10-FEB-20	R5007833
Endrin	<0.013	M,U	0.013	ng/g	22-JAN-20	10-FEB-20	R5007833
Endrin Aldehyde	0.0084	M,J	0.0079	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan I	<0.0060	[U]	0.0060	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan II	<0.020	M,U	0.020	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan Sulfate	<0.0025	[U]	0.0025	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDE	0.102	[J]	0.0043	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDD	0.013	M,J,R	0.010	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDT	0.114	M,J	0.0064	ng/g	22-JAN-20	10-FEB-20	R5007833
Methoxychlor	<0.0032	U	0.0032	ng/g	22-JAN-20	10-FEB-20	R5007833
Mirex	0.00920	J,R	0.00025	ng/g	22-JAN-20	10-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	59.0		16-129	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	70.0		14-136	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	77.0		40-151	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Endrin, 13C12-	75.0		35-155	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	77.0		5-122	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	81.0		21-125	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	82.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Mirex, 13C10-	85.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Heptachlor Epoxide A	<0.0077	[U]	0.0077	ng/g	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	87.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	62.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	88.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	72.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	73.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.302	M,J	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.207	[J]	0.046	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.22	M,J,R	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.43	M,J	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.38	M,J	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	5.55		0.16	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	27.8		0.25	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.523	M,J	0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.290	M,J,R	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.580	[J]	0.073	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.402	M,J,B	0.036	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.316	M,J	0.036	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.450	M,J	0.038	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.120	M,J	0.050	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	2.00	M,J,R	0.079	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.162	M,J	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.93	[J]	0.18	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	2.08		0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	3.81		0.046	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	6.15		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-7 19-N2-SS-CH-013							
Sampled By: Client on 08-OCT-19 @ 14:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total-HpCDD	10.6		0.16	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	7.87		0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	7.62		0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	3.61		0.050	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	1.85		0.079	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	76.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	77.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	66.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	59.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	23.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	74.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	77.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	72.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	64.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	66.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	62.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	48.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	66.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.01			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.06			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.06			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-8 19-N2-SD-CH-015							
Sampled By: Client on 08-OCT-19 @ 14:30							
Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	21.1		0.10	%	22-JAN-20	23-JAN-20	R4976673
Chloride (Cl)	36.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.82		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0231		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	21.2		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	13300		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.32		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	6.22		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	63.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.62		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	<0.20		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	17.4		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.214		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	94900		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	24.3		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	9.04		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	17.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-8 19-N2-SD-CH-015							
Sampled By: Client on 08-OCT-19 @ 14:30							
Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Iron (Fe)	20400		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	8.21		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	25.3		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	33300		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	362		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	3.14		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	26.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	455		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	2850		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.49		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	169		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	86.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.258		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	212		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	1.26		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	32.2		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	52.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	6.1		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
CARB428 PCB TOTALS							
Total PCB	0.363		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	25.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	35.3		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	23.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	54.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	24.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	63.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	22.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	57.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	36.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	58.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	40.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	56.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	54.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	73.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	50.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	57.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	58.4	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	55.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	61.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	54.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	58.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	51.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	54.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	54.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	51.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	10-FEB-20	R5007833

* 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
L2387288-8 19-N2-SD-CH-015 Sampled By: Client on 08-OCT-19 @ 14:30 Matrix: Sediment							
OC Pesticides by Method 1699							
beta-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	10-FEB-20	R5007833
delta-BHC	<0.015	[U]	0.015	ng/g	22-JAN-20	10-FEB-20	R5007833
gamma-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	10-FEB-20	R5007833
Heptachlor	0.00180	M,J,R	0.00086	ng/g	22-JAN-20	10-FEB-20	R5007833
Aldrin	<0.0015	[U]	0.0015	ng/g	22-JAN-20	10-FEB-20	R5007833
Heptachlor Epoxide	<0.0032	M,U	0.0032	ng/g	22-JAN-20	10-FEB-20	R5007833
trans-Chlordane	<0.016	[U]	0.016	ng/g	22-JAN-20	10-FEB-20	R5007833
cis-Chlordane	<0.015	[U]	0.015	ng/g	22-JAN-20	10-FEB-20	R5007833
Dieldrin	0.0084	M,J,R	0.0066	ng/g	22-JAN-20	10-FEB-20	R5007833
Endrin	<0.019	M,U	0.019	ng/g	22-JAN-20	10-FEB-20	R5007833
Endrin Aldehyde	<0.011	[U]	0.011	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan I	<0.0082	[U]	0.0082	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan II	<0.020	M,U	0.020	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan Sulfate	<0.0053	[U]	0.0053	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDE	0.0404	M,J	0.0076	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDD	0.0210	M,J,R	0.0088	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDT	0.012	M,J,R	0.011	ng/g	22-JAN-20	10-FEB-20	R5007833
Methoxychlor	<0.013	[U]	0.013	ng/g	22-JAN-20	10-FEB-20	R5007833
Mirex	<0.00069	[U]	0.00069	ng/g	22-JAN-20	10-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	44.0		16-129	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	45.0		14-136	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	52.0		40-151	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Endrin, 13C12-	50.0		35-155	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	51.0		5-122	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	57.0		21-125	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	49.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Mirex, 13C10-	49.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Heptachlor Epoxide A	<0.024	[U]	0.024	ng/g	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	56.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	47.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	48.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	56.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	54.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
L2387288-9 19-N2-NG-CH-019 Sampled By: Client on 08-OCT-19 @ 15:00 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	62.4		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	54.3		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	6930	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0154		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3460		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.34		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	62.8		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.011		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.044		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	8.75		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-9 19-N2-NG-CH-019							
Sampled By: Client on 08-OCT-19 @ 15:00							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.7		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0416		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4640		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0132		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.246		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.055		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	5.46		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	113		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.279		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2090		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	86.4		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	4.08		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.72		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2570		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	12400		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	6.79		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	1.40		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	13.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0026		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0091		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.15		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	38.7		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
PCB congeners by SIM GC/LRMS							
Total PCB	0.225		0.017	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	39.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	58.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	36.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	80.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	34.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	86.4		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	33.1		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	83.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	58.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	68.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	62.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	68.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	69.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	88.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	64.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	71.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	67.3	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	94.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	82.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	69.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	72.9		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-9 19-N2-NG-CH-019							
Sampled By: Client on 08-OCT-19 @ 15:00							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 205	66.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	84.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	66.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	60.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.35	[U]	0.35	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.50	[U]	0.50	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.48	[U]	0.48	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.43	[U]	0.43	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.038	[U]	0.038	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.043	[U]	0.043	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.14	M,U	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.28	[U]	0.28	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.27	[U]	0.27	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.42	M,J	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.42	M,U	0.42	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.23	[U]	0.23	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.35	[U]	0.35	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.55	[U]	0.55	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.23	[U]	0.23	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	0.33	M,J,R	0.28	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.31	[U]	0.31	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.80	[U]	0.80	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.23	[U]	0.23	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	0.074	M,J	0.021	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	47.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	41.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	70.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	68.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	67.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	63.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	74.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	47.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	46.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	54.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.63	[U]	0.63	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<1.1	[U]	1.1	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	51.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	34.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	54.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	56.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.079	[U]	0.079	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.057	M,J	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.082	[U]	0.082	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.081	[U]	0.081	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	<0.081	[U]	0.081	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.06	[J]	0.046	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	3.12	[J]	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	0.169	M,J	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.065	M,J,R	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-9 19-N2-NG-CH-019							
Sampled By: Client on 08-OCT-19 @ 15:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,4,7,8-PeCDF	0.071	M,J,R	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.053	M,J,R	0.046	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.076	M,J,R	0.047	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.099	M,J	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.068	M,J,R	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.312	[J]	0.024	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.063	M,J,R	0.030	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.830	M,J,R	0.037	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.402		0.079	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.30		0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	4				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	2.30		0.082	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	2.74		0.046	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	1.04		0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.522		0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.199		0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.312		0.030	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	71.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	83.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	71.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	72.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	76.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	66.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	71.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	80.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	80.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	73.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	72.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	62.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	68.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	73.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	78.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	75.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0980			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.194			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.245			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-10 19-N2-SB-CH-021							
Sampled By: Client on 08-OCT-19 @ 15:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	53.4		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	53.8		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	49	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346

* 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
L2387288-10 19-N2-SB-CH-021							
Sampled By: Client on 08-OCT-19 @ 15:30							
Matrix: Plant Tissue							
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4730		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.19		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	36.0		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0810		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2400		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.084		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	15.6		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	81.8		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3130		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	26.8		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	7.30		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	3.30		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	8290		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	24500		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	6.20		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.632		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	1.84		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	45.3		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<0.49	[U]	0.49	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	31.0	G	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: There is low recovery of 13C6-Pentachlorophenol. Detection limit has been raised due to the low recovery.							
PCB congeners by SIM GC/LRMS							
Total PCB	<0.010		0.010	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	46.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	59.2		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	41.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	80.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	41.0		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	84.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	36.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	69.9		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-10 19-N2-SB-CH-021							
Sampled By: Client on 08-OCT-19 @ 15:30							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 104	50.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	72.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	56.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	67.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	66.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	88.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	61.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	65.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	68.6	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	62.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	69.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	63.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	65.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	61.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	62.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	61.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	57.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
beta-BHC	<0.019	[U]	0.019	ng/g	21-JAN-20	11-FEB-20	R5011480
delta-BHC	<0.018	[U]	0.018	ng/g	21-JAN-20	11-FEB-20	R5011480
gamma-BHC	<0.018	[U]	0.018	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor	0.0030	M,J,R	0.0011	ng/g	21-JAN-20	11-FEB-20	R5011480
Aldrin	<0.0018	[U]	0.0018	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide	0.0145	M,J	0.0047	ng/g	21-JAN-20	11-FEB-20	R5011480
trans-Chlordane	<0.015	[U]	0.015	ng/g	21-JAN-20	11-FEB-20	R5011480
cis-Chlordane	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
Dieldrin	0.033	M,J	0.011	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin	<0.015	[U]	0.015	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin Aldehyde	<0.013	[U]	0.013	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan I	<0.018	[U]	0.018	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan II	<0.025	[U]	0.025	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan Sulfate	<0.0064	[U]	0.0064	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDE	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDD	<0.0098	[U]	0.0098	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDT	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
Methoxychlor	<0.0027	[U]	0.0027	ng/g	21-JAN-20	11-FEB-20	R5011480
Mirex	0.00230	M,J,R	0.00074	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	66.0		16-129	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	63.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	92.0		14-136	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	88.0		40-151	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endrin, 13C12-	93.0		35-155	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	86.0		5-122	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	99.0		21-125	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	111.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Mirex, 13C10-	106.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	103.0		5-150	%	21-JAN-20	11-FEB-20	R5011480
Endrin ketone	<0.019	[U]	0.019	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide A	<0.036	[U]	0.036	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	72.0		11-120	%	21-JAN-20	11-FEB-20	R5011480

* 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
L2387288-10 19-N2-SB-CH-021							
Sampled By: Client on 08-OCT-19 @ 15:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: Methoxychlor, 13C12-	139.0	G	5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	82.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	86.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Note: Methoxychlor-ES recovery outside method limits. Target results are calculated against labelled isotopes using isotope dilution, therefore minimal impact on data quality is expected.							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.15	[U]	0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.061	[U]	0.061	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.049	[U]	0.049	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.070	M,J,R	0.051	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.066	M,J,R	0.049	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.334	M,J	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	2.42	[J]	0.044	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.083	[U]	0.083	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.040	[U]	0.040	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.040	[U]	0.040	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.042	[U]	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.041	[U]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.072	M,J,R	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.120	M,J,R	0.032	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.110	M,J,R	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.03	[J]	0.045	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.15	[U]	0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.061	[U]	0.061	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.051	[U]	0.051	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	0.522		0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.083	[U]	0.083	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	<0.055	[U]	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.036	[U]	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	58.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	76.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	63.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	63.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	77.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	86.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	57.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	67.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	72.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	59.0		26-152	%	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-10 19-N2-SB-CH-021 Sampled By: Client on 08-OCT-19 @ 15:30 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	60.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	60.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	56.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	70.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	80.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	60.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.00438			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.152			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.277			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-11 19-N4-SS-CH-023 Sampled By: Client on 08-OCT-19 @ 12:30 Matrix: Soil							
Miscellaneous Parameters							
% Moisture	19.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.97		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0572		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	18.9		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	15800		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.22		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.78		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	77.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.68		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	0.23		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	7.5		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.499		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	5020		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	22.7		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	8.31		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	15.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	18400		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	19.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	4920		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	409		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.83		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	20.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	590		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	1730		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.41		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	<50		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	15.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.194		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	84.3		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.69		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	33.3		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-11 19-N4-SS-CH-023							
Sampled By: Client on 08-OCT-19 @ 12:30							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Zinc (Zn)	59.8		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.9		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.188	M,J	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.190	M,J,R	0.064	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.183	M,J	0.071	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.336	M,J	0.063	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.371	M,J	0.066	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	4.67		0.075	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	25.9		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.403	M,J	0.081	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.269	M,J	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.533	[J]	0.053	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.353	M,J,B	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.289	M,J	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.381	[J]	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.103	M,J	0.098	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.90	M,J	0.034	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.130	M,J,R	0.040	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.49	[J]	0.082	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.55		0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	1.05		0.064	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	4				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	3.94		0.071	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	9.40		0.075	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	5.99		0.081	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	6.99		0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	4.01		0.098	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	2.86		0.040	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	77.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	77.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	70.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	79.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	70.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	40.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	78.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	74.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	70.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	75.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	73.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	69.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	64.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	73.0		26-138	%	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-11 19-N4-SS-CH-023 Sampled By: Client on 08-OCT-19 @ 12:30 Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.672			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.863			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.863			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-12 19-N4-NG-CH-025 Sampled By: Client on 08-OCT-19 @ 12:40 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	56.7		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	52.0		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	7650	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0168		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3190		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.67		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	17.9		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.012		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.033		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	7.49		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.5		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0522		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4170		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0100		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.158		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.039		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	7.01		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	75.8		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.257		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1960		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	86.0		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	3.39		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.71		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2890		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	11700		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	8.66		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	1.33		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	12.6		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0042		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	57.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
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
L2387288-12 19-N4-NG-CH-025							
Sampled By: Client on 08-OCT-19 @ 12:40							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.057	[U]	0.057	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.052	M,J,R	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	0.060	M,J,R	0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.070	M,J,R	0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.076	M,J,R	0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.823	[J]	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	3.11	[J]	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.053	M,U	0.053	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.053	M,J,R	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	0.038	M,J,R	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.046	M,J,R	0.040	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.053	M,J,R	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.055	M,U	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.066	[J]	0.048	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.356	[J]	0.023	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.044	M,J,R	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.04	[J]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.678		0.057	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.10		0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	2.13		0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	2.39		0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.794		0.053	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.361		0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.370		0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.435		0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	83.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	73.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	75.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	66.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	72.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	81.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	79.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	75.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	70.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	50.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	69.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	72.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	79.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	77.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0196			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.149			pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-12 19-N4-NG-CH-025 Sampled By: Client on 08-OCT-19 @ 12:40 Matrix: Plant Tissue Dioxins and Furans HR 1613B Upper Bound PCDD/F TEQ (WHO 2005)	0.183			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-13 19-N4-SB-CH-027 Sampled By: Client on 08-OCT-19 @ 13:00 Matrix: Plant Tissue Miscellaneous Parameters							
% Moisture	46.9		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	46.9		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	46	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4700		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.530		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	33.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0642		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	1990		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0084		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.081		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	14.8		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	74.7		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3180		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	25.0		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	18.7		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	2.03		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	8500		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	23000		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	13.4		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.114		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	1.62		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	42.6		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.086	[U]	0.086	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.056	[U]	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.034	[U]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-13 19-N4-SB-CH-027							
Sampled By: Client on 08-OCT-19 @ 13:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,6,7,8-HxCDD	<0.034	[U]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	<0.033	[U]	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.088	M,J,R	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	0.646	J,B	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.053	[U]	0.053	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.029	[U]	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.025	[U]	0.025	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.057	M,J	0.038	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.037	[U]	0.037	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.038	[U]	0.038	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	<0.049	[U]	0.049	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.046	M,J,R	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.030	M,U	0.030	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.444	J,B	0.032	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.086	[U]	0.086	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.056	[U]	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.034	[U]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	<0.033	[U]	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.053	[U]	0.053	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.029	[U]	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.057		0.049	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.030	[U]	0.030	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	66.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	69.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	75.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	93.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	103.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	65.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	74.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	68.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	88.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	100.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	75.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.00605			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.0966			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.186			pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-14 19-N5-SS-CH-029							
Sampled By: Client on 14-AUG-19 @ 13:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	19.1		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.70		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0761		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	19.2		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	14200		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.32		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.75		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	65.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.59		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	0.22		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	11.8		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.560		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	19800		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	22.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	7.55		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	14.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	17800		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	22.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	20.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	9700		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	287		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	1.71		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	18.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	394		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	1940		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.49		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	88		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	40.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.231		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	109		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	0.991		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	32.2		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	74.6		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	1.6		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.277	M,J	0.057	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.409	[J]	0.039	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	1.01	[J]	0.082	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	4.05		0.080	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	1.85	M,J	0.080	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	218		0.36	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	2130		0.30	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.422	[J]	0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.403	M,J	0.041	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.650	[J]	0.035	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-14 19-N5-SS-CH-029							
Sampled By: Client on 14-AUG-19 @ 13:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8-HxCDF	1.45	[J]	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	1.06	[J]	0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	2.74	[J]	0.093	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.27	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	36.1		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	1.67	[J]	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	108		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	2.72		0.057	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	5.76		0.039	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	8				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	26.2		0.082	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	388		0.36	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	6.69		0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	15				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	9.65		0.041	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	28.6		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	96.2		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	76.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	81.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	67.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	76.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	71.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	54.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	80.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	69.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	66.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	63.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	76.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	5.41			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	5.41			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	5.41			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-15 19-N5-SD-CH-031							
Sampled By: Client on 14-AUG-19 @ 13:30							
Matrix: Sediment							
Miscellaneous Parameters							
Chloride (Cl)	167		5.0	mg/kg	18-FEB-20	18-FEB-20	R4998419
Fluoride (F)	2.53		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.178		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	65.4		0.25	%		03-FEB-20	R4987031
Metals in Soil by CRC ICMS							

* 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
L2387288-15 19-N5-SD-CH-031 Sampled By: Client on 14-AUG-19 @ 13:30 Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Aluminum (Al)	34300		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.60		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	8.20		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	182		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	1.37		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	0.42		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	22.4		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	1.18		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	21800		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	47.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	11.7		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	33.5		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	34200		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	27.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	53.9		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	15500		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	365		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	5.98		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	42.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	1010		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	5050		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	3.77		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	0.20		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	293		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	50.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	1900		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.485		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	2.2		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	78.9		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	2.55		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	60.3		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	189		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	4.9		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
L2387288-16 19-N5-NG-CH-035 Sampled By: Client on 14-AUG-19 @ 15:15 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	57.3		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	52.6		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	6440	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0202		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3380		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.10		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	31.0		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.017		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.055		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	11.7		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-16 19-N5-NG-CH-035							
Sampled By: Client on 14-AUG-19 @ 15:15							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	0.011		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	9.0		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.164		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5970		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0066		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.299		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.036		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	3.16		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	76.9		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.719		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1940		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	13.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	2.73		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.26		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	1160		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	13900		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	2.10		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.066		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	46		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	24.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0041		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0041		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	15.7		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.14	[U]	0.14	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.102	M,J	0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.10	[U]	0.10	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.13	M,J,R	0.10	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.13	M,J,R	0.10	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.23	[J]	0.064	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	4.87	[J]	0.070	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.11	[U]	0.11	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.087	[U]	0.087	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.069	[U]	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.078	M,J,R	0.062	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.092	M,J,R	0.064	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.083	M,J	0.061	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.140	M,J,R	0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.448	[J]	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.099	M,J,R	0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.93	[J]	0.066	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.14	[U]	0.14	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	0.708		0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-16 19-N5-NG-CH-035							
Sampled By: Client on 14-AUG-19 @ 15:15							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HxCDD	0.17		0.10	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	1.23		0.064	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.45		0.11	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.264		0.087	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.170		0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.448		0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	67.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	79.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	69.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	67.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	73.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	71.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	67.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	77.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	64.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	64.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	69.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	78.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	74.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.129			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.279			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.371			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-17 19-E1-SS-CH-037							
Sampled By: Client on 09-OCT-19 @ 09:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	15.3		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	1.61		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0431		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	15.2		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	12100		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.18		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	4.39		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	55.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.53		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	7.5		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.339		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	3140		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	18.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-17 19-E1-SS-CH-037							
Sampled By: Client on 09-OCT-19 @ 09:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Cobalt (Co)	5.67		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	13.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	13400		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	10.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	13.2		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	3280		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	284		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.03		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	15.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	668		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	1610		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.49		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	<50		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	10.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.160		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	92.7		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.31		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	28.4		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	48.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.6		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.220	M,J	0.093	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.176	M,J	0.052	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.150	J,R	0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.270	J,R	0.088	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.300	M,J,R	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	5.08		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	33.7		0.17	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.31	M,J,R	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.304	M,J	0.079	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.421	[J]	0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.630	M,J	0.093	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.350	M,J,R	0.096	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.499	M,J	0.094	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	<0.14	M,U	0.14	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	3.69		0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.170	J,R	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	6.17		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.69		0.093	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	1.60		0.052	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	4				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	4.11		0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	10.4		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	3.06		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-17 19-E1-SS-CH-037							
Sampled By: Client on 09-OCT-19 @ 09:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total TCDF # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	5.06		0.079	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	3.98		0.14	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	4.18		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	67.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	68.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	60.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	62.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	37.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	65.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	66.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	67.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	59.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	67.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	65.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	58.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	56.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	65.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	66.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.744			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.891			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.898			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-18 19-E1-NG-CH-039							
Sampled By: Client on 09-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	75.7		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	76.7		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	3290	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0157		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3590		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.02		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	29.4		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.015		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.035		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	37.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	5.3		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0921		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5890		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0141		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.307		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.023		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-18 19-E1-NG-CH-039							
Sampled By: Client on 09-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Copper (Cu)-Total	6.78		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	77.5		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.519		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2120		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	20.3		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.33		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.35		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3810		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	20100		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	1.24		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.585		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	29		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	19.4		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	0.20		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0040		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	23.5		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.085	[U]	0.085	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.052	M,U	0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	0.074	M,J	0.054	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.102	M,J	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.127	M,J	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.05	[J]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	3.52	[J]	0.043	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.056	[U]	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.070	J,R	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	0.062	M,J	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.054	M,J	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.054	M,J	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.080	M,J	0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.068	M,J	0.035	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.356	[J]	0.021	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.035	M,J,R	0.023	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.19	[J]	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.317		0.085	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.46		0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	1.87		0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	2.85		0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	1.09		0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	7				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	1.02		0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	6				22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-18 19-E1-NG-CH-039							
Sampled By: Client on 09-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HxCDF	0.532		0.035	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.516		0.023	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	75.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	84.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	76.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	74.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	80.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	76.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	80.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	77.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	77.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	73.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	68.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	75.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	76.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	87.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	78.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0902			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.164			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.235			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-19 19-E1-SB-CH-042							
Sampled By: Client on 09-OCT-19 @ 09:20							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	57.8		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	58.0		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	35	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	3710		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.967		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	40.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0806		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2460		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0184		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.058		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	13.0		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	62.8		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-19 19-E1-SB-CH-042							
Sampled By: Client on 09-OCT-19 @ 09:20							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	2980		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	30.6		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	5.86		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	4.15		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	6360		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	18600		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	16.4		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.566		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	1.97		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	0.0023		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	0.12		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	39.9		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.16	[U]	0.16	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.067	[U]	0.067	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.059	[U]	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.058	[U]	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	<0.058	[U]	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.148	M,J	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	0.593	M,J,B	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.11	[U]	0.11	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.066	[U]	0.066	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.052	[U]	0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.041	[U]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.042	[U]	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.073	M,J	0.043	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	<0.055	[U]	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.094	M,J,R	0.046	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.160	M,J,R	0.057	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.16	[U]	0.16	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.067	[U]	0.067	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.059	[U]	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	0.148		0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.11	[U]	0.11	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.066	[U]	0.066	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.073		0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-19 19-E1-SB-CH-042							
Sampled By: Client on 09-OCT-19 @ 09:20							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	61.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	79.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	60.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	66.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	84.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	94.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	59.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	70.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	61.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	63.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	60.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	61.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	77.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	85.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.00898			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.154			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.297			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-20 19-E2-SS-CH-043							
Sampled By: Client on 10-OCT-19 @ 15:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	20.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.57		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0670		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	20.4		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	15700		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.31		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.20		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	79.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.58		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	<0.20		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	8.4		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.387		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	5790		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	21.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	8.66		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	17.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	19100		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	22.7		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	20.8		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	4910		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	400		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	1.70		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	19.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	748		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	2440		100	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-20 19-E2-SS-CH-043							
Sampled By: Client on 10-OCT-19 @ 15:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Selenium (Se)	0.47		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	54		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	19.3		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.196		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	76.0		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	1.11		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	32.2		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	66.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	1.9		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
CARB428 PCB TOTALS							
Total PCB	0.686		0.012	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	36.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	48.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	33.8		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	76.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	36.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	84.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	36.5		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	75.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	54.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	70.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	63.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	75.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	73.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	95.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	69.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	76.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	77.1	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	73.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	80.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	75.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	77.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	69.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	72.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	69.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	63.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.013	[U]	0.013	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00100	M,J,R	0.00062	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.0011	[U]	0.0011	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0136	M,J	0.0010	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	<0.0065	M,U	0.0065	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	0.0099	M,J	0.0062	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0159	M,J	0.0038	ng/g	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-20 19-E2-SS-CH-043							
Sampled By: Client on 10-OCT-19 @ 15:00							
Matrix: Soil							
OC Pesticides by Method 1699							
Endrin	<0.011	M,U	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0061	[U]	0.0061	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0026	[U]	0.0026	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.142		0.0055	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0058	M,J,R	0.0035	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.066	M,J,R	0.010	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0040	M,U	0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00035	[U]	0.00035	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	60.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	68.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	72.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	68.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	73.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	81.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	79.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	86.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0079	[U]	0.0079	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	83.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	66.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	80.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	78.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	75.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.235	M,J	0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.23	M,J	0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.19	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.34	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.45	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	6.42		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	32.4		0.18	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.32	M,J,R	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.253	M,J	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.415	[J]	0.054	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.393	M,J,B	0.084	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.333	M,J	0.078	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.433	[J]	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	<0.12	M,U	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.89	M,J	0.047	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.143	M,J	0.061	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.01	[J]	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.69		0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	2.47		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	5.68		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	12.7		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	4.80		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-20 19-E2-SS-CH-043							
Sampled By: Client on 10-OCT-19 @ 15:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total TCDF # Homologues	8				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	5.92		0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	12				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	3.28		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	2.85		0.061	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	63.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	78.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	68.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	41.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	78.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	73.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	71.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	68.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	70.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	80.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.906			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.944			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.950			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-21 19-E2-SD-CH-045							
Sampled By: Client on 10-OCT-19 @ 15:30							
Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	24.0		0.10	%	22-JAN-20	23-JAN-20	R4976673
Chloride (Cl)	148		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	6.48		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0228		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	24.2		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	17300		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.25		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.34		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	84.5		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.74		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	<0.20		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	20.8		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.176		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	95400		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	27.4		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	9.37		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	18.4		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	21400		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	8.26		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	29.8		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-21 19-E2-SD-CH-045							
Sampled By: Client on 10-OCT-19 @ 15:30							
Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Magnesium (Mg)	30400		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	379		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	2.81		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	28.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	398		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	3480		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.42		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	221		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	99.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.227		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	217		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	1.32		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	34.0		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	52.8		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.7		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
CARB428 PCB TOTALS							
Total PCB	<0.013		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	25.8		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	38.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	25.2		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	58.9		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	27.7		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	66.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	26.5		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	59.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	39.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	54.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	50.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	54.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	53.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	70.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	48.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	55.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	60.3	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	53.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	61.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	52.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	54.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	55.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	55.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	55.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	52.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.017	[U]	0.017	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-21 19-E2-SD-CH-045 Sampled By: Client on 10-OCT-19 @ 15:30 Matrix: Sediment							
OC Pesticides by Method 1699							
Heptachlor	0.00470	M,J,R	0.00071	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.0023	[U]	0.0023	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0045	M,J,R	0.0021	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	<0.010	[U]	0.010	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0100	M,J,R	0.0065	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.020	M,U	0.020	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.037	M,U	0.037	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0043	[U]	0.0043	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.0187	M,J	0.0089	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	<0.013	[U]	0.013	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	<0.017	[U]	0.017	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0095	[U]	0.0095	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00057	[U]	0.00057	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	50.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	48.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	57.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	50.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	50.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	57.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	45.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	47.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.016	[U]	0.016	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	53.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	52.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	45.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	57.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	54.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
L2387288-22 19-E2-NG-CH-049 Sampled By: Client on 10-OCT-19 @ 16:00 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	43.3		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	44.8		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	2250	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0133		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	1880		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.88		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	33.3		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.014		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.024		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	32.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	7.1		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0256		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-22 19-E2-NG-CH-049							
Sampled By: Client on 10-OCT-19 @ 16:00							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Calcium (Ca)-Total	6050		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.193		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.025		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	3.72		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	61.1		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.152		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1800		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	26.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.18		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2400		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	11400		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	1.35		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.180		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	20.9		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0032		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	14.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
PCB congeners by SIM GC/LRMS							
Total PCB	0.396		0.021	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	42.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	57.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	37.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	75.4		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	36.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	81.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	33.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	65.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	46.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	66.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	56.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	65.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	64.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	83.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	60.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	65.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	66.1	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	65.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	69.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	61.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	64.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	58.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	69.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	56.6		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-22 19-E2-NG-CH-049							
Sampled By: Client on 10-OCT-19 @ 16:00							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 209	94.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.56	[U]	0.56	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.76	[U]	0.76	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.77	[U]	0.77	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.66	[U]	0.66	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.053	[U]	0.053	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.063	[U]	0.063	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.30	M,U	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.45	[U]	0.45	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.43	M,U	0.43	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.88	M,J	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.19	[U]	0.19	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.26	[U]	0.26	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.80	[U]	0.80	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<1.2	[U]	1.2	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.33	[U]	0.33	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	0.74	M,J,R	0.42	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.49	[U]	0.49	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.72	[U]	0.72	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.29	[U]	0.29	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	<0.027	[U]	0.027	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	42.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	36.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	61.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	57.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	59.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	55.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	68.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	47.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	48.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	53.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.79	[U]	0.79	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<2.3	[U]	2.3	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	46.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	44.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	48.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	50.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.15	[U]	0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.12	M,U	0.12	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	0.140	M,J,R	0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.143	M,J	0.077	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.150	M,J,R	0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.967	M,J	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	2.94	[J]	0.077	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.15	[U]	0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.086	M,J,B	0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.042	[U]	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.068	[U]	0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.082	M,J,R	0.073	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-22 19-E2-NG-CH-049							
Sampled By: Client on 10-OCT-19 @ 16:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,4,6,7,8-HxCDF	<0.099	[U]	0.099	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.130	M,J,R	0.091	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.370	M,J,R	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.065	M,J,R	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.31	[J]	0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.39		0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.09		0.12	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	1.77		0.077	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	2.42		0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.25		0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.213		0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	<0.099	[U]	0.099	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	74.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	89.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	78.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	79.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	70.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	74.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	83.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	85.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	77.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	75.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	59.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	70.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	77.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	78.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	78.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0278			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.240			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.397			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-23 19-E2-FC-CH-051							
Sampled By: Client on 10-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	37.9		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	35.3		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	436	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	1030		100	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-23 19-E2-FC-CH-051							
Sampled By: Client on 10-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	3.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	43		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	1.24		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	18.5		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	1260		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	3.82		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	0.472		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	0.24		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	3830		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	4860		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	0.982		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	0.095		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	19.1		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<0.49	[U]	0.49	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	32.0	G	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: There is low recovery of 13C6-Pentachlorophenol. Detection limit has been raised due to the low recovery.							
PCB congeners by SIM GC/LRMS							
Total PCB	<0.010		0.010	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	40.4		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	53.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	34.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	65.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	33.2		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	71.0		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	29.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	58.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	43.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	60.4		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-23 19-E2-FC-CH-051							
Sampled By: Client on 10-OCT-19 @ 16:30							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 118	51.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	58.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	59.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	71.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	57.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	60.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	61.8	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	56.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	58.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	57.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	60.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	50.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	57.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	51.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	47.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
beta-BHC	<0.017	[U]	0.017	ng/g	21-JAN-20	11-FEB-20	R5011480
delta-BHC	<0.017	[U]	0.017	ng/g	21-JAN-20	11-FEB-20	R5011480
gamma-BHC	<0.017	[U]	0.017	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor	0.00130	M,J,R	0.00053	ng/g	21-JAN-20	11-FEB-20	R5011480
Aldrin	<0.0021	[U]	0.0021	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide	<0.0024	[U]	0.0024	ng/g	21-JAN-20	11-FEB-20	R5011480
trans-Chlordane	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
cis-Chlordane	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
Dieldrin	<0.0046	M,U	0.0046	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin	0.0071	M,J,R	0.0058	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin Aldehyde	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan I	<0.015	[U]	0.015	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan II	<0.029	[U]	0.029	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan Sulfate	<0.0035	[U]	0.0035	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDE	<0.0088	[U]	0.0088	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDD	<0.0041	[U]	0.0041	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDT	<0.013	[U]	0.013	ng/g	21-JAN-20	11-FEB-20	R5011480
Methoxychlor	<0.0039	[U]	0.0039	ng/g	21-JAN-20	11-FEB-20	R5011480
Mirex	0.00110	M,J,R	0.00029	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	72.0		16-129	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	71.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	93.0		14-136	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	97.0		40-151	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endrin, 13C12-	104.0		35-155	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	89.0		5-122	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	110.0		21-125	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	115.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Mirex, 13C10-	99.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	111.0		5-150	%	21-JAN-20	11-FEB-20	R5011480
Endrin ketone	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide A	<0.018	[U]	0.018	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	78.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	118.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	89.0		11-120	%	21-JAN-20	11-FEB-20	R5011480

* 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
L2387288-23 19-E2-FC-CH-051 Sampled By: Client on 10-OCT-19 @ 16:30 Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: delta-BHC, 13C6-	93.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.023	[U]	0.023	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.010	[U]	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.0098	[U]	0.0098	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.010	[U]	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.0110	M,J,R	0.0099	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.053	[J]	0.011	pg/g	22-JAN-20	28-JAN-20	R4982112
OCDD	0.239	M,J,B	0.011	pg/g	22-JAN-20	28-JAN-20	R4982112
2,3,7,8-TCDF	<0.017	M,U	0.017	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.0095	[U]	0.0095	pg/g	22-JAN-20	28-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.0073	[U]	0.0073	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.0082	[U]	0.0082	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.0079	M,U	0.0079	pg/g	22-JAN-20	28-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.0078	M,U	0.0078	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.028	M,J,R	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.0390	J,R	0.0074	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.0088	[U]	0.0088	pg/g	22-JAN-20	28-JAN-20	R4982112
OCDF	0.209	M,J,B	0.012	pg/g	22-JAN-20	28-JAN-20	R4982112
Total-TCDD	<0.023	[U]	0.023	pg/g	22-JAN-20	28-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-PeCDD	<0.010	[U]	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-HxCDD	<0.010	[U]	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-HpCDD	0.077		0.011	pg/g	22-JAN-20	28-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	28-JAN-20	R4982112
Total-TCDF	<0.017	[U]	0.017	pg/g	22-JAN-20	28-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-PeCDF	<0.0095	[U]	0.0095	pg/g	22-JAN-20	28-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-HxCDF	0.013		0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
Total HxCDF # Homologues	1				22-JAN-20	28-JAN-20	R4982112
Total-HpCDF	<0.0088	[U]	0.0088	pg/g	22-JAN-20	28-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	75.0		25-164	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	86.0		25-181	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	83.0		32-141	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	78.0		28-130	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	82.0		23-140	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-OCDD	89.0		17-157	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	74.0		24-169	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	79.0		21-192	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	83.0		21-178	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	79.0		26-152	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	77.0		26-123	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	78.0		29-147	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	73.0		28-136	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	80.0		28-143	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	86.0		26-138	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	80.0		31-197	%	22-JAN-20	28-JAN-20	R4982112

* 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
L2387288-23 19-E2-FC-CH-051 Sampled By: Client on 10-OCT-19 @ 16:30 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Lower Bound PCDD/F TEQ (WHO 2005)	0.000659			pg/g	22-JAN-20	28-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.0258			pg/g	22-JAN-20	28-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.0466			pg/g	22-JAN-20	28-JAN-20	R4982112
L2387288-24 19-E5-SS-CH-053 Sampled By: Client on 09-OCT-19 @ 10:00 Matrix: Soil							
Miscellaneous Parameters							
% Moisture	15.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.17		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0295		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	14.6		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	13700		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.19		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.09		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	58.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.50		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	7.0		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.317		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	6970		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	20.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	7.02		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	9.73		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	17000		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	12.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	17.6		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	5410		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	316		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.51		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	17.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	332		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	1500		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.28		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	53		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	14.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.172		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	128		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.03		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	32.6		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	48.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	1.2		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.246	M,J	0.074	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.150	M,J	0.056	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.18	M,J	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-24 19-E5-SS-CH-053							
Sampled By: Client on 09-OCT-19 @ 10:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,6,7,8-HxCDD	0.25	M,J,R	0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.34	M,J,R	0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	4.32		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	21.1		0.21	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.228	M,J	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.187	M,J	0.070	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.313	M,J	0.060	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.300	M,J,B	0.084	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.201	M,J	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.270	J,R	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.14	M,J	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.58	[J]	0.058	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.110	M,J,R	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.00	[J]	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.18		0.074	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	2.14		0.056	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	2.11		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	8.62		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	2.90		0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	4.70		0.070	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	1.46		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	2.17		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	73.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	69.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	69.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	78.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	66.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	40.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	71.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	72.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	68.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	68.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	77.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	72.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	65.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	68.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	77.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.666			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.753			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.753			pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-25 19-E5-NG-CH-055							
Sampled By: Client on 09-OCT-19 @ 10:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	69.2		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	58.4		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	3480	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0250		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	0.0069		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2810		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.72		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	59.8		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.024		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.079		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	21.7		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	0.034		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	10.1		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.275		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	8070		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0122		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.436		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.074		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	5.93		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	106		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	1.57		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	1.04		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2440		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	176		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	8.00		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.34		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	1540		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	9030		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	3.23		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.189		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	27		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	12.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0027		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0059		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.20		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	29.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.056	[U]	0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.071	M,J,B	0.038	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.061	M,J,R	0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.120	M,J,R	0.051	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.081	M,J,R	0.052	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.46	[J]	0.037	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	4.73	[J]	0.052	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	0.118	M,J	0.058	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.139	[J]	0.037	pg/g	23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-25 19-E5-NG-CH-055							
Sampled By: Client on 09-OCT-19 @ 10:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,4,7,8-PeCDF	0.110	J,R	0.027	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.102	M,J	0.039	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.089	M,J	0.042	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.128	[J]	0.037	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.094	M,J,R	0.052	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.513	[J]	0.028	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.043	M,J,R	0.032	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	0.807	[J]	0.039	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	1.08		0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	1.23		0.038	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	3				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	1.18		0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-HpCDD	3.53		0.037	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	2.53		0.058	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	11				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	1.69		0.037	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.930		0.052	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	0.678		0.032	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	68.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	67.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	68.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	69.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	67.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	69.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	72.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	69.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	62.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	76.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.140			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.237			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.265			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-26 19-E5-SB-CH-057							
Sampled By: Client on 09-OCT-19 @ 10:15							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	57.8		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	55.7		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	62	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346

* 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
L2387288-26 19-E5-SB-CH-057							
Sampled By: Client on 09-OCT-19 @ 10:15							
Matrix: Plant Tissue							
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4220		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.469		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	39.4		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0361		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2790		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0240		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.103		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	14.9		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	66.9		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3270		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	24.9		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	20.8		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.23		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7090		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	20500		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	16.7		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.277		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	2.12		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	0.0036		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	43.8		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.25	[U]	0.25	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.14	[U]	0.14	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.13	[U]	0.13	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.12	[U]	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.12	[U]	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.190	M,J,R	0.097	pg/g	23-JAN-20	30-JAN-20	R4985267
OCDD	0.28	M,J,R	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,7,8-TCDF	0.19	M,J	0.15	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.25	M,J	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.18	M,J,R	0.10	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.20	M,J	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	<0.16	[U]	0.16	pg/g	23-JAN-20	30-JAN-20	R4985267

* 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
L2387288-26 19-E5-SB-CH-057							
Sampled By: Client on 09-OCT-19 @ 10:15							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,4,6,7,8-HpCDF	0.471	M,J	0.081	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.097	[U]	0.097	pg/g	23-JAN-20	30-JAN-20	R4985267
OCDF	0.62	M,J	0.13	pg/g	23-JAN-20	30-JAN-20	R4985267
Total-TCDD	<0.25	[U]	0.25	pg/g	23-JAN-20	30-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Total-PeCDD	<0.14	[U]	0.14	pg/g	23-JAN-20	30-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Total-HxCDD	<0.13	[U]	0.13	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Total-HpCDD	0.156		0.097	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HpCDD # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-TCDF	0.40		0.15	pg/g	23-JAN-20	30-JAN-20	R4985267
Total TCDF # Homologues	2				23-JAN-20	30-JAN-20	R4985267
Total-PeCDF	0.94		0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
Total PeCDF # Homologues	3				23-JAN-20	30-JAN-20	R4985267
Total-HxCDF	0.20		0.16	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-HpCDF	0.471		0.097	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HpCDF # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	56.0		25-164	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	60.0		25-181	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	64.0		32-141	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	60.0		28-130	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	61.0		23-140	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-OCDD	54.0		17-157	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	64.0		24-169	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	65.0		21-192	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	61.0		21-178	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	70.0		26-152	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	64.0		29-147	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	57.0		28-136	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	67.0		26-138	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	73.0		31-197	%	23-JAN-20	30-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0517			pg/g	23-JAN-20	30-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.341	0		pg/g	23-JAN-20	30-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.574			pg/g	23-JAN-20	30-JAN-20	R4985267
L2387288-27 19-E6-SS-CH-059							
Sampled By: Client on 14-AUG-19 @ 12:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	16.3		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.58		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0548		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	15.5		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	16000		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.30		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.90		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-27 19-E6-SS-CH-059							
Sampled By: Client on 14-AUG-19 @ 12:30							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Barium (Ba)	73.7		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.65		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	11.7		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.449		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	20200		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	25.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	7.88		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	15.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	19500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	21.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	10200		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	378		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	2.33		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	23.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	438		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	2290		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.42		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	80		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	36.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.221		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	143		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.11		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	35.6		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	63.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.1		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
CARB428 PCB TOTALS							
Total PCB	2.01		0.012	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	53.7		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	67.2		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	50.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	91.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	49.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	95.7		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	45.5		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	84.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	66.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	84.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	74.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	84.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	75.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	99.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	75.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	82.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	87.4	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	78.6		10-145	%	22-JAN-20	28-JAN-20	R4996239

* 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
L2387288-27 19-E6-SS-CH-059							
Sampled By: Client on 14-AUG-19 @ 12:30							
Matrix: Soil							
CARB428 PCB TOTALS							
Surrogate: 13C12 PCB 169	80.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	76.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	77.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	68.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	76.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	67.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	60.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.0055	[U]	0.0055	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.0074	[U]	0.0074	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.0075	M,U	0.0075	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	0.0400	J,R	0.0071	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00240	M,J,R	0.00031	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.00076	[U]	0.00076	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0167	[J]	0.00074	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	0.0097	M,J	0.0074	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	0.0120	M,J,R	0.0071	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0230	M,J	0.0025	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.0064	M,U	0.0064	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.0049	[U]	0.0049	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0051	[U]	0.0051	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.0091	[U]	0.0091	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0011	[U]	0.0011	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.306		0.0030	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0300	[J]	0.0025	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.265		0.0075	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	0.0096	M,J,R	0.0029	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	0.00859	[J]	0.00031	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	82.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	81.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	91.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	89.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	93.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	98.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	99.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	96.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0057	[U]	0.0057	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	109.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	84.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	105.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	98.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	99.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.417	[J]	0.091	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.263	[J]	0.086	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.246	[J]	0.096	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.507	M,J	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.516	M,J	0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	8.46		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	57.8		0.26	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.295	M,J	0.087	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-27 19-E6-SS-CH-059							
Sampled By: Client on 14-AUG-19 @ 12:30							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,7,8-PeCDF	0.386	M,J	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.484	[J]	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.66	M,J	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.42	M,J,R	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.51	[J]	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.16	M,J	0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	3.22		0.081	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.213	[J]	0.094	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	5.15	[J]	0.090	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	3.63		0.091	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	3.73		0.086	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	7.89		0.096	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	17.3		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	6.17		0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	12				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	6.59		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	4.46		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	5.32		0.094	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	4				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	73.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	65.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	75.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	68.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	43.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	71.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	71.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	75.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	71.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	64.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	64.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	72.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	73.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.26			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.31			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.31			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-28 19-E6-NG-CH-061							
Sampled By: Client on 14-AUG-19 @ 12:45							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	50.6		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	51.7		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	8770	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904

* 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
L2387288-28 19-E6-NG-CH-061							
Sampled By: Client on 14-AUG-19 @ 12:45							
Matrix: Plant Tissue							
Mercury (Hg)-Total	0.0998		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	0.0261		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2270		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.35		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	40.8		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.055		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.202		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	6.33		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	0.086		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	15.9		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.981		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5730		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0216		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.457		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.099		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	3.82		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	84.9		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	6.94		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	2.88		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1720		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	64.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	9.90		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.64		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	625		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	12200		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	2.09		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.322		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	79		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	33.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0178		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	0.18		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0077		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.15		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	29.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
PCB congeners by SIM GC/LRMS							
Total PCB	0.426		0.018	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	39.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	57.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	35.4		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	77.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	33.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	80.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	32.1		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	68.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	48.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	65.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	56.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	64.9		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-28 19-E6-NG-CH-061							
Sampled By: Client on 14-AUG-19 @ 12:45							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 105	65.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	83.7	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	59.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	65.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	72.3	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	62.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	72.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	60.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	63.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	54.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	57.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	54.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	48.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.34	[U]	0.34	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.49	[U]	0.49	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.47	[U]	0.47	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.45	[U]	0.45	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.028	[U]	0.028	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.079	[U]	0.079	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.11	[U]	0.11	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.32	[U]	0.32	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.30	[U]	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	<0.31	M,U	0.31	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.43	[U]	0.43	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.19	[U]	0.19	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.46	[U]	0.46	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<1.1	[U]	1.1	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.25	[U]	0.25	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	0.35	M,J,R	0.32	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.34	[U]	0.34	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.37	[U]	0.37	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.26	[U]	0.26	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	<0.017	[U]	0.017	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	49.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	38.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	63.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	61.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	59.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	55.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	72.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	52.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	51.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	58.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.59	[U]	0.59	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.81	[U]	0.81	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	51.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	48.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	52.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	57.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
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
L2387288-28 19-E6-NG-CH-061							
Sampled By: Client on 14-AUG-19 @ 12:45							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.090	[U]	0.090	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.089	M,J,B	0.050	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.069	M,J,R	0.061	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.084	M,J,R	0.062	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.095	M,J	0.061	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.40	[J]	0.051	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	7.24	[J]	0.046	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	<0.078	M,U	0.078	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.074	M,J	0.040	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.031	[U]	0.031	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.058	[U]	0.058	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.058	[U]	0.058	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.078	M,U	0.078	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	<0.076	[U]	0.076	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.673	[J]	0.031	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.036	[U]	0.036	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	1.92	[J]	0.049	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	<0.090	[U]	0.090	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	0.323		0.050	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	2.18		0.062	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	3				23-JAN-20	28-JAN-20	R4985267
Total-HpCDD	3.62		0.051	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	0.092		0.078	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	0.074		0.040	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.097		0.078	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	1.34		0.036	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	90.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	77.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	82.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	75.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	77.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	82.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	87.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	80.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	76.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	76.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	80.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	88.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	84.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.124			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.206			pg/g	23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-28 19-E6-NG-CH-061 Sampled By: Client on 14-AUG-19 @ 12:45 Matrix: Plant Tissue Dioxins and Furans HR 1613B Upper Bound PCDD/F TEQ (WHO 2005)	0.274			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-29 19-E7-SS-CH-303 Sampled By: Client on 09-OCT-19 @ 13:00 Matrix: Soil Miscellaneous Parameters							
% Moisture	17.9		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	14.1		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.85		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0355		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	17.7		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	19400		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.23		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	6.35		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	89.7		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.77		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	10.7		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.332		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	5770		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	26.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	9.88		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	14.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	21800		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	24.9		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	6300		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	365		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.68		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	25.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	537		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	2500		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.34		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	60		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	18.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.231		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	142		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.45		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	40.1		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	55.5		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	1.9		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
CARB428 PCB TOTALS							
Total PCB	0.529		0.012	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	44.9		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	59.9		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	42.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	85.2		5-145	%	22-JAN-20	28-JAN-20	R4996239

* 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
L2387288-29 19-E7-SS-CH-303							
Sampled By: Client on 09-OCT-19 @ 13:00							
Matrix: Soil							
CARB428 PCB TOTALS							
Surrogate: 13C12 PCB 19	42.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	93.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	40.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	79.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	59.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	76.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	68.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	76.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	73.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	97.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	72.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	78.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	80.8	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	72.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	82.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	74.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	75.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	76.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	77.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	76.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	71.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.0081	[U]	0.0081	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.010	[U]	0.010	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00120	M,J,R	0.00046	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	0.223		0.00071	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0144	[J]	0.00093	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	<0.0052	[U]	0.0052	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	<0.0050	[U]	0.0050	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	2.13		0.0063	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.019	M,U	0.019	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0068	[U]	0.0068	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.010	M,U	0.010	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0020	[U]	0.0020	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.198		0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0058	M,J	0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.210		0.0075	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	0.0077	M,J,R	0.0031	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00045	[U]	0.00045	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	64.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	72.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	79.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	71.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	79.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	85.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	77.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	85.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0071	[U]	0.0071	ng/g	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-29 19-E7-SS-CH-303							
Sampled By: Client on 09-OCT-19 @ 13:00							
Matrix: Soil							
OC Pesticides by Method 1699							
Surrogate: 4,4'-DDD, 13C12-	86.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	67.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	81.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	75.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	75.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.211	M,J	0.075	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.213	[J]	0.061	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.227	[J]	0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.493	M,J	0.076	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.451	M,J	0.080	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	10.4		0.18	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	73.2		0.30	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.478	[J]	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.21	M,J,R	0.14	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.60	[J]	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.382	M,J,B	0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.309	M,J	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.588	[J]	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.130	M,J,R	0.098	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	3.22		0.094	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.18	M,J,R	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	6.12	M	0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.80		0.075	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	1.98		0.061	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	6.65		0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	19.8		0.18	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	5.86		0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	8				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	7.50		0.14	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	5.54		0.098	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	6.34		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	68.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	67.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	60.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	72.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	62.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	33.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	66.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	68.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	64.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	61.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	69.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	65.0		29-147	%	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-29 19-E7-SS-CH-303							
Sampled By: Client on 09-OCT-19 @ 13:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	59.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	58.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	63.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	73.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.06			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-30 19-E7-NG-CH-305							
Sampled By: Client on 09-OCT-19 @ 13:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	69.3		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	72.0		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	11500	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0157		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3800		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.32		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	50.4		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.012		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.036		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	10.8		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	9.1		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0661		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5260		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0092		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.391		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.038		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	6.13		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	79.9		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.247		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	3080		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	17.4		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	3.76		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.56		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3220		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	23000		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	7.07		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.110		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	24		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	13.8		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0022		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0097		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.14		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-30 19-E7-NG-CH-305							
Sampled By: Client on 09-OCT-19 @ 13:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Zinc (Zn)-Total	19.9		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
PCB congeners by SIM GC/LRMS							
Total PCB	<0.020		0.020	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	34.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	48.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	31.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	66.0		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	29.4		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	70.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	28.0		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	63.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	44.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	63.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	54.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	61.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	61.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	85.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	56.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	65.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	60.4	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	59.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	65.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	59.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	62.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	55.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	60.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	56.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	66.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.37	[U]	0.37	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.51	[U]	0.51	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.46	[U]	0.46	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.42	[U]	0.42	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.037	[U]	0.037	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.054	[U]	0.054	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.046	[U]	0.046	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.29	[U]	0.29	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.28	[U]	0.28	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.21	M,J	0.11	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.19	[U]	0.19	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.30	[U]	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.23	[U]	0.23	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.65	[U]	0.65	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.18	[U]	0.18	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	<0.24	M,U	0.24	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.17	[U]	0.17	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.48	[U]	0.48	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.20	[U]	0.20	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	0.027	M,J,R	0.016	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	40.0		16-129	%	21-JAN-20	12-FEB-20	R5011480

* 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
L2387288-30 19-E7-NG-CH-305							
Sampled By: Client on 09-OCT-19 @ 13:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: Heptachlor, 13C10-	32.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	60.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	61.0	M	40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	52.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	56.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	69.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	47.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	46.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Endrin Ketone	<0.55	[U]	0.55	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.35	[U]	0.35	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	54.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	44.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	44.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	46.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	50.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.068	[U]	0.068	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.063	M,J,B	0.040	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.049	M,J,R	0.044	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.116	M,J	0.044	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.102	M,J	0.044	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.964	[J]	0.033	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	3.78	[J]	0.045	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	0.151	M,J	0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.088	M,J	0.030	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.056	M,J	0.023	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.052	M,J,R	0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.062	M,J,R	0.036	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.065	M,J	0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.062	M,J,R	0.046	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.353	[J]	0.023	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.041	M,J,R	0.026	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	0.713	[J]	0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	1.02		0.068	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	1.32		0.040	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	1.58		0.044	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	4				23-JAN-20	28-JAN-20	R4985267
Total-HpCDD	2.51		0.033	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	1.36		0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	9				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	0.662		0.030	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	4				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.595		0.046	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	3				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	0.502		0.026	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	83.0		25-181	%	23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-30 19-E7-NG-CH-305 Sampled By: Client on 09-OCT-19 @ 13:30 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	73.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	79.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	77.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	80.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	74.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	75.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	71.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	75.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	85.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	77.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.140			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.197			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.231			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-31 19-E7-SB-CH-300 Sampled By: Client on 01-OCT-19 @ 12:30 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	16.0		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	14.6		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	66	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	3520		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.901		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	33.2		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0587		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2630		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0118		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.138		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	10.1		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	57.1		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3070		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	25.9		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	16.6		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.05		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	6640		10	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-31 19-E7-SB-CH-300							
Sampled By: Client on 01-OCT-19 @ 12:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Potassium (K)-Total	20100		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	11.1		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.259		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	3.93		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	30.7		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<2.5	[U]	2.5	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	5.0	G	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: There is low recovery of 13C6-Pentachlorophenol. Detection limit has been raised due to the low recovery.							
PCB congeners by SIM GC/LRMS							
Total PCB	0.277		0.010	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	40.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	52.0		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	36.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	74.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	37.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	83.0		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	34.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	68.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	48.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	70.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	61.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	67.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	68.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	95.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	67.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	73.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	73.7	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	61.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	74.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	68.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	76.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	64.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	64.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	67.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	60.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
beta-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
delta-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
gamma-BHC	<0.013	[U]	0.013	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor	0.00200	M,J,R	0.00090	ng/g	21-JAN-20	11-FEB-20	R5011480
Aldrin	<0.0013	[U]	0.0013	ng/g	21-JAN-20	11-FEB-20	R5011480

* 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
L2387288-31 19-E7-SB-CH-300							
Sampled By: Client on 01-OCT-19 @ 12:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Heptachlor Epoxide	0.0195	M,J	0.0021	ng/g	21-JAN-20	11-FEB-20	R5011480
trans-Chlordane	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
cis-Chlordane	<0.011	[U]	0.011	ng/g	21-JAN-20	11-FEB-20	R5011480
Dieldrin	0.0853	M,J	0.0076	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin	<0.0095	[U]	0.0095	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin Aldehyde	<0.0037	[U]	0.0037	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan I	<0.0077	[U]	0.0077	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan II	<0.015	[U]	0.015	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan Sulfate	<0.0049	[U]	0.0049	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDE	<0.0083	[U]	0.0083	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDD	<0.0068	[U]	0.0068	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDT	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
Methoxychlor	<0.0059	[U]	0.0059	ng/g	21-JAN-20	11-FEB-20	R5011480
Mirex	0.00140	M,J,R	0.00064	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	55.0		16-129	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	53.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	67.0		14-136	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	70.0		40-151	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endrin, 13C12-	74.0		35-155	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	65.0		5-122	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	82.0		21-125	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	74.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Mirex, 13C10-	53.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	74.0		5-150	%	21-JAN-20	11-FEB-20	R5011480
Endrin ketone	<0.013	[U]	0.013	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide A	<0.016	[U]	0.016	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	61.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	61.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	69.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	71.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.020	[U]	0.020	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.0080	[U]	0.0080	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.0077	[U]	0.0077	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.0146	M,J	0.0078	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.023	M,J,B	0.011	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	0.091	[J]	0.015	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.0140	M,J	0.0092	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0068	[U]	0.0068	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.0076	M,U	0.0076	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.0079	[U]	0.0079	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.0084	[U]	0.0084	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.018	M,J	0.011	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.0140	M,J,R	0.0083	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	0.099	[J]	0.012	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	<0.020	[U]	0.020	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-31 19-E7-SB-CH-300							
Sampled By: Client on 01-OCT-19 @ 12:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total PeCDD # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	0.0146		0.0080	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HpCDD	0.040		0.011	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	0.0140		0.0092	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.018		0.011	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	63.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	70.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	69.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	62.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	63.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	67.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	71.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	69.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	70.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	63.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	69.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	69.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	64.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00392			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0246			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0452			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-32 19-S1-SS-CH-063							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	18.0		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	5.3		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.43		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0411		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	17.9		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	22300		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.27		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	7.70		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	115		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.95		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	16.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.464		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	15500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-32 19-S1-SS-CH-063							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Chromium (Cr)	32.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	13.0		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	16.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	24900		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	30.7		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	11000		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	766		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.34		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	33.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	619		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	3280		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.33		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	88		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	24.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.255		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	193		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.29		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	48.0		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	63.7		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.8		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.525	M,J	0.062	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.254	M,J	0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.185	M,J	0.084	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.290	M,J,R	0.080	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.345	M,J	0.081	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	6.62		0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	36.7		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.366	[J]	0.098	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.230	M,J	0.063	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.421	M,J	0.052	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.336	M,J,B	0.042	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.207	M,J	0.041	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.386	[J]	0.043	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.089	M,J	0.061	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.64	[J]	0.067	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.153	M,J	0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	2.13	[J]	0.072	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	2.90		0.062	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	8				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	1.94		0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	5.58		0.084	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	11.6		0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-32 19-S1-SS-CH-063							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total-TCDF	5.14		0.098	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	10				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	5.13		0.063	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	8				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	2.89		0.061	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	2.83		0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	76.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	67.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	71.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	45.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	70.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	76.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	64.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	63.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	69.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	82.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.20			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.23			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.23			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-33 19-S1-SD-CH-065							
Sampled By: Client on 10-OCT-19 @ 11:15							
Matrix: Sediment							
Miscellaneous Parameters							
Chloride (Cl)	16.9		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.97		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0411		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	29.4		0.25	%		03-FEB-20	R4987031
Metals in Soil by CRC ICPMS							
Aluminum (Al)	15100		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.34		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	4.03		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	70.4		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.68		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	<0.20		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	20.3		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.373		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	77000		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	28.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	8.45		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	17.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	19200		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	12.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	26.7		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-33 19-S1-SD-CH-065 Sampled By: Client on 10-OCT-19 @ 11:15 Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Magnesium (Mg)	25800		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	247		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	2.76		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	26.2		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	569		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	3050		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.43		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	152		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	64.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.251		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	180		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	1.19		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	33.8		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	56.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.7		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
L2387288-34 19-S1-NG-CH-069 Sampled By: Client on 10-OCT-19 @ 11:30 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	52.2		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	52.5		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	5500	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0164		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	1950		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.98		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	158		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.014		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.062		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	11.0		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	9.2		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.127		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5100		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0186		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.431		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.082		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	4.42		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	186		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.393		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2170		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	20.4		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	3.17		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-34 19-S1-NG-CH-069							
Sampled By: Client on 10-OCT-19 @ 11:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Nickel (Ni)-Total	0.68		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2700		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	12100		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	2.24		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	1.06		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	29		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	8.24		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0031		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	0.11		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0123		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.38		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	20.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.070	[U]	0.070	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.132	M,J,B	0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.088	M,J,R	0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.188	[J]	0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.166	M,J	0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.66	[J]	0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	4.15	[J]	0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	0.140	M,J	0.059	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.112	M,J	0.038	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.056	M,J	0.028	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.087	M,J	0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.061	M,J,R	0.055	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.065	M,J,R	0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.069	J,R	0.068	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.334	[J]	0.026	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.050	M,J,R	0.031	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	0.704	[J]	0.046	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	0.449		0.070	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	3				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	0.833		0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	4.22		0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-HpCDD	4.60		0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	1.10		0.059	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	6				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	0.923		0.038	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	6				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.564		0.068	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	4				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	0.368		0.031	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	94.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	110.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	100.0		32-141	%	23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-34 19-S1-NG-CH-069							
Sampled By: Client on 10-OCT-19 @ 11:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	90.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	100.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	83.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	93.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	101.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	105.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	97.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	94.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	94.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	93.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	91.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	100.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	101.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.232			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.295			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.330			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-35 19-S1-SB-CH-071							
Sampled By: Client on 10-OCT-19 @ 11:45							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	19.8		0.50	%		10-FEB-20	R4993331
Chloride (Cl)	66	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	13-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	3900		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.728		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	34.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0537		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2640		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0116		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.171		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	12.3		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	68.3		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	2850		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	25.9		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	9.63		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.80		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7330		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	21000		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	11.1		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-35 19-S1-SB-CH-071							
Sampled By: Client on 10-OCT-19 @ 11:45							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Selenium (Se)-Total	0.143		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	2.35		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	34.9		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.0090	[U]	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.0096	M,U	0.0096	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.0087	M,U	0.0087	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.0120	M,J,R	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.0427	M,J,B	0.0083	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	0.194	[J]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	<0.013	[U]	0.013	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.015	M,J,R	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0078	M,U	0.0078	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.0100	M,J,R	0.0073	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.0081	M,J,R	0.0074	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.0107	M,J	0.0070	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.0160	M,J,R	0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.0240	M,J	0.0086	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.0110	M,J,R	0.0094	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.0948	[J]	0.0087	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	<0.0090	[U]	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	<0.0096	[U]	0.0096	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	0.0427		0.0083	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	<0.013	[U]	0.013	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	0.0107		0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	0.0240		0.0094	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	67.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	79.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	68.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	70.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	70.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	66.0		24-169	%	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-35 19-S1-SB-CH-071							
Sampled By: Client on 10-OCT-19 @ 11:45							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	74.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	64.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	63.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	63.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	68.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	73.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00182			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0232			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0395			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-36 19-S2-SS-CH-073							
Sampled By: Client on 10-OCT-19 @ 10:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	18.0		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.05		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0443		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	17.9		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	22900		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.24		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	7.18		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	110		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.94		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	0.22		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	12.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.417		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	7730		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	32.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	13.3		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	15.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	26600		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	15.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	31.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	7360		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	585		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	2.16		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	28.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	497		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	3000		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.38		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	68		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	22.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.259		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	155		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-36 19-S2-SS-CH-073							
Sampled By: Client on 10-OCT-19 @ 10:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.55		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	45.6		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	66.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.6		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.39	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.192	[J]	0.055	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.21	M,J	0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.39	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.40	M,J,R	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	5.15		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	21.7		0.32	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.37	M,J	0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.23	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.504	[J]	0.085	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.44	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.285	M,J	0.099	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.42	M,J	0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	<0.15	[U]	0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.94	[J]	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.22	M,J,R	0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	1.69	M,J	0.16	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	1.52		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	4				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	1.85		0.055	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	5.27		0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	9.95		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	5.89		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	10				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	6.50		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	3.49		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	2.70		0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	77.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	75.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	70.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	83.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	73.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	41.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	73.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	72.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	75.0		29-147	%	21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-36 19-S2-SS-CH-073 Sampled By: Client on 10-OCT-19 @ 10:00 Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	65.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	70.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	81.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.03			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-37 19-S2-NG-CH-075 Sampled By: Client on 10-OCT-19 @ 10:30 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	60.7		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	56.8		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	5470	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0170		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	0.0053		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2270		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	3.40		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	154		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.019		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.076		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	40.3		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	0.012		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.5		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.150		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4570		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0259		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.494		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.064		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	7.17		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	189		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.739		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1770		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	17.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	1.83		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.35		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3380		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	16600		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	4.46		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.259		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	16.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0036		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	0.19		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0117		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.37		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-37 19-S2-NG-CH-075							
Sampled By: Client on 10-OCT-19 @ 10:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Zinc (Zn)-Total	17.2		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.054	[U]	0.054	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.055	M,J,R	0.027	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.072	J,B	0.034	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.115	[J]	0.034	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.092	M,J,R	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.14	[J]	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	4.13	[J]	0.032	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	0.091	M,J	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.061	M,J,R	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.052	M,J,R	0.026	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.054	M,J	0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.070	M,J	0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.073	M,J	0.035	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	<0.043	M,U	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.267	[J]	0.024	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.023	[U]	0.023	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.788	[J]	0.022	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	0.196		0.054	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	1.05		0.027	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	5				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	2.42		0.034	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	4				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	2.97		0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	0.832		0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	7				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	0.523		0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	4				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	0.615		0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	6				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	0.420		0.024	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	80.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	71.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	74.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	72.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	69.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	69.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	70.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	78.0		26-138	%	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-37 19-S2-NG-CH-075 Sampled By: Client on 10-OCT-19 @ 10:30 Matrix: Plant Tissue Dioxins and Furans HR 1613B							
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0631			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.174			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.203			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-38 19-S2-SB-CH-077 Sampled By: Client on 10-OCT-19 @ 11:00 Matrix: Plant Tissue Miscellaneous Parameters							
% Moisture	36.8		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	32.1		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	61	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4380		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.16		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	35.5		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0369		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	3110		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0105		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.161		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	12.5		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	82.8		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3320		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	31.6		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	7.98		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.53		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	8420		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	25200		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	13.1		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.368		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	3.39		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	38.2		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
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
L2387288-38 19-S2-SB-CH-077							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.025	[U]	0.025	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.040	M,J,R	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	0.193	[J]	0.021	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	<0.015	[U]	0.015	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.013	M,J,R	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0090	[U]	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.018	M,J	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.018	M,J,R	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.024	M,J,R	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.024	M,J,R	0.016	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.123	[J]	0.019	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	<0.025	[U]	0.025	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	<0.015	[U]	0.015	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	0.018		0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.016	[U]	0.016	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	65.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	72.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	70.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	66.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	66.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	67.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	70.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	70.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	70.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	69.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	78.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00191			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0287			pg/g	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-38 19-S2-SB-CH-077 Sampled By: Client on 10-OCT-19 @ 11:00 Matrix: Plant Tissue Dioxins and Furans HR 1613B Upper Bound PCDD/F TEQ (WHO 2005)	0.0525			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-39 19-S4-SS-CH-087 Sampled By: Client on 09-OCT-19 @ 14:00 Matrix: Soil Miscellaneous Parameters							
% Moisture	21.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	8.8		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.87		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0450		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	20.9		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	29600		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.20		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.19		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	122		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	1.17		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	0.21		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	20.1		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.280		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	10900		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	38.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	11.4		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	17.7		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	29600		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	15.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	41.7		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	9480		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	368		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	0.80		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	29.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	771		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	4430		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.33		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	81		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	33.7		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.247		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	122		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	1.27		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	49.7		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	77.8		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.1		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.244	M,J	0.060	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.316	M,J	0.065	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.328	M,J	0.061	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.682	M,J	0.056	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.679	M,J	0.058	pg/g	21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-39 19-S4-SS-CH-087							
Sampled By: Client on 09-OCT-19 @ 14:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,6,7,8-HpCDD	13.7		0.17	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	73.7		0.25	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.520	M,J,R	0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.389	[J]	0.092	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.579	M,J	0.074	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.457	M,J	0.057	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.370	M,J	0.057	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.652	[J]	0.055	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.134	[J]	0.078	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	3.64		0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.29	[J]	0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	7.53		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	2.41		0.060	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	7				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	3.58		0.065	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	6				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	5.05		0.061	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	22.7		0.17	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	7.99		0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	11				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	7.93		0.092	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	9				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	3.95		0.078	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	7.49		0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	82.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	80.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	69.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	87.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	73.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	42.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	77.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	79.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	76.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	72.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	79.0		29-147	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	69.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	68.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	74.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	88.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.28			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.33			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.33			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-40 19-S4-SD-CH-089							
Sampled By: Client on 09-OCT-19 @ 14:45							
Matrix: Soil							
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
L2387288-40 19-S4-SD-CH-089							
Sampled By: Client on 09-OCT-19 @ 14:45							
Matrix: Soil							
Chloride (Cl)	27.1		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.32		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0366		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	41.0		0.25	%		03-FEB-20	R4987031
Metals in Soil by CRC ICPMS							
Aluminum (Al)	24000		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.23		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	4.45		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	115		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.95		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	<0.20		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	25.7		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.269		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	73100		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	35.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	11.2		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	20.5		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	27100		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	12.2		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	38.6		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	24200		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	374		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	1.25		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	32.2		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	803		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	4500		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.56		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	173		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	96.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.250		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	217		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	1.52		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	44.3		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	69.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.1		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
L2387288-41 19-S4-NG-CH-093							
Sampled By: Client on 09-OCT-19 @ 14:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	70.0		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	68.5		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	12500	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0102		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2650		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	2.12		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							

* 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
L2387288-41 19-S4-NG-CH-093							
Sampled By: Client on 09-OCT-19 @ 14:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	101		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.032		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	5.88		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	4.9		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0674		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5350		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0105		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.290		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.059		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	5.03		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	120		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.108		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2720		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	28.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.17		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.81		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	4150		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	25100		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	4.83		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.245		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	9.51		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0049		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.21		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	18.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.19	[U]	0.19	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.18	[U]	0.18	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.02	[J]	0.092	pg/g	23-JAN-20	30-JAN-20	R4985267
OCDD	3.37	[J]	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,7,8-TCDF	<0.14	[U]	0.14	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.104	M,J	0.082	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.095	M,J,R	0.068	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.091	[U]	0.091	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.094	[U]	0.094	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.10	[U]	0.10	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	<0.12	[U]	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.230	M,J,R	0.074	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.093	[U]	0.093	pg/g	23-JAN-20	30-JAN-20	R4985267
OCDF	0.808	M,J	0.096	pg/g	23-JAN-20	30-JAN-20	R4985267

* 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
L2387288-41 19-S4-NG-CH-093 Sampled By: Client on 09-OCT-19 @ 14:30 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-TCDD	<0.19	[U]	0.19	pg/g	23-JAN-20	30-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Total-PeCDD	0.56		0.18	pg/g	23-JAN-20	30-JAN-20	R4985267
Total PeCDD # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-HxCDD	1.53		0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HxCDD # Homologues	2				23-JAN-20	30-JAN-20	R4985267
Total-HpCDD	2.54		0.092	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	30-JAN-20	R4985267
Total-TCDF	0.52		0.14	pg/g	23-JAN-20	30-JAN-20	R4985267
Total TCDF # Homologues	2				23-JAN-20	30-JAN-20	R4985267
Total-PeCDF	0.104		0.082	pg/g	23-JAN-20	30-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-HxCDF	0.33		0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-HpCDF	<0.093	[U]	0.093	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	69.0		25-164	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	73.0		32-141	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	69.0		28-130	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	72.0		23-140	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-OCDD	59.0		17-157	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	78.0		24-169	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	82.0		21-192	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	81.0		21-178	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	82.0		26-152	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	73.0		28-136	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	76.0		28-143	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	77.0		26-138	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	23-JAN-20	30-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0146			pg/g	23-JAN-20	30-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.275	0		pg/g	23-JAN-20	30-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.504			pg/g	23-JAN-20	30-JAN-20	R4985267
L2387288-42 19-S4-SB-CH-095 Sampled By: Client on 01-OCT-19 @ 13:30 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	20.1		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	16.1		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	104	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	3790		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-42 19-S4-SB-CH-095							
Sampled By: Client on 01-OCT-19 @ 13:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Barium (Ba)-Total	0.761		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	33.5		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0223		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2940		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0104		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.111		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	10.8		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	55.3		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	2660		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	24.6		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	5.30		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.66		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7550		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	21200		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	13.2		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.077		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	3.41		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	35.3		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.061	[U]	0.061	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.028	[U]	0.028	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.023	[U]	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.023	[U]	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.023	[U]	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.038	M,J,R	0.018	pg/g	23-JAN-20	31-JAN-20	R4985267
OCDD	0.090	M,J,R	0.029	pg/g	23-JAN-20	31-JAN-20	R4985267
2,3,7,8-TCDF	<0.036	[U]	0.036	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,7,8-PeCDF	<0.021	[U]	0.021	pg/g	23-JAN-20	31-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.017	[U]	0.017	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.018	[U]	0.018	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.019	[U]	0.019	pg/g	23-JAN-20	31-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.018	[U]	0.018	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.032	M,J	0.024	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.036	M,J	0.025	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.031	[U]	0.031	pg/g	23-JAN-20	31-JAN-20	R4985267
OCDF	0.055	M,J,R	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
Total-TCDD	<0.061	[U]	0.061	pg/g	23-JAN-20	31-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-PeCDD	<0.028	[U]	0.028	pg/g	23-JAN-20	31-JAN-20	R4985267

* 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
L2387288-42 19-S4-SB-CH-095							
Sampled By: Client on 01-OCT-19 @ 13:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total PeCDD # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-HxCDD	<0.023	[U]	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-HpCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	31-JAN-20	R4985267
Total HpCDD # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-TCDF	<0.036	[U]	0.036	pg/g	23-JAN-20	31-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-PeCDF	<0.021	[U]	0.021	pg/g	23-JAN-20	31-JAN-20	R4985267
Total PeCDF # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-HxCDF	0.032		0.024	pg/g	23-JAN-20	31-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	31-JAN-20	R4985267
Total-HpCDF	0.036		0.031	pg/g	23-JAN-20	31-JAN-20	R4985267
Total HpCDF # Homologues	1				23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	91.0		25-181	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	87.0		32-141	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	81.0		28-130	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	79.0		23-140	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-OCDD	75.0		17-157	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	88.0		24-169	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	95.0		21-192	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	94.0		21-178	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	96.0		26-152	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	88.0		26-123	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	92.0		29-147	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	83.0		28-136	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	86.0		28-143	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	85.0		26-138	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	86.0		31-197	%	23-JAN-20	31-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00351			pg/g	23-JAN-20	31-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0595	0		pg/g	23-JAN-20	31-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.115			pg/g	23-JAN-20	31-JAN-20	R4985267
L2387288-43 19-D1-SS-CH-200							
Sampled By: Client on 08-OCT-19 @ 14:10							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	22.9		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.41		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0620		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	22.7		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	27500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.32		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.17		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	117		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	1.21		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	0.24		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	18.4		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.463		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	5610		50	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-43 19-D1-SS-CH-200							
Sampled By: Client on 08-OCT-19 @ 14:10							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Chromium (Cr)	42.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	11.5		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	31.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	26100		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	16.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	35.6		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	7790		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	365		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.38		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	37.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	953		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	4350		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.56		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	68		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	23.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.242		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	166		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.96		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	49.8		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	82.9		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	5.8		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
CARB428 PCB TOTALS							
Total PCB	0.749		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	54.3		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	67.8		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	46.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	91.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	44.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	100.2		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	41.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	88.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	61.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	85.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	75.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	84.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	82.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	108.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	76.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	84.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	89.7	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	83.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	89.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	80.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	81.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	73.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	78.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	73.4		10-145	%	22-JAN-20	28-JAN-20	R4996239

* 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
L2387288-43 19-D1-SS-CH-200 Sampled By: Client on 08-OCT-19 @ 14:10 Matrix: Soil							
CARB428 PCB TOTALS							
Surrogate: 13C12 PCB 209	71.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.0095	[U]	0.0095	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00220	M,J,R	0.00050	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.00092	[U]	0.00092	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0090	M,J	0.0010	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	0.0171	M,J	0.0063	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	0.0109	M,J	0.0060	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0308	M,J	0.0020	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	0.0068	M,J	0.0057	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	0.0949	M,J	0.0067	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.0094	[U]	0.0094	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0024	[U]	0.0024	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.109	[J]	0.0035	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0073	M,J,R	0.0044	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.118	[J]	0.0072	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0038	[U]	0.0038	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	0.0130	[J]	0.00044	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	69.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	74.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	86.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	82.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	81.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	94.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	92.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	82.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0079	[U]	0.0079	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	100.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	74.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	88.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	74.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	74.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.244	M,J	0.067	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.189	M,J	0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.20	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.346	M,J	0.096	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.358	M,J	0.097	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	4.72		0.090	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	21.6		0.20	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.29	M,J	0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.243	M,J	0.095	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.465	[J]	0.077	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.328	M,J,B	0.069	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.202	M,J	0.066	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.369	[J]	0.074	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.11	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-43 19-D1-SS-CH-200							
Sampled By: Client on 08-OCT-19 @ 14:10							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,6,7,8-HpCDF	1.69	M,J	0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.136	M,J	0.058	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	1.80	M,J,R	0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	1.25		0.067	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	4				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	1.20		0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	3				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	4.45		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	9.38		0.090	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	6.84		0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	13				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	5.24		0.095	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	9				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	2.80		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	1.83		0.058	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	73.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	62.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	75.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	61.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	34.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	69.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	71.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	69.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	69.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	66.0		29-147	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	61.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	55.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	65.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	77.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.872			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.872			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.872			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-44 19-D2-SS-CH-201							
Sampled By: Client on 10-OCT-19 @ 15:15							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	19.5		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.30		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0716		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	20.5		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	15400		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.33		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.17		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-44 19-D2-SS-CH-201							
Sampled By: Client on 10-OCT-19 @ 15:15							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Barium (Ba)	76.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.60		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	8.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.371		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	6280		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	22.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	7.94		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	16.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	18500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	23.7		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	20.9		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	4950		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	347		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.63		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	19.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	778		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	2320		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.37		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	50		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	19.9		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.198		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	100		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.12		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	31.6		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	65.8		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.4		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
CARB428 PCB TOTALS							
Total PCB	1.63		0.012	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	35.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	50.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	33.9		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	74.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	35.3		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	83.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	34.3		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	73.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	51.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	70.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	64.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	71.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	72.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	94.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	67.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	72.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	79.4	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	70.7		10-145	%	22-JAN-20	28-JAN-20	R4996239

* 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
L2387288-44 19-D2-SS-CH-201							
Sampled By: Client on 10-OCT-19 @ 15:15							
Matrix: Soil							
CARB428 PCB TOTALS							
Surrogate: 13C12 PCB 169	77.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	70.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	71.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	65.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	69.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	65.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	64.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.0062	[U]	0.0062	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.0084	[U]	0.0084	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.0083	[U]	0.0083	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.0083	[U]	0.0083	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00140	M,J,R	0.00034	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.00095	[U]	0.00095	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0166	[J]	0.00086	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	0.0056	M,J	0.0042	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	0.0077	M,J,R	0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0160	M,J,R	0.0019	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.0052	M,U	0.0052	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0047	[U]	0.0047	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.0089	[U]	0.0089	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0019	[U]	0.0019	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.153		0.0038	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0035	M,J	0.0028	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.0779	M,J	0.0048	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0031	[U]	0.0031	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00067	[U]	0.00067	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	79.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	80.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	88.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	82.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	87.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	94.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	88.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	88.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0066	[U]	0.0066	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	96.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	79.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	89.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	93.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	93.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.179	M,J	0.063	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.224	M,J	0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.221	M,J	0.076	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.382	M,J	0.070	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.409	M,J	0.072	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	6.32		0.095	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	33.2		0.19	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.375	M,J	0.079	pg/g	21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-44 19-D2-SS-CH-201 Sampled By: Client on 10-OCT-19 @ 15:15 Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,7,8-PeCDF	0.190	M,J,R	0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.426	M,J	0.045	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.366	M,J,B	0.072	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.307	M,J	0.070	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.407	[J]	0.074	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.13	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.86	[J]	0.032	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.211	[J]	0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	2.15	[J]	0.087	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	1.42		0.063	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	4				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	3.04		0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	6				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	3.47		0.076	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	12.5		0.095	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	4.86		0.079	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	9				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	6.00		0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	3.27		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	3.11		0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	4				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	81.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	72.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	88.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	75.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	46.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	77.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	80.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	75.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	82.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	78.0		29-147	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	73.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	70.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	77.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	83.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.885			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.890			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.890			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-45 19-D3-NG-CH-203 Sampled By: Client on 08-OCT-19 @ 15:10 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	57.9		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	55.0		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	5360	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904

* 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
L2387288-45 19-D3-NG-CH-203							
Sampled By: Client on 08-OCT-19 @ 15:10							
Matrix: Plant Tissue							
Mercury (Hg)-Total	0.0118		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	4240		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.74		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	40.9		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.033		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	8.54		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.5		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0564		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4780		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0107		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.595		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.044		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	5.20		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	91.2		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.205		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2510		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	83.6		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	4.19		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.70		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3090		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	19400		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	7.84		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	1.66		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	13.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0047		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	32.7		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
PCB congeners by SIM GC/LRMS							
Total PCB	<0.020		0.020	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	35.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	50.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	32.2		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	69.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	32.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	75.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	29.4		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	63.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	48.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	63.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	58.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	62.7		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-45 19-D3-NG-CH-203							
Sampled By: Client on 08-OCT-19 @ 15:10							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 105	62.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	77.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	62.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	62.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	51.0	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	79.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	61.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	62.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	62.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	55.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	72.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	55.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	52.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.26	[U]	0.26	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.33	[U]	0.33	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.36	[U]	0.36	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.33	[U]	0.33	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.020	[U]	0.020	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.054	[U]	0.054	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.083	[U]	0.083	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.29	[U]	0.29	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.27	[U]	0.27	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.21	M,J	0.11	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.14	[U]	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.040	[U]	0.040	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.34	[U]	0.34	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.60	[U]	0.60	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.14	[U]	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	0.27	M,J,R	0.17	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.21	[U]	0.21	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.42	[U]	0.42	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.14	[U]	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	<0.0081	[U]	0.0081	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	53.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	42.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	74.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	75.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	69.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	66.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	86.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	58.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	57.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	67.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.34	[U]	0.34	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.64	[U]	0.64	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	56.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	52.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	61.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	60.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
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
L2387288-45 19-D3-NG-CH-203							
Sampled By: Client on 08-OCT-19 @ 15:10							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.052	[U]	0.052	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.063	M,J,R	0.029	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.052	M,J,R	0.040	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.092	M,J,R	0.037	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.057	M,J,R	0.038	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.953	[J]	0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	2.66	[J]	0.044	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	0.054	M,J,R	0.045	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.079	M,J	0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.043	M,J,R	0.029	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.058	M,J,R	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.061	M,J,R	0.032	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.049	M,J	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.044	M,J,R	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.270	J,R	0.038	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.050	M,J,R	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.609	[J]	0.039	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	0.668		0.052	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	3				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	1.35		0.029	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	3				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	1.74		0.040	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	2.57		0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	0.444		0.045	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	3				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	0.079		0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	0.049		0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.043	[U]	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	82.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	71.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	73.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	65.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	70.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	78.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	78.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	71.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	68.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	70.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	75.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0178			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.165			pg/g	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-45 19-D3-NG-CH-203 Sampled By: Client on 08-OCT-19 @ 15:10 Matrix: Plant Tissue Dioxins and Furans HR 1613B Upper Bound PCDD/F TEQ (WHO 2005)	0.191			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-46 19-D8-NG-CH-208 Sampled By: Client on 10-OCT-19 @ 16:10 Matrix: Plant Tissue Miscellaneous Parameters							
% Moisture	37.0		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	46.5		0.50	%		10-FEB-20	R4993331
Chloride (Cl)	1970	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0144		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2080		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.70		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	35.2		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.032		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	33.9		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.9		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0411		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5980		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.242		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.023		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	3.89		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	64.6		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.151		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1980		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	30.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.45		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2390		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	11900		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	1.46		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.193		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	22.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0030		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.11		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	18.5		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
PCB congeners by SIM GC/LRMS							
Total PCB	0.430		0.020	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	42.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	58.8		5-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-46 19-D8-NG-CH-208							
Sampled By: Client on 10-OCT-19 @ 16:10							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 4	37.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	80.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	38.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	83.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	36.2		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	68.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	50.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	59.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	63.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	67.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	67.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	87.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	66.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	68.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	74.7	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	61.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	69.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	67.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	69.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	60.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	66.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	61.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	74.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.67	[U]	0.67	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<1.1	[U]	1.1	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<1.0	[U]	1.0	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.83	[U]	0.83	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.059	[U]	0.059	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.093	[U]	0.093	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.30	M,U	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.55	[U]	0.55	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.53	[U]	0.53	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.73	M,J	0.60	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.86	[U]	0.86	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.27	[U]	0.27	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.66	[U]	0.66	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<1.3	[U]	1.3	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.41	[U]	0.41	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	1.1	M,J	1.0	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<1.1	[U]	1.1	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<2.1	[U]	2.1	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<1.2	[U]	1.2	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	<0.086	[U]	0.086	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	42.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	37.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	64.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	65.0	M	40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	59.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	51.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	59.0		21-125	%	21-JAN-20	12-FEB-20	R5011480

* 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
L2387288-46 19-D8-NG-CH-208							
Sampled By: Client on 10-OCT-19 @ 16:10							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: 4,4'-DDT, 13C12-	34.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	29.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	40.0	M	5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<1.4	[U]	1.4	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<2.3	[U]	2.3	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	44.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	20.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	40.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	43.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.12	[U]	0.12	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.076	[U]	0.076	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.085	[U]	0.085	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.082	M,U	0.082	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.083	M,U	0.083	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.663	M,J,B	0.048	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	1.89	[J]	0.092	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	0.098	M,J,R	0.092	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.125	M,J	0.069	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.054	[U]	0.054	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.070	[U]	0.070	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.070	[U]	0.070	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.069	M,J,R	0.068	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.091	M,J,R	0.089	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.210	M,J,R	0.058	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.064	[U]	0.064	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.561	[J]	0.068	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	0.24		0.12	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	0.283		0.076	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	0.807		0.085	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	1.72		0.048	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	0.510		0.092	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	0.125		0.069	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	<0.089	[U]	0.089	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.064	[U]	0.064	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	75.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	87.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	82.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	79.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	85.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	84.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	78.0		21-192	%	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-46 19-D8-NG-CH-208 Sampled By: Client on 10-OCT-19 @ 16:10 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,4,7,8-PeCDF	82.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	80.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	80.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	75.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	82.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	90.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	80.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0111			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.165			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.291			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-47 19-D4-SD-CH-204 Sampled By: Client on 08-OCT-19 @ 14:40 Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	26.1		0.10	%	22-JAN-20	23-JAN-20	R4976673
Chloride (Cl)	34.2		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	5.45		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0218		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	19.4		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	14600		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.33		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.49		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	69.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.62		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	17.2		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.204		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	96500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	25.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	9.66		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	17.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	20600		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	8.11		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	26.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	33500		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	418		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	3.66		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	29.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	435		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	2940		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.38		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	174		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	85.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.268		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	220		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-47 19-D4-SD-CH-204							
Sampled By: Client on 08-OCT-19 @ 14:40							
Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Uranium (U)	1.31		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	32.5		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	51.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	8.8		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
CARB428 PCB TOTALS							
Total PCB	<0.013		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	15.1	M	5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	27.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	16.9		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	49.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	19.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	66.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	21.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	61.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	37.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	68.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	45.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	64.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	66.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	95.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	59.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	71.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	70.3	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	65.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	77.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	67.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	70.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	66.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	67.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	66.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	65.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.0099	[U]	0.0099	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.013	[U]	0.013	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.013	[U]	0.013	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	<0.00051	M,J,R	0.00051	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.0012	[U]	0.0012	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	<0.0015	[U]	0.0015	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	<0.0073	[U]	0.0073	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	<0.0070	[U]	0.0070	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	<0.0050	M,U	0.0050	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.015	M,U	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.0089	[U]	0.0089	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0044	[U]	0.0044	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	0.0085	M,J,R	0.0075	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0033	[U]	0.0033	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	<0.0045	[U]	0.0045	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	<0.0040	[U]	0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	<0.0037	[U]	0.0037	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0032	[U]	0.0032	ng/g	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-47 19-D4-SD-CH-204 Sampled By: Client on 08-OCT-19 @ 14:40 Matrix: Sediment OC Pesticides by Method 1699							
Mirex	<0.00039	[U]	0.00039	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	54.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	66.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	74.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	67.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	75.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	82.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	76.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	85.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	83.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	55.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	82.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	62.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	61.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
L2387288-48 19-D5-SB-CH-206 Sampled By: Client on 08-OCT-19 @ 15:40 Matrix: Plant Tissue Miscellaneous Parameters							
% Moisture	46.6		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	41.2		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	51	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	5100		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.12		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	36.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0942		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2500		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.084		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	17.3		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	91.9		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3470		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	28.7		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	7.68		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	3.55		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	9240		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	28000		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	7.82		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-48 19-D5-SB-CH-206							
Sampled By: Client on 08-OCT-19 @ 15:40							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Selenium (Se)-Total	1.07		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	1.84		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	48.4		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<0.49	[U]	0.49	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	29.0	G	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: There is low recovery of 13C6-Pentachlorophenol. Detection limit has been raised due to the low recovery.							
PCB congeners by SIM GC/LRMS							
Total PCB	<0.010		0.010	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	40.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	54.1		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	34.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	76.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	32.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	79.1		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	29.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	67.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	47.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	58.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	54.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	58.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	60.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	78.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	58.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	61.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	59.6	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	52.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	56.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	59.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	57.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	53.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	58.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	55.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	53.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.018	[U]	0.018	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.020	[U]	0.020	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.020	[U]	0.020	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.020	[U]	0.020	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	0.00130	M,J,R	0.00078	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.0016	[U]	0.0016	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	0.0120	M,J,R	0.0020	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.011	[U]	0.011	ng/g	21-JAN-20	12-FEB-20	R5011480

* 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
L2387288-48 19-D5-SB-CH-206							
Sampled By: Client on 08-OCT-19 @ 15:40							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
cis-Chlordane	<0.011	[U]	0.011	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.0420	M,J,R	0.0059	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.0073	M,U	0.0073	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.0052	[U]	0.0052	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.014	[U]	0.014	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.067	[U]	0.067	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.0056	[U]	0.0056	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	<0.012	[U]	0.012	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.0059	[U]	0.0059	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.016	[U]	0.016	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.0097	[U]	0.0097	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	0.00120	M,J,R	0.00074	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	64.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	61.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	87.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	85.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	96.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	79.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	100.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	102.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	85.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	99.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.019	[U]	0.019	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.015	[U]	0.015	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	74.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	111.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	88.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	89.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.024	[U]	0.024	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.014	M,J	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.0370	M,J,R	0.0095	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	0.128	[J]	0.016	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.018	M,J	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0091	[U]	0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.016	M,J,R	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.114	M,J	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	<0.024	[U]	0.024	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	0.014		0.012	pg/g	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-48 19-D5-SB-CH-206							
Sampled By: Client on 08-OCT-19 @ 15:40							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total HxCDD # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	<0.0095	[U]	0.0095	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	0.018		0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	62.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	63.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	61.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	65.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	59.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	60.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	66.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	67.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	62.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	60.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	61.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	64.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	66.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	66.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00200			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0281			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0522			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-49 19-D6-FC-CH-207							
Sampled By: Client on 10-OCT-19 @ 16:40							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	37.4		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	34.3		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	404	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	1080		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	3.6		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-49 19-D6-FC-CH-207							
Sampled By: Client on 10-OCT-19 @ 16:40							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Calcium (Ca)-Total	53		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	1.26		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	19.3		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	1240		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	4.25		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	0.394		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	0.29		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	3860		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	4960		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	1.03		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	0.097		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	21.4		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<1.2	[U]	1.2	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	10.0	M	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: There is low recovery of 13C6-Pentachlorophenol. Detection limit has been raised due to the low recovery.							
PCB congeners by SIM GC/LRMS							
Total PCB	0.293		0.010	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	46.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	59.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	39.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	81.1		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	37.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	86.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	34.1		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	71.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	49.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	69.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	57.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	67.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	67.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	87.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	64.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	68.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	70.4	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	67.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	70.2		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-49 19-D6-FC-CH-207							
Sampled By: Client on 10-OCT-19 @ 16:40							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 188	67.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	68.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	64.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	73.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	63.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	60.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.013	[U]	0.013	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.013	[U]	0.013	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	0.00110	M,J,R	0.00064	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.0016	[U]	0.0016	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.0019	M,U	0.0019	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.015	[U]	0.015	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.015	[U]	0.015	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	<0.012	[U]	0.012	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.014	[U]	0.014	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.0058	[U]	0.0058	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.0082	[U]	0.0082	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.027	[U]	0.027	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.0045	[U]	0.0045	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	<0.011	[U]	0.011	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.0086	[U]	0.0086	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.014	[U]	0.014	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.012	[U]	0.012	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	0.00230	M,J,R	0.00057	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	74.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	75.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	102.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	97.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	110.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	88.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	111.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	99.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	78.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	106.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.013	[U]	0.013	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.015	[U]	0.015	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	81.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	97.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	97.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	95.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.0091	[U]	0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.0099	[U]	0.0099	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.0097	[U]	0.0097	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.0110	M,J,R	0.0097	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.0300	M,J,R	0.0065	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	0.117	[J]	0.017	pg/g	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-49 19-D6-FC-CH-207							
Sampled By: Client on 10-OCT-19 @ 16:40							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDF	<0.013	[U]	0.013	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.0098	M,J,R	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0072	[U]	0.0072	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.0085	[U]	0.0085	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.0082	[U]	0.0082	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.0082	[U]	0.0082	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.028	M,J,R	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	<0.0082	[U]	0.0082	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.097	M,J	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	<0.0091	[U]	0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	<0.0099	[U]	0.0099	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	<0.0065	[U]	0.0065	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	<0.013	[U]	0.013	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	<0.0090	[U]	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	70.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	81.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	68.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	67.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	56.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	69.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	75.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	77.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	65.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	62.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	66.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	63.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0000641			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0222			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0398			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-50 19-E6-FB-CH-211							
Sampled By: Client on 14-AUG-19 @ 12:05							
Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		03-FEB-20	

* 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
L2387288-50 19-E6-FB-CH-211 Sampled By: Client on 14-AUG-19 @ 12:05 Matrix: Water							
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Antimony (Sb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Lithium (Li)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Selenium (Se)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Tin (Sn)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Uranium (U)-Total	<0.00020		0.00020	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		03-FEB-20	
L2387288-51 19-E1-FB-CH-213 Sampled By: Client on 09-OCT-19 @ 08:30 Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		04-FEB-20	
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Antimony (Sb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008

* 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
L2387288-51 19-E1-FB-CH-213 Sampled By: Client on 09-OCT-19 @ 08:30 Matrix: Water							
Total Metals in Water by CRC ICPMS							
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Lithium (Li)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Selenium (Se)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Tin (Sn)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Uranium (U)-Total	<0.00020		0.00020	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	0.0113	RRV	0.0050	mg/L		04-FEB-20	R4988192
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		04-FEB-20	
L2387288-52 19-E6-RB-CH-215 Sampled By: Client on 14-AUG-19 @ 12:00 Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		04-FEB-20	
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Antimony (Sb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		04-FEB-20	R4988192
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Lithium (Li)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		04-FEB-20	R4988192
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Selenium (Se)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008

* 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
L2387288-52 19-E6-RB-CH-215 Sampled By: Client on 14-AUG-19 @ 12:00 Matrix: Water							
Total Metals in Water by CRC ICPMS							
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Tin (Sn)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Uranium (U)-Total	<0.00020		0.00020	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	0.0092	RRV	0.0050	mg/L		04-FEB-20	R4988192
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		04-FEB-20	
L2387288-53 19-E1-RB-CH-216 Sampled By: Client on 09-OCT-19 @ 08:35 Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		03-FEB-20	
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Antimony (Sb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Lithium (Li)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Selenium (Se)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Tin (Sn)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Uranium (U)-Total	<0.00020		0.00020	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		03-FEB-20	

* 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
L2387288-53 19-E1-RB-CH-216 Sampled By: Client on 09-OCT-19 @ 08:35 Matrix: Water							
L2387288-54 19-E6-TB-CH-220 Sampled By: Client on 14-AUG-19 Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		03-FEB-20	
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Antimony (Sb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Lithium (Li)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Selenium (Se)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Tin (Sn)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Uranium (U)-Total	<0.00020		0.00020	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		03-FEB-20	
L2387288-55 19-E1-TB-CH-221 Sampled By: Client on 09-OCT-19 Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		03-FEB-20	
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Antimony (Sb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008

* 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
L2387288-55 19-E1-TB-CH-221							
Sampled By: Client on 09-OCT-19							
Matrix: Water							
Total Metals in Water by CRC ICPMS							
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Lithium (Li)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Selenium (Se)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Tin (Sn)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Uranium (U)-Total	<0.00020		0.00020	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Miscellaneous Parameters							
Silicon (as SiO ₂)-Total	<0.21		0.21	mg/L		03-FEB-20	

* 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.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
HTC	Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).
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.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis
U	Not Detected.
[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**
AG-DRY-CCMS-N-VA	Tissue	Silver in Tissue by CRC ICPMS (DRY)	EPA 200.3/6020A
<p>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).</p> <p>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.</p>			
CL-DRY-SOL-L-IC-ED	Tissue	Chloride (Cl) - Soluble dry weight	Comm Soil Sci 16:7/APHA 4110B
<p>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.</p>			
CL-LEACH-IC-VA	Soil	Chloride leach (1:10) by IC	APHA 4110 IC
<p>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 analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.</p>			
CP-CUSTOM-LRMS-BU	Solid	Chlorophenols as acetate derivatives	EPA 8270 (modified)
<p>Chlorophenols as acetate derivatives by SIM GC/MS.</p>			
DX-1613B-HRMS-BU	Biota	Dioxins and Furans HR 1613B	USEPA 1613B
DX-1613B-HRMS-BU	Soil	Dioxins and Furans HR 1613B	USEPA 1613B
<p>Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS</p>			
F-1:5-DI-SIE-VA	Soil	Fluoride leach (1:5) by SIE	BCMEOE/APHA Method 4500-F Fluoride
<p>This analysis is carried out using procedures from the Method: "Fluoride in Soils by 5:1 Aqueous Extraction", BC Ministry of Environment, 22 January 2008, and procedures adapted from APHA Method 4500-F "Fluoride". The procedure involves mixing the dried (at <60°C) and sieved (2mm) sample with deionized/distilled water at a 1:5 ratio of soil to water. Fluoride is determined using a selective ion electrode</p>			

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HARDNESS-CALC-VA	Water	Hardness	APHA 2340B
Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.			
HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAAS	EPA 200.2/1631E (mod)
Soil samples are digested with hot nitric and hydrochloric acids, followed by CVAAS analysis. This method is fully compliant with the BC SALM strong acid leachable metals digestion method.			
HG-DRY-CVAFS-N-VA	Tissue	Mercury in Tissue by CVAAS (DRY)	EPA 200.3, EPA 245.7
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 fluorescence spectrophotometry or atomic absorption spectrophotometry, adapted from US EPA Method 245.7.			
HG-T-CVAA-VA	Water	Total Mercury in Water by CVAAS or CVAFS	EPA 1631E (mod)
Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.			
MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)
Soil/sediment is dried, disaggregated, and sieved (2 mm). Strong Acid Leachable Metals in the <2mm fraction are solubilized by heated digestion with nitric and hydrochloric acids. Instrumental analysis is by Collision / Reaction Cell ICPMS.			
Limitations: This method is intended to liberate environmentally available metals. Silicate minerals are not solubilized. Some metals may be only partially recovered (matrix dependent), including Al, Ba, Be, Cr, S, Sr, Ti, Tl, V, W, and Zr. Elemental Sulfur may be poorly recovered by this method. Volatile forms of sulfur (e.g. sulfide, H ₂ S) may be excluded if lost during sampling, storage, or digestion.			
MET-DRY-CCMS-N-VA	Tissue	Metals in Tissue by CRC ICPMS (DRY)	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-VA	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.			
MOISTURE-BU	Soil	% Moisture	CCME PHC in Soil - Tier 1 (mod)
This method is used to determine the percent moisture in a sample. Samples are homogenized, moisture is removed by heating at 105°C until constant mass is achieved. The residues are measured gravimetrically and the difference in weight between the wet sample and the dried sample is used to determine the moisture content. This percent moisture can be used, in conjunction with analytical results, to report data on a dry weight basis.			
MOISTURE-BU	Tissue	% Moisture	ASTM METHOD D2794-00
This method is used to determine the percent moisture in a sample. Samples are homogenized, moisture is removed by heating at 105°C until constant mass is achieved. The residues are measured gravimetrically and the difference in weight between the wet sample and the dried sample is used to determine the moisture content. This percent moisture can be used, in conjunction with analytical results, to report data on a dry weight basis.			
MOISTURE-TISS-VA	Tissue	% Moisture in Tissues	Puget Sound WQ Authority, Apr 1997
This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.			
MOISTURE-VA	Soil	Moisture content	CCME PHC in Soil - Tier 1 (mod)
This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of two hours.			
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-C428-LRMS-BU	Solid	CARB428 PCB TOTALS	C428 LRMS
PCB-C428-LRMS-BU	Tissue	PCB congeners by SIM GC/LRMS	SIM GC/LRMS

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
<p>Samples are Soxhlet extracted with dichloromethane. Extracts are passed through GPC for lipid removal and cleaned by column chromatography. Extracts are analyzed via SIM GC/LRMS.</p>			
S-DRY-CCMS-N-VA	Tissue	Sulfur in Tissue by CRC ICPMS (DRY)	EPA 200.3/6020A
<p>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).</p>			
<p>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.</p>			
SIO2-T-CALC-VA	Water	Total Silicon (reported as Silica)	CALCULATION
<p>Total Silicon (as SiO₂) is a calculated parameter. Total Silicon (as SiO₂ mg/L) = 2.139 x Total Silicon (mg/L).</p>			
TI-DRY-CCMS-N-VA	Tissue	Ti in Tissue by CRC ICPMS (DRY)	EPA 200.3/6020A
<p>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).</p>			
<p>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.</p>			

** 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
ED	ALS ENVIRONMENTAL - EDMONTON, ALBERTA, 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: L2387288

Report Date: 28-FEB-20

Page 1 of 42

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-VA		Water						
Batch	R4982896							
WG3265542-2	LCS							
Mercury (Hg)-Total			94.6		%		80-120	29-JAN-20
WG3265542-1	MB							
Mercury (Hg)-Total			<0.000005C		mg/L		0.000005	29-JAN-20
MET-T-CCMS-VA		Water						
Batch	R4987008							
WG3268371-2	LCS							
Aluminum (Al)-Total			103.2		%		80-120	03-FEB-20
Antimony (Sb)-Total			104.4		%		80-120	03-FEB-20
Arsenic (As)-Total			101.6		%		80-120	03-FEB-20
Barium (Ba)-Total			103.9		%		80-120	03-FEB-20
Beryllium (Be)-Total			104.9		%		80-120	03-FEB-20
Boron (B)-Total			98.7		%		80-120	03-FEB-20
Cadmium (Cd)-Total			101.9		%		80-120	03-FEB-20
Calcium (Ca)-Total			102.5		%		80-120	03-FEB-20
Chromium (Cr)-Total			108.1		%		80-120	03-FEB-20
Cobalt (Co)-Total			101.4		%		80-120	03-FEB-20
Copper (Cu)-Total			102.1		%		80-120	03-FEB-20
Iron (Fe)-Total			109.0		%		80-120	03-FEB-20
Lead (Pb)-Total			106.6		%		80-120	03-FEB-20
Lithium (Li)-Total			106.9		%		80-120	03-FEB-20
Magnesium (Mg)-Total			104.4		%		80-120	03-FEB-20
Manganese (Mn)-Total			105.7		%		80-120	03-FEB-20
Molybdenum (Mo)-Total			100.3		%		80-120	03-FEB-20
Nickel (Ni)-Total			102.1		%		80-120	03-FEB-20
Potassium (K)-Total			106.1		%		80-120	03-FEB-20
Selenium (Se)-Total			104.8		%		80-120	03-FEB-20
Silver (Ag)-Total			100.8		%		80-120	03-FEB-20
Sodium (Na)-Total			104.0		%		80-120	03-FEB-20
Sulfur (S)-Total			100.4		%		80-120	03-FEB-20
Thallium (Tl)-Total			100.2		%		80-120	03-FEB-20
Tin (Sn)-Total			100.7		%		80-120	03-FEB-20
Titanium (Ti)-Total			98.6		%		80-120	03-FEB-20
Uranium (U)-Total			104.9		%		80-120	03-FEB-20
Vanadium (V)-Total			105.1		%		80-120	03-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 2 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-VA								
Water								
Batch	R4987008							
WG3268371-2	LCS							
Zinc (Zn)-Total			98.1		%		80-120	03-FEB-20
WG3268371-1	MB							
Aluminum (Al)-Total			<0.0030		mg/L		0.003	03-FEB-20
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Arsenic (As)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Barium (Ba)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Boron (B)-Total			<0.010		mg/L		0.01	03-FEB-20
Cadmium (Cd)-Total			<0.0000050		mg/L		0.000005	03-FEB-20
Calcium (Ca)-Total			<0.050		mg/L		0.05	03-FEB-20
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Copper (Cu)-Total			<0.00050		mg/L		0.0005	03-FEB-20
Iron (Fe)-Total			<0.010		mg/L		0.01	03-FEB-20
Lead (Pb)-Total			<0.000050		mg/L		0.00005	03-FEB-20
Lithium (Li)-Total			<0.0010		mg/L		0.001	03-FEB-20
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	03-FEB-20
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	03-FEB-20
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	03-FEB-20
Potassium (K)-Total			<0.050		mg/L		0.05	03-FEB-20
Selenium (Se)-Total			<0.000050		mg/L		0.00005	03-FEB-20
Silver (Ag)-Total			<0.000010		mg/L		0.00001	03-FEB-20
Sodium (Na)-Total			<0.050		mg/L		0.05	03-FEB-20
Sulfur (S)-Total			<0.50		mg/L		0.5	03-FEB-20
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	03-FEB-20
Tin (Sn)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	03-FEB-20
Uranium (U)-Total			<0.000010		mg/L		0.00001	03-FEB-20
Vanadium (V)-Total			<0.00050		mg/L		0.0005	03-FEB-20
Zinc (Zn)-Total			<0.0030		mg/L		0.003	03-FEB-20
Batch	R4988192							
WG3268944-2	LCS							
Aluminum (Al)-Total			108.0		%		80-120	04-FEB-20
Antimony (Sb)-Total			105.3		%		80-120	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 3 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-VA		Water						
Batch	R4988192							
WG3268944-2	LCS							
Arsenic (As)-Total			101.7		%		80-120	04-FEB-20
Barium (Ba)-Total			106.7		%		80-120	04-FEB-20
Beryllium (Be)-Total			101.5		%		80-120	04-FEB-20
Boron (B)-Total			101.5		%		80-120	04-FEB-20
Cadmium (Cd)-Total			104.3		%		80-120	04-FEB-20
Calcium (Ca)-Total			101.8		%		80-120	04-FEB-20
Chromium (Cr)-Total			106.1		%		80-120	04-FEB-20
Cobalt (Co)-Total			104.9		%		80-120	04-FEB-20
Copper (Cu)-Total			102.8		%		80-120	04-FEB-20
Iron (Fe)-Total			104.9		%		80-120	04-FEB-20
Lead (Pb)-Total			100.4		%		80-120	04-FEB-20
Lithium (Li)-Total			104.3		%		80-120	04-FEB-20
Magnesium (Mg)-Total			105.6		%		80-120	04-FEB-20
Manganese (Mn)-Total			107.9		%		80-120	04-FEB-20
Molybdenum (Mo)-Total			98.0		%		80-120	04-FEB-20
Nickel (Ni)-Total			105.2		%		80-120	04-FEB-20
Potassium (K)-Total			103.8		%		80-120	04-FEB-20
Selenium (Se)-Total			99.1		%		80-120	04-FEB-20
Silver (Ag)-Total			107.0		%		80-120	04-FEB-20
Sodium (Na)-Total			105.7		%		80-120	04-FEB-20
Sulfur (S)-Total			101.9		%		80-120	04-FEB-20
Thallium (Tl)-Total			101.9		%		80-120	04-FEB-20
Tin (Sn)-Total			102.0		%		80-120	04-FEB-20
Titanium (Ti)-Total			96.9		%		80-120	04-FEB-20
Uranium (U)-Total			99.4		%		80-120	04-FEB-20
Vanadium (V)-Total			108.1		%		80-120	04-FEB-20
Zinc (Zn)-Total			102.8		%		80-120	04-FEB-20
WG3268944-1	MB							
Aluminum (Al)-Total			<0.0030		mg/L		0.003	04-FEB-20
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Arsenic (As)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Barium (Ba)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Boron (B)-Total			<0.010		mg/L		0.01	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 4 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-VA		Water						
Batch	R4988192							
WG3268944-1	MB							
Cadmium (Cd)-Total			<0.0000050		mg/L		0.000005	04-FEB-20
Calcium (Ca)-Total			<0.050		mg/L		0.05	04-FEB-20
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Copper (Cu)-Total			<0.00050		mg/L		0.0005	04-FEB-20
Iron (Fe)-Total			<0.010		mg/L		0.01	04-FEB-20
Lead (Pb)-Total			<0.000050		mg/L		0.00005	04-FEB-20
Lithium (Li)-Total			<0.0010		mg/L		0.001	04-FEB-20
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	04-FEB-20
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	04-FEB-20
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	04-FEB-20
Potassium (K)-Total			<0.050		mg/L		0.05	04-FEB-20
Selenium (Se)-Total			<0.000050		mg/L		0.00005	04-FEB-20
Silver (Ag)-Total			<0.000010		mg/L		0.00001	04-FEB-20
Sodium (Na)-Total			<0.050		mg/L		0.05	04-FEB-20
Sulfur (S)-Total			<0.50		mg/L		0.5	04-FEB-20
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	04-FEB-20
Tin (Sn)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	04-FEB-20
Uranium (U)-Total			<0.000010		mg/L		0.00001	04-FEB-20
Vanadium (V)-Total			<0.00050		mg/L		0.0005	04-FEB-20
Zinc (Zn)-Total			<0.0030		mg/L		0.003	04-FEB-20
CL-LEACH-IC-VA		Soil						
Batch	R4995561							
WG3272652-4	DUP	L2387288-24						
Chloride (Cl)		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	11-FEB-20
WG3272669-3	DUP	L2387288-29						
Chloride (Cl)		14.1	13.5		mg/kg	4.9	30	11-FEB-20
WG3272652-2	LCS							
Chloride (Cl)			99.7		%		70-130	11-FEB-20
WG3272669-2	LCS							
Chloride (Cl)			98.7		%		70-130	11-FEB-20
WG3272652-1	MB							
Chloride (Cl)			<5.0		mg/kg		5	11-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 5 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-LEACH-IC-VA								
Soil								
Batch	R4995561							
WG3272669-1	MB							
Chloride (Cl)			<5.0		mg/kg		5	11-FEB-20
Batch								
R4998419								
WG3277018-3	DUP	L2387288-15						
Chloride (Cl)		167	164		mg/kg	2.0	30	18-FEB-20
WG3277018-2	LCS							
Chloride (Cl)			99.0		%		70-130	18-FEB-20
WG3277018-1	MB							
Chloride (Cl)			<5.0		mg/kg		5	18-FEB-20
DX-1613B-HRMS-BU								
Soil								
Batch	R4981388							
WG3253377-4	DUP	L2387288-1						
2,3,7,8-TCDD		0.226	0.225		pg/g	0.4	50	24-JAN-20
1,2,3,7,8-PeCDD		0.244	0.229		pg/g	6.3	50	24-JAN-20
1,2,3,4,7,8-HxCDD		0.258	0.230		pg/g	11	50	24-JAN-20
1,2,3,6,7,8-HxCDD		0.386	0.399		pg/g	3.3	50	24-JAN-20
1,2,3,7,8,9-HxCDD		0.400	0.440		pg/g	9.5	50	24-JAN-20
1,2,3,4,6,7,8-HpCDD		6.75	6.04		pg/g	11	50	24-JAN-20
OCDD		37.4	31.7		pg/g	16	50	24-JAN-20
2,3,7,8-TCDF		0.295	0.32		pg/g	8.1	50	24-JAN-20
1,2,3,7,8-PeCDF		0.252	0.216		pg/g	15	50	24-JAN-20
2,3,4,7,8-PeCDF		0.720	0.634		pg/g	13	50	24-JAN-20
1,2,3,4,7,8-HxCDF		0.476	0.384		pg/g	21	50	24-JAN-20
1,2,3,6,7,8-HxCDF		0.310	0.289		pg/g	7.0	50	24-JAN-20
2,3,4,6,7,8-HxCDF		0.565	0.512		pg/g	9.8	50	24-JAN-20
1,2,3,7,8,9-HxCDF		0.16	0.113		pg/g	34	50	24-JAN-20
1,2,3,4,6,7,8-HpCDF		2.30	1.94		pg/g	17	50	24-JAN-20
1,2,3,4,7,8,9-HpCDF		0.160	0.122		pg/g	27	50	24-JAN-20
OCDF		2.91	2.52		pg/g	14	50	24-JAN-20
Total-TCDD		0.226	0.958	G	pg/g	124	50	24-JAN-20
Total-PeCDD		1.87	2.48		pg/g	28	50	24-JAN-20
Total-HxCDD		4.99	4.20		pg/g	17	50	24-JAN-20
Total-HpCDD		13.0	11.4		pg/g	13	50	24-JAN-20
Total-TCDF		7.06	5.15		pg/g	31	50	24-JAN-20
Total-PeCDF		11.2	9.74		pg/g	14	50	24-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 6 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU								
	Soil							
Batch	R4981388							
WG3253377-4	DUP	L2387288-1						
Total-HxCDF		5.48	4.58		pg/g	18	50	24-JAN-20
Total-HpCDF		3.68	3.20		pg/g	14	50	24-JAN-20
COMMENTS: Sample and duplicate replication criteria not met for Total TCDD results. None of the compounds were detected at levels above the Lower Quantitation Limit so replication criteria are not applicable.								
WG3253377-2	LCS							
2,3,7,8-TCDD			96.0		%		67-158	24-JAN-20
1,2,3,7,8-PeCDD			102.0		%		70-142	24-JAN-20
1,2,3,4,7,8-HxCDD			97.0		%		70-164	24-JAN-20
1,2,3,6,7,8-HxCDD			97.0		%		76-134	24-JAN-20
1,2,3,7,8,9-HxCDD			103.0		%		64-162	24-JAN-20
1,2,3,4,6,7,8-HpCDD			98.0		%		70-140	24-JAN-20
OCDD			95.0		%		78-144	24-JAN-20
2,3,7,8-TCDF			97.0		%		75-158	24-JAN-20
1,2,3,7,8-PeCDF			98.0		%		80-134	24-JAN-20
2,3,4,7,8-PeCDF			91.0		%		68-160	24-JAN-20
1,2,3,4,7,8-HxCDF			98.0		%		72-134	24-JAN-20
1,2,3,6,7,8-HxCDF			104.0		%		84-130	24-JAN-20
2,3,4,6,7,8-HxCDF			98.0		%		70-156	24-JAN-20
1,2,3,7,8,9-HxCDF			104.0		%		78-130	24-JAN-20
1,2,3,4,6,7,8-HpCDF			104.0		%		82-122	24-JAN-20
1,2,3,4,7,8,9-HpCDF			92.0		%		78-138	24-JAN-20
OCDF			107.0		%		63-170	24-JAN-20
WG3253377-1	MB							
2,3,7,8-TCDD			<0.065	[U]	pg/g		0.065	24-JAN-20
1,2,3,7,8-PeCDD			<0.055	[U]	pg/g		0.055	24-JAN-20
1,2,3,4,7,8-HxCDD			<0.054	[U]	pg/g		0.054	24-JAN-20
1,2,3,6,7,8-HxCDD			<0.051	[U]	pg/g		0.051	24-JAN-20
1,2,3,7,8,9-HxCDD			<0.051	[U]	pg/g		0.051	24-JAN-20
1,2,3,4,6,7,8-HpCDD			0.067	M,J,R	pg/g		0.057	24-JAN-20
OCDD			0.67	M,J	pg/g		0.16	24-JAN-20
2,3,7,8-TCDF			<0.047	[U]	pg/g		0.047	24-JAN-20
1,2,3,7,8-PeCDF			<0.035	M,U	pg/g		0.035	24-JAN-20
2,3,4,7,8-PeCDF			<0.032	[U]	pg/g		0.032	24-JAN-20
1,2,3,4,7,8-HxCDF			0.041	M,J	pg/g		0.036	24-JAN-20
1,2,3,6,7,8-HxCDF			<0.035	[U]	pg/g		0.035	24-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 7 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU								
	Soil							
Batch	R4981388							
WG3253377-1	MB							
2,3,4,6,7,8-HxCDF			<0.038	[U]	pg/g		0.038	24-JAN-20
1,2,3,7,8,9-HxCDF			<0.057	[U]	pg/g		0.057	24-JAN-20
1,2,3,4,6,7,8-HpCDF			<0.050	[U]	pg/g		0.05	24-JAN-20
1,2,3,4,7,8,9-HpCDF			<0.064	[U]	pg/g		0.064	24-JAN-20
OCDF			<0.15	[U]	pg/g		0.15	24-JAN-20
Total-TCDD			<0.065	[U]	pg/g		0.065	24-JAN-20
Total-PeCDD			<0.055	[U]	pg/g		0.055	24-JAN-20
Total-HxCDD			<0.054	[U]	pg/g		0.054	24-JAN-20
Total-HpCDD			<0.057	[U]	pg/g		0.057	24-JAN-20
Total-TCDF			<0.047	[U]	pg/g		0.047	24-JAN-20
Total-PeCDF			<0.035	[U]	pg/g		0.035	24-JAN-20
Total-HxCDF			<0.057	[U]	pg/g		0.057	24-JAN-20
Total-HpCDF			<0.064	[U]	pg/g		0.064	24-JAN-20
Surrogate: 13C12-2,3,7,8-TCDD			73.0		%		25-164	24-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDD			72.0		%		25-181	24-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			64.0		%		32-141	24-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			82.0		%		28-130	24-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			71.0		%		23-140	24-JAN-20
Surrogate: 13C12-OCDD			39.0		%		17-157	24-JAN-20
Surrogate: 13C12-2,3,7,8-TCDF			71.0		%		24-169	24-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDF			75.0		%		24-185	24-JAN-20
Surrogate: 13C12-2,3,4,7,8-PeCDF			71.0		%		21-178	24-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			67.0		%		26-152	24-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			75.0		%		26-123	24-JAN-20
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			71.0		%		29-147	24-JAN-20
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			64.0		%		28-136	24-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			62.0		%		28-143	24-JAN-20
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			72.0		%		26-138	24-JAN-20
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			77.0		%		35-197	24-JAN-20
F-1:5-DI-SIE-VA								
	Soil							
Batch	R4994593							
WG3268526-3	DUP	L2387288-4						
Fluoride (F)		1.45	1.33		mg/kg	8.4	30	11-FEB-20
WG3268526-2	LCS							



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 8 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F-1:5-DI-SIE-VA								
	Soil							
Batch	R4994593							
WG3268526-2	LCS							
Fluoride (F)			94.8		%		70-130	11-FEB-20
WG3268526-1	MB							
Fluoride (F)			<0.20		mg/kg		0.2	11-FEB-20
WG3268526-4	MS	L2387288-8						
Fluoride (F)			110.1		%		60-140	11-FEB-20
Batch	R4994600							
WG3272809-3	DUP	L2387288-1						
Fluoride (F)		3.49	3.62		mg/kg	3.7	30	11-FEB-20
WG3272809-2	LCS							
Fluoride (F)			90.6		%		70-130	11-FEB-20
WG3272809-1	MB							
Fluoride (F)			<0.20		mg/kg		0.2	11-FEB-20
HG-200.2-CVAF-VA								
	Soil							
Batch	R4987948							
WG3268520-4	CRM	VA-CANMET-TILL2						
Mercury (Hg)			106.9		%		70-130	04-FEB-20
WG3268520-3	LCS							
Mercury (Hg)			97.9		%		80-120	04-FEB-20
WG3268520-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	04-FEB-20
Batch	R4994872							
WG3272817-4	CRM	VA-CANMET-TILL2						
Mercury (Hg)			103.1		%		70-130	12-FEB-20
WG3272817-2	DUP	L2387288-7						
Mercury (Hg)		0.0635	0.0647		mg/kg	1.9	40	12-FEB-20
WG3272817-3	LCS							
Mercury (Hg)			99.3		%		80-120	12-FEB-20
WG3272817-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	12-FEB-20
MET-200.2-CCMS-VA								
	Soil							
Batch	R4988988							
WG3268520-4	CRM	VA-CANMET-TILL2						
Aluminum (Al)			101.9		%		70-130	04-FEB-20
Antimony (Sb)			100.6		%		70-130	04-FEB-20
Arsenic (As)			100.3		%		70-130	04-FEB-20
Barium (Ba)			94.2		%		70-130	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 9 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R4988988							
WG3268520-4	CRM	VA-CANMET-TILL2						
Beryllium (Be)			93.0		%		70-130	04-FEB-20
Bismuth (Bi)			93.4		%		70-130	04-FEB-20
Cadmium (Cd)			104.7		%		70-130	04-FEB-20
Calcium (Ca)			102.7		%		70-130	04-FEB-20
Chromium (Cr)			97.0		%		70-130	04-FEB-20
Cobalt (Co)			94.2		%		70-130	04-FEB-20
Copper (Cu)			95.9		%		70-130	04-FEB-20
Iron (Fe)			101.9		%		70-130	04-FEB-20
Lead (Pb)			93.7		%		70-130	04-FEB-20
Lithium (Li)			96.3		%		70-130	04-FEB-20
Magnesium (Mg)			101.6		%		70-130	04-FEB-20
Manganese (Mn)			100.0		%		70-130	04-FEB-20
Molybdenum (Mo)			99.1		%		70-130	04-FEB-20
Nickel (Ni)			97.6		%		70-130	04-FEB-20
Phosphorus (P)			95.5		%		70-130	04-FEB-20
Potassium (K)			97.7		%		70-130	04-FEB-20
Selenium (Se)			0.33		mg/kg		0.15-0.55	04-FEB-20
Silver (Ag)			0.27		mg/kg		0.16-0.36	04-FEB-20
Sodium (Na)			90.5		%		70-130	04-FEB-20
Strontium (Sr)			100.3		%		70-130	04-FEB-20
Thallium (Tl)			91.4		%		70-130	04-FEB-20
Tin (Sn)			2.2		mg/kg		0.2-4.2	04-FEB-20
Titanium (Ti)			94.2		%		70-130	04-FEB-20
Tungsten (W)			1.24		mg/kg		1-2	04-FEB-20
Uranium (U)			98.7		%		70-130	04-FEB-20
Vanadium (V)			98.4		%		70-130	04-FEB-20
Zinc (Zn)			99.4		%		70-130	04-FEB-20
Zirconium (Zr)			100.4		%		70-130	04-FEB-20
WG3268520-3	LCS							
Aluminum (Al)			103.4		%		80-120	04-FEB-20
Antimony (Sb)			112.9		%		80-120	04-FEB-20
Arsenic (As)			102.4		%		80-120	04-FEB-20
Barium (Ba)			99.9		%		80-120	04-FEB-20
Beryllium (Be)			97.5		%		80-120	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 10 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R4988988							
WG3268520-3	LCS							
Bismuth (Bi)			103.9		%		80-120	04-FEB-20
Boron (B)			98.0		%		80-120	04-FEB-20
Cadmium (Cd)			100.4		%		80-120	04-FEB-20
Calcium (Ca)			100.1		%		80-120	04-FEB-20
Chromium (Cr)			100.4		%		80-120	04-FEB-20
Cobalt (Co)			97.9		%		80-120	04-FEB-20
Copper (Cu)			98.6		%		80-120	04-FEB-20
Iron (Fe)			99.6		%		80-120	04-FEB-20
Lead (Pb)			101.7		%		80-120	04-FEB-20
Lithium (Li)			96.8		%		80-120	04-FEB-20
Magnesium (Mg)			105.6		%		80-120	04-FEB-20
Manganese (Mn)			101.5		%		80-120	04-FEB-20
Molybdenum (Mo)			103.2		%		80-120	04-FEB-20
Nickel (Ni)			100.6		%		80-120	04-FEB-20
Phosphorus (P)			97.1		%		80-120	04-FEB-20
Potassium (K)			104.0		%		80-120	04-FEB-20
Selenium (Se)			100.7		%		80-120	04-FEB-20
Silver (Ag)			95.5		%		80-120	04-FEB-20
Sodium (Na)			110.8		%		80-120	04-FEB-20
Strontium (Sr)			110.3		%		80-120	04-FEB-20
Sulfur (S)			101.6		%		80-120	04-FEB-20
Thallium (Tl)			101.4		%		80-120	04-FEB-20
Tin (Sn)			100.8		%		80-120	04-FEB-20
Titanium (Ti)			101.8		%		80-120	04-FEB-20
Tungsten (W)			99.3		%		80-120	04-FEB-20
Uranium (U)			100.9		%		80-120	04-FEB-20
Vanadium (V)			103.9		%		80-120	04-FEB-20
Zinc (Zn)			101.2		%		80-120	04-FEB-20
Zirconium (Zr)			93.6		%		70-130	04-FEB-20
WG3268520-1	MB							
Aluminum (Al)			<50		mg/kg		50	04-FEB-20
Antimony (Sb)			<0.10		mg/kg		0.1	04-FEB-20
Arsenic (As)			<0.10		mg/kg		0.1	04-FEB-20
Barium (Ba)			<0.50		mg/kg		0.5	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 11 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R4988988							
WG3268520-1	MB							
Beryllium (Be)			<0.10		mg/kg		0.1	04-FEB-20
Bismuth (Bi)			<0.20		mg/kg		0.2	04-FEB-20
Boron (B)			<5.0		mg/kg		5	04-FEB-20
Cadmium (Cd)			<0.020		mg/kg		0.02	04-FEB-20
Calcium (Ca)			<50		mg/kg		50	04-FEB-20
Chromium (Cr)			<0.50		mg/kg		0.5	04-FEB-20
Cobalt (Co)			<0.10		mg/kg		0.1	04-FEB-20
Copper (Cu)			<0.50		mg/kg		0.5	04-FEB-20
Iron (Fe)			<50		mg/kg		50	04-FEB-20
Lead (Pb)			<0.50		mg/kg		0.5	04-FEB-20
Lithium (Li)			<2.0		mg/kg		2	04-FEB-20
Magnesium (Mg)			<20		mg/kg		20	04-FEB-20
Manganese (Mn)			<1.0		mg/kg		1	04-FEB-20
Molybdenum (Mo)			<0.10		mg/kg		0.1	04-FEB-20
Nickel (Ni)			<0.50		mg/kg		0.5	04-FEB-20
Phosphorus (P)			<50		mg/kg		50	04-FEB-20
Potassium (K)			<100		mg/kg		100	04-FEB-20
Selenium (Se)			<0.20		mg/kg		0.2	04-FEB-20
Silver (Ag)			<0.10		mg/kg		0.1	04-FEB-20
Sodium (Na)			<50		mg/kg		50	04-FEB-20
Strontium (Sr)			<0.50		mg/kg		0.5	04-FEB-20
Sulfur (S)			<1000		mg/kg		1000	04-FEB-20
Thallium (Tl)			<0.050		mg/kg		0.05	04-FEB-20
Tin (Sn)			<2.0		mg/kg		2	04-FEB-20
Titanium (Ti)			<1.0		mg/kg		1	04-FEB-20
Tungsten (W)			<0.50		mg/kg		0.5	04-FEB-20
Uranium (U)			<0.050		mg/kg		0.05	04-FEB-20
Vanadium (V)			<0.20		mg/kg		0.2	04-FEB-20
Zinc (Zn)			<2.0		mg/kg		2	04-FEB-20
Zirconium (Zr)			<1.0		mg/kg		1	04-FEB-20
Batch	R4995450							
WG3272817-4	CRM	VA-CANMET-TILL2						
Aluminum (Al)			99.6		%		70-130	12-FEB-20
Antimony (Sb)			93.5		%		70-130	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 12 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R4995450							
WG3272817-4	CRM	VA-CANMET-TILL2						
Arsenic (As)			99.4		%		70-130	12-FEB-20
Barium (Ba)			87.9		%		70-130	12-FEB-20
Beryllium (Be)			89.1		%		70-130	12-FEB-20
Bismuth (Bi)			94.9		%		70-130	12-FEB-20
Cadmium (Cd)			96.0		%		70-130	12-FEB-20
Calcium (Ca)			91.9		%		70-130	12-FEB-20
Chromium (Cr)			98.3		%		70-130	12-FEB-20
Cobalt (Co)			98.7		%		70-130	12-FEB-20
Copper (Cu)			100.0		%		70-130	12-FEB-20
Iron (Fe)			97.7		%		70-130	12-FEB-20
Lead (Pb)			92.0		%		70-130	12-FEB-20
Lithium (Li)			92.5		%		70-130	12-FEB-20
Magnesium (Mg)			100.2		%		70-130	12-FEB-20
Manganese (Mn)			97.4		%		70-130	12-FEB-20
Molybdenum (Mo)			91.6		%		70-130	12-FEB-20
Nickel (Ni)			100.7		%		70-130	12-FEB-20
Phosphorus (P)			95.9		%		70-130	12-FEB-20
Potassium (K)			94.6		%		70-130	12-FEB-20
Selenium (Se)			0.38		mg/kg		0.15-0.55	12-FEB-20
Silver (Ag)			0.25		mg/kg		0.16-0.36	12-FEB-20
Sodium (Na)			88.3		%		70-130	12-FEB-20
Strontium (Sr)			89.5		%		70-130	12-FEB-20
Thallium (Tl)			88.8		%		70-130	12-FEB-20
Tin (Sn)			2.1		mg/kg		0.2-4.2	12-FEB-20
Titanium (Ti)			98.1		%		70-130	12-FEB-20
Tungsten (W)			1.44		mg/kg		1-2	12-FEB-20
Uranium (U)			92.4		%		70-130	12-FEB-20
Vanadium (V)			97.8		%		70-130	12-FEB-20
Zinc (Zn)			96.0		%		70-130	12-FEB-20
Zirconium (Zr)			84.1		%		70-130	12-FEB-20
WG3272817-2	DUP	L2387288-7						
Aluminum (Al)		26200	27500		mg/kg	4.5	40	12-FEB-20
Antimony (Sb)		0.33	0.32		mg/kg	4.3	30	12-FEB-20
Arsenic (As)		4.94	5.05		mg/kg	2.2	30	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 13 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R4995450							
WG3272817-2	DUP	L2387288-7						
Barium (Ba)		120	124		mg/kg	3.0	40	12-FEB-20
Beryllium (Be)		1.16	1.18		mg/kg	1.8	30	12-FEB-20
Bismuth (Bi)		0.23	0.24		mg/kg	1.5	30	12-FEB-20
Boron (B)		15.6	18.7		mg/kg	18	30	12-FEB-20
Cadmium (Cd)		0.473	0.501		mg/kg	5.7	30	12-FEB-20
Calcium (Ca)		5550	5740		mg/kg	3.5	30	12-FEB-20
Chromium (Cr)		38.2	39.2		mg/kg	2.7	30	12-FEB-20
Cobalt (Co)		11.2	11.3		mg/kg	1.2	30	12-FEB-20
Copper (Cu)		31.3	32.1		mg/kg	2.7	30	12-FEB-20
Iron (Fe)		25000	25100		mg/kg	0.4	30	12-FEB-20
Lead (Pb)		15.4	15.8		mg/kg	2.6	40	12-FEB-20
Lithium (Li)		35.6	36.5		mg/kg	2.3	30	12-FEB-20
Magnesium (Mg)		7320	7440		mg/kg	1.6	30	12-FEB-20
Manganese (Mn)		339	351		mg/kg	3.5	30	12-FEB-20
Molybdenum (Mo)		1.35	1.32		mg/kg	2.0	40	12-FEB-20
Nickel (Ni)		36.1	36.5		mg/kg	1.1	30	12-FEB-20
Phosphorus (P)		959	963		mg/kg	0.4	30	12-FEB-20
Potassium (K)		4010	4460		mg/kg	11	40	12-FEB-20
Selenium (Se)		0.60	0.58		mg/kg	2.6	30	12-FEB-20
Silver (Ag)		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	12-FEB-20
Sodium (Na)		64	70		mg/kg	7.9	40	12-FEB-20
Strontium (Sr)		21.8	22.2		mg/kg	1.6	40	12-FEB-20
Sulfur (S)		<1000	<1000	RPD-NA	mg/kg	N/A	30	12-FEB-20
Thallium (Tl)		0.228	0.246		mg/kg	7.5	30	12-FEB-20
Tin (Sn)		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	12-FEB-20
Titanium (Ti)		128	164		mg/kg	25	40	12-FEB-20
Tungsten (W)		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	12-FEB-20
Uranium (U)		1.87	1.96		mg/kg	5.0	30	12-FEB-20
Vanadium (V)		44.3	46.5		mg/kg	4.8	30	12-FEB-20
Zinc (Zn)		82.9	82.2		mg/kg	0.8	30	12-FEB-20
Zirconium (Zr)		6.4	6.1		mg/kg	4.8	30	12-FEB-20
WG3272817-3	LCS							
Aluminum (Al)			103.1		%		80-120	12-FEB-20
Antimony (Sb)			105.3		%		80-120	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 14 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R4995450							
WG3272817-3	LCS							
Arsenic (As)			98.7		%		80-120	12-FEB-20
Barium (Ba)			98.3		%		80-120	12-FEB-20
Beryllium (Be)			91.9		%		80-120	12-FEB-20
Bismuth (Bi)			95.5		%		80-120	12-FEB-20
Boron (B)			93.9		%		80-120	12-FEB-20
Cadmium (Cd)			94.9		%		80-120	12-FEB-20
Calcium (Ca)			98.1		%		80-120	12-FEB-20
Chromium (Cr)			98.9		%		80-120	12-FEB-20
Cobalt (Co)			99.2		%		80-120	12-FEB-20
Copper (Cu)			98.3		%		80-120	12-FEB-20
Iron (Fe)			99.6		%		80-120	12-FEB-20
Lead (Pb)			98.1		%		80-120	12-FEB-20
Lithium (Li)			91.4		%		80-120	12-FEB-20
Magnesium (Mg)			106.8		%		80-120	12-FEB-20
Manganese (Mn)			101.4		%		80-120	12-FEB-20
Molybdenum (Mo)			98.5		%		80-120	12-FEB-20
Nickel (Ni)			100.0		%		80-120	12-FEB-20
Phosphorus (P)			101.3		%		80-120	12-FEB-20
Potassium (K)			104.2		%		80-120	12-FEB-20
Selenium (Se)			97.3		%		80-120	12-FEB-20
Silver (Ag)			98.5		%		80-120	12-FEB-20
Sodium (Na)			101.1		%		80-120	12-FEB-20
Strontium (Sr)			99.3		%		80-120	12-FEB-20
Sulfur (S)			99.3		%		80-120	12-FEB-20
Thallium (Tl)			98.2		%		80-120	12-FEB-20
Tin (Sn)			96.8		%		80-120	12-FEB-20
Titanium (Ti)			99.4		%		80-120	12-FEB-20
Tungsten (W)			98.4		%		80-120	12-FEB-20
Uranium (U)			97.7		%		80-120	12-FEB-20
Vanadium (V)			102.2		%		80-120	12-FEB-20
Zinc (Zn)			97.6		%		80-120	12-FEB-20
Zirconium (Zr)			97.4		%		70-130	12-FEB-20
WG3272817-1	MB							
Aluminum (Al)			<50		mg/kg		50	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 15 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	Soil							
Batch	R4995450							
WG3272817-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	12-FEB-20
Arsenic (As)			<0.10		mg/kg		0.1	12-FEB-20
Barium (Ba)			<0.50		mg/kg		0.5	12-FEB-20
Beryllium (Be)			<0.10		mg/kg		0.1	12-FEB-20
Bismuth (Bi)			<0.20		mg/kg		0.2	12-FEB-20
Boron (B)			<5.0		mg/kg		5	12-FEB-20
Cadmium (Cd)			<0.020		mg/kg		0.02	12-FEB-20
Calcium (Ca)			<50		mg/kg		50	12-FEB-20
Chromium (Cr)			<0.50		mg/kg		0.5	12-FEB-20
Cobalt (Co)			<0.10		mg/kg		0.1	12-FEB-20
Copper (Cu)			<0.50		mg/kg		0.5	12-FEB-20
Iron (Fe)			<50		mg/kg		50	12-FEB-20
Lead (Pb)			<0.50		mg/kg		0.5	12-FEB-20
Lithium (Li)			<2.0		mg/kg		2	12-FEB-20
Magnesium (Mg)			<20		mg/kg		20	12-FEB-20
Manganese (Mn)			<1.0		mg/kg		1	12-FEB-20
Molybdenum (Mo)			<0.10		mg/kg		0.1	12-FEB-20
Nickel (Ni)			<0.50		mg/kg		0.5	12-FEB-20
Phosphorus (P)			<50		mg/kg		50	12-FEB-20
Potassium (K)			<100		mg/kg		100	12-FEB-20
Selenium (Se)			<0.20		mg/kg		0.2	12-FEB-20
Silver (Ag)			<0.10		mg/kg		0.1	12-FEB-20
Sodium (Na)			<50		mg/kg		50	12-FEB-20
Strontium (Sr)			<0.50		mg/kg		0.5	12-FEB-20
Sulfur (S)			<1000		mg/kg		1000	12-FEB-20
Thallium (Tl)			<0.050		mg/kg		0.05	12-FEB-20
Tin (Sn)			<2.0		mg/kg		2	12-FEB-20
Titanium (Ti)			<1.0		mg/kg		1	12-FEB-20
Tungsten (W)			<0.50		mg/kg		0.5	12-FEB-20
Uranium (U)			<0.050		mg/kg		0.05	12-FEB-20
Vanadium (V)			<0.20		mg/kg		0.2	12-FEB-20
Zinc (Zn)			<2.0		mg/kg		2	12-FEB-20
Zirconium (Zr)			<1.0		mg/kg		1	12-FEB-20
MOISTURE-BU	Soil							



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 16 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-BU		Soil						
Batch	R4974811							
WG3253380-3	DUP	L2387288-1						
% Moisture		17.1	16.5		%	3.2	20	22-JAN-20
WG3253380-2	LCS							
% Moisture			93.1		%		90-110	22-JAN-20
WG3253380-1	MB							
% Moisture			<0.10		%		0.3	22-JAN-20
Batch	R4976673							
WG3253401-2	LCS							
% Moisture			96.0		%		90-110	23-JAN-20
WG3253401-1	MB							
% Moisture			<0.10		%		0.3	23-JAN-20
MOISTURE-VA		Soil						
Batch	R4987031							
WG3268534-2	LCS							
Moisture			100.2		%		90-110	03-FEB-20
WG3268534-1	MB							
Moisture			<0.25		%		0.25	03-FEB-20
Batch	R4992895							
WG3272824-2	LCS							
Moisture			100.4		%		90-110	10-FEB-20
WG3272824-1	MB							
Moisture			<0.25		%		0.25	10-FEB-20
Batch	R4994469							
WG3273551-3	DUP	L2387288-4						
Moisture		22.5	22.1		%	2.1	20	11-FEB-20
WG3273551-2	LCS							
Moisture			100.4		%		90-110	11-FEB-20
WG3273551-1	MB							
Moisture			<0.25		%		0.25	11-FEB-20
AG-DRY-CCMS-N-VA		Tissue						
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Silver (Ag)-Total			106.0		%		70-130	10-FEB-20
WG3270945-2	DUP	L2387288-49						
Silver (Ag)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	10-FEB-20
WG3270945-4	LCS							
Silver (Ag)-Total			93.3		%		80-120	10-FEB-20
WG3270945-1	MB							



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 17 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
AG-DRY-CCMS-N-VA		Tissue						
Batch R4992782								
WG3270945-1	MB							
Silver (Ag)-Total			<0.0050		mg/kg		0.005	10-FEB-20
Batch R4995951								
WG3272564-3	CRM	VA-NRC-DORM4						
Silver (Ag)-Total			103.9		%		70-130	12-FEB-20
WG3272564-2	DUP	L2387288-9						
Silver (Ag)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	12-FEB-20
WG3272564-4	LCS							
Silver (Ag)-Total			91.1		%		80-120	12-FEB-20
WG3272564-1	MB							
Silver (Ag)-Total			<0.0050		mg/kg		0.005	12-FEB-20
CL-DRY-SOL-L-IC-ED		Tissue						
Batch R4995904								
WG3273428-4	DUP	L2387288-3						
Chloride (Cl)		44	45		mg/kg	2.2	35	12-FEB-20
WG3273887-2	DUP	L2387288-48						
Chloride (Cl)		51	51		mg/kg	0.3	35	12-FEB-20
WG3273428-3	LCS							
Chloride (Cl)			106.0		%		70-130	12-FEB-20
WG3273887-3	LCS							
Chloride (Cl)			104.2		%		70-130	12-FEB-20
WG3273428-1	MB							
Chloride (Cl)			<10		mg/kg		10	12-FEB-20
WG3273887-1	MB							
Chloride (Cl)			<10		mg/kg		10	12-FEB-20
WG3273428-5	MS	L2387288-6						
Chloride (Cl)			102.4		%		70-130	12-FEB-20
WG3273887-4	MS	L2387288-31						
Chloride (Cl)			106.0		%		70-130	12-FEB-20
HG-DRY-CVAFS-N-VA		Tissue						
Batch R4994346								
WG3270945-3	CRM	VA-NRC-DORM4						
Mercury (Hg)-Total			105.4		%		70-130	11-FEB-20
WG3270945-2	DUP	L2387288-49						
Mercury (Hg)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	11-FEB-20
WG3270945-4	LCS							
Mercury (Hg)-Total			96.2		%		80-120	11-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 18 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-DRY-CVAFS-N-VA		Tissue						
Batch	R4994346							
WG3270945-1	MB							
Mercury (Hg)-Total			<0.0050		mg/kg		0.005	11-FEB-20
Batch		R4995704						
WG3272564-3	CRM	VA-NRC-DORM4						
Mercury (Hg)-Total			109.2		%		70-130	13-FEB-20
WG3272564-2	DUP	L2387288-9						
Mercury (Hg)-Total		0.0154	0.0131		mg/kg	16	40	13-FEB-20
WG3272564-4	LCS							
Mercury (Hg)-Total			100.1		%		80-120	13-FEB-20
WG3272564-1	MB							
Mercury (Hg)-Total			<0.0050		mg/kg		0.005	13-FEB-20
MET-DRY-CCMS-N-VA		Tissue						
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Aluminum (Al)-Total			108.1		%		70-130	10-FEB-20
Arsenic (As)-Total			99.7		%		70-130	10-FEB-20
Barium (Ba)-Total			109.1		%		70-130	10-FEB-20
Beryllium (Be)-Total			0.015		mg/kg		0.005-0.025	10-FEB-20
Bismuth (Bi)-Total			0.010		mg/kg		0.002-0.022	10-FEB-20
Boron (B)-Total			90.0		%		70-130	10-FEB-20
Cadmium (Cd)-Total			98.3		%		70-130	10-FEB-20
Calcium (Ca)-Total			99.1		%		70-130	10-FEB-20
Cesium (Cs)-Total			95.3		%		70-130	10-FEB-20
Chromium (Cr)-Total			106.7		%		70-130	10-FEB-20
Cobalt (Co)-Total			103.6		%		70-130	10-FEB-20
Copper (Cu)-Total			98.9		%		70-130	10-FEB-20
Iron (Fe)-Total			111.7		%		70-130	10-FEB-20
Lead (Pb)-Total			100.0		%		70-130	10-FEB-20
Lithium (Li)-Total			1.12		mg/kg		0.71-1.71	10-FEB-20
Magnesium (Mg)-Total			104.5		%		70-130	10-FEB-20
Manganese (Mn)-Total			96.0		%		70-130	10-FEB-20
Molybdenum (Mo)-Total			91.0		%		70-130	10-FEB-20
Nickel (Ni)-Total			99.8		%		70-130	10-FEB-20
Phosphorus (P)-Total			104.3		%		70-130	10-FEB-20
Potassium (K)-Total			107.5		%		70-130	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 19 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA								
	Tissue							
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Rubidium (Rb)-Total			104.5		%		70-130	10-FEB-20
Selenium (Se)-Total			108.4		%		70-130	10-FEB-20
Sodium (Na)-Total			110.5		%		70-130	10-FEB-20
Strontium (Sr)-Total			94.2		%		70-130	10-FEB-20
Thallium (Tl)-Total			79.6		%		70-130	10-FEB-20
Uranium (U)-Total			96.5		%		70-130	10-FEB-20
Vanadium (V)-Total			101.2		%		70-130	10-FEB-20
Zinc (Zn)-Total			109.8		%		70-130	10-FEB-20
Zirconium (Zr)-Total			0.26		mg/kg		0.05-0.45	10-FEB-20
WG3270945-2	DUP	L2387288-49						
Aluminum (Al)-Total		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	10-FEB-20
Antimony (Sb)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	10-FEB-20
Arsenic (As)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Barium (Ba)-Total		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	10-FEB-20
Beryllium (Be)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	10-FEB-20
Bismuth (Bi)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	10-FEB-20
Boron (B)-Total		3.6	2.5		mg/kg	37	40	10-FEB-20
Cadmium (Cd)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	10-FEB-20
Calcium (Ca)-Total		53	45		mg/kg	16	60	10-FEB-20
Cesium (Cs)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	10-FEB-20
Chromium (Cr)-Total		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	10-FEB-20
Cobalt (Co)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Copper (Cu)-Total		1.26	1.03		mg/kg	20	40	10-FEB-20
Iron (Fe)-Total		19.3	15.9		mg/kg	19	40	10-FEB-20
Lead (Pb)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Lithium (Li)-Total		<0.50	<0.50	RPD-NA	mg/kg	N/A	40	10-FEB-20
Magnesium (Mg)-Total		1240	1110		mg/kg	11	40	10-FEB-20
Manganese (Mn)-Total		4.25	3.49		mg/kg	20	40	10-FEB-20
Molybdenum (Mo)-Total		0.394	0.306		mg/kg	25	40	10-FEB-20
Nickel (Ni)-Total		0.29	0.22		mg/kg	24	40	10-FEB-20
Phosphorus (P)-Total		3860	3310		mg/kg	15	40	10-FEB-20
Potassium (K)-Total		4960	3980		mg/kg	22	40	10-FEB-20
Rubidium (Rb)-Total		1.03	0.853		mg/kg	19	40	10-FEB-20
Selenium (Se)-Total		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 20 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA								
	Tissue							
Batch	R4992782							
WG3270945-2	DUP	L2387288-49						
Sodium (Na)-Total		<20	<20	RPD-NA	mg/kg	N/A	40	10-FEB-20
Strontium (Sr)-Total		0.097	0.077		mg/kg	23	60	10-FEB-20
Tellurium (Te)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Thallium (Tl)-Total		<0.0020	<0.0020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Tin (Sn)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	10-FEB-20
Uranium (U)-Total		<0.0020	<0.0020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Vanadium (V)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	10-FEB-20
Zinc (Zn)-Total		21.4	18.3		mg/kg	15	40	10-FEB-20
Zirconium (Zr)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	10-FEB-20
WG3270945-4	LCS							
Aluminum (Al)-Total			109.8		%		80-120	10-FEB-20
Antimony (Sb)-Total			105.0		%		80-120	10-FEB-20
Arsenic (As)-Total			107.5		%		80-120	10-FEB-20
Barium (Ba)-Total			114.1		%		80-120	10-FEB-20
Beryllium (Be)-Total			98.0		%		80-120	10-FEB-20
Bismuth (Bi)-Total			102.7		%		80-120	10-FEB-20
Boron (B)-Total			99.1		%		80-120	10-FEB-20
Cadmium (Cd)-Total			102.7		%		80-120	10-FEB-20
Calcium (Ca)-Total			105.7		%		80-120	10-FEB-20
Cesium (Cs)-Total			106.1		%		80-120	10-FEB-20
Chromium (Cr)-Total			108.4		%		80-120	10-FEB-20
Cobalt (Co)-Total			105.9		%		80-120	10-FEB-20
Copper (Cu)-Total			105.3		%		80-120	10-FEB-20
Iron (Fe)-Total			111.3		%		80-120	10-FEB-20
Lead (Pb)-Total			103.8		%		80-120	10-FEB-20
Lithium (Li)-Total			107.7		%		80-120	10-FEB-20
Magnesium (Mg)-Total			110.9		%		80-120	10-FEB-20
Manganese (Mn)-Total			107.5		%		80-120	10-FEB-20
Molybdenum (Mo)-Total			105.4		%		80-120	10-FEB-20
Nickel (Ni)-Total			106.2		%		80-120	10-FEB-20
Phosphorus (P)-Total			115.3		%		80-120	10-FEB-20
Potassium (K)-Total			110.6		%		80-120	10-FEB-20
Rubidium (Rb)-Total			107.0		%		80-120	10-FEB-20
Selenium (Se)-Total			109.2		%		80-120	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 21 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch	R4992782							
WG3270945-4	LCS							
Sodium (Na)-Total			112.1		%		80-120	10-FEB-20
Strontium (Sr)-Total			109.6		%		80-120	10-FEB-20
Tellurium (Te)-Total			104.3		%		80-120	10-FEB-20
Thallium (Tl)-Total			99.3		%		80-120	10-FEB-20
Tin (Sn)-Total			102.7		%		80-120	10-FEB-20
Uranium (U)-Total			104.4		%		80-120	10-FEB-20
Vanadium (V)-Total			109.8		%		80-120	10-FEB-20
Zinc (Zn)-Total			103.2		%		80-120	10-FEB-20
Zirconium (Zr)-Total			102.6		%		80-120	10-FEB-20
WG3270945-1	MB							
Aluminum (Al)-Total			<2.0		mg/kg		2	10-FEB-20
Antimony (Sb)-Total			<0.010		mg/kg		0.01	10-FEB-20
Arsenic (As)-Total			<0.020		mg/kg		0.02	10-FEB-20
Barium (Ba)-Total			<0.050		mg/kg		0.05	10-FEB-20
Beryllium (Be)-Total			<0.010		mg/kg		0.01	10-FEB-20
Bismuth (Bi)-Total			<0.010		mg/kg		0.01	10-FEB-20
Boron (B)-Total			<1.0		mg/kg		1	10-FEB-20
Cadmium (Cd)-Total			<0.0050		mg/kg		0.005	10-FEB-20
Calcium (Ca)-Total			<20		mg/kg		20	10-FEB-20
Cesium (Cs)-Total			<0.0050		mg/kg		0.005	10-FEB-20
Chromium (Cr)-Total			<0.050		mg/kg		0.05	10-FEB-20
Cobalt (Co)-Total			<0.020		mg/kg		0.02	10-FEB-20
Copper (Cu)-Total			<0.10		mg/kg		0.1	10-FEB-20
Iron (Fe)-Total			<3.0		mg/kg		3	10-FEB-20
Lead (Pb)-Total			<0.020		mg/kg		0.02	10-FEB-20
Lithium (Li)-Total			<0.50		mg/kg		0.5	10-FEB-20
Magnesium (Mg)-Total			<2.0		mg/kg		2	10-FEB-20
Manganese (Mn)-Total			<0.050		mg/kg		0.05	10-FEB-20
Molybdenum (Mo)-Total			<0.020		mg/kg		0.02	10-FEB-20
Nickel (Ni)-Total			<0.20		mg/kg		0.2	10-FEB-20
Phosphorus (P)-Total			<10		mg/kg		10	10-FEB-20
Potassium (K)-Total			<20		mg/kg		20	10-FEB-20
Rubidium (Rb)-Total			<0.050		mg/kg		0.05	10-FEB-20
Selenium (Se)-Total			<0.050		mg/kg		0.05	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 22 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch R4992782								
WG3270945-1 MB								
Sodium (Na)-Total			<20		mg/kg		20	10-FEB-20
Strontium (Sr)-Total			<0.050		mg/kg		0.05	10-FEB-20
Tellurium (Te)-Total			<0.020		mg/kg		0.02	10-FEB-20
Thallium (Tl)-Total			<0.0020		mg/kg		0.002	10-FEB-20
Tin (Sn)-Total			<0.10		mg/kg		0.1	10-FEB-20
Uranium (U)-Total			<0.0020		mg/kg		0.002	10-FEB-20
Vanadium (V)-Total			<0.10		mg/kg		0.1	10-FEB-20
Zinc (Zn)-Total			<0.50		mg/kg		0.5	10-FEB-20
Zirconium (Zr)-Total			<0.20		mg/kg		0.2	10-FEB-20
Batch R4995951								
WG3272564-3 CRM		VA-NRC-DORM4						
Aluminum (Al)-Total			95.9		%		70-130	12-FEB-20
Arsenic (As)-Total			92.8		%		70-130	12-FEB-20
Barium (Ba)-Total			102.1		%		70-130	12-FEB-20
Beryllium (Be)-Total			0.014		mg/kg		0.005-0.025	12-FEB-20
Bismuth (Bi)-Total			0.010		mg/kg		0.002-0.022	12-FEB-20
Boron (B)-Total			90.2		%		70-130	12-FEB-20
Cadmium (Cd)-Total			92.3		%		70-130	12-FEB-20
Calcium (Ca)-Total			95.0		%		70-130	12-FEB-20
Cesium (Cs)-Total			95.5		%		70-130	12-FEB-20
Chromium (Cr)-Total			99.9		%		70-130	12-FEB-20
Cobalt (Co)-Total			94.9		%		70-130	12-FEB-20
Copper (Cu)-Total			93.2		%		70-130	12-FEB-20
Iron (Fe)-Total			102.2		%		70-130	12-FEB-20
Lead (Pb)-Total			99.8		%		70-130	12-FEB-20
Lithium (Li)-Total			1.05		mg/kg		0.71-1.71	12-FEB-20
Magnesium (Mg)-Total			94.4		%		70-130	12-FEB-20
Manganese (Mn)-Total			107.6		%		70-130	12-FEB-20
Molybdenum (Mo)-Total			91.6		%		70-130	12-FEB-20
Nickel (Ni)-Total			92.7		%		70-130	12-FEB-20
Phosphorus (P)-Total			93.4		%		70-130	12-FEB-20
Potassium (K)-Total			96.6		%		70-130	12-FEB-20
Rubidium (Rb)-Total			99.3		%		70-130	12-FEB-20
Selenium (Se)-Total			103.3		%		70-130	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 23 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch	R4995951							
WG3272564-3 CRM		VA-NRC-DORM4						
Sodium (Na)-Total			98.6		%		70-130	12-FEB-20
Strontium (Sr)-Total			89.7		%		70-130	12-FEB-20
Thallium (Tl)-Total			89.1		%		70-130	12-FEB-20
Uranium (U)-Total			94.5		%		70-130	12-FEB-20
Vanadium (V)-Total			95.4		%		70-130	12-FEB-20
Zinc (Zn)-Total			103.7		%		70-130	12-FEB-20
Zirconium (Zr)-Total			0.24		mg/kg		0.05-0.45	12-FEB-20
WG3272564-2 DUP		L2387288-9						
Aluminum (Al)-Total		62.8	50.5		mg/kg	22	40	12-FEB-20
Antimony (Sb)-Total		0.011	0.011		mg/kg	2.4	40	12-FEB-20
Arsenic (As)-Total		0.044	0.038		mg/kg	15	40	12-FEB-20
Barium (Ba)-Total		8.75	8.65		mg/kg	1.1	40	12-FEB-20
Beryllium (Be)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	12-FEB-20
Bismuth (Bi)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	12-FEB-20
Boron (B)-Total		6.7	6.3		mg/kg	7.3	40	12-FEB-20
Cadmium (Cd)-Total		0.0416	0.0411		mg/kg	1.2	40	12-FEB-20
Calcium (Ca)-Total		4640	4260		mg/kg	8.7	60	12-FEB-20
Cesium (Cs)-Total		0.0132	0.0107		mg/kg	21	40	12-FEB-20
Chromium (Cr)-Total		0.246	0.225		mg/kg	9.0	40	12-FEB-20
Cobalt (Co)-Total		0.055	0.054		mg/kg	2.7	40	12-FEB-20
Copper (Cu)-Total		5.46	5.67		mg/kg	3.8	40	12-FEB-20
Iron (Fe)-Total		113	98.2		mg/kg	14	40	12-FEB-20
Lead (Pb)-Total		0.279	0.231		mg/kg	19	40	12-FEB-20
Lithium (Li)-Total		<0.50	<0.50	RPD-NA	mg/kg	N/A	40	12-FEB-20
Magnesium (Mg)-Total		2090	2110		mg/kg	1.0	40	12-FEB-20
Manganese (Mn)-Total		86.4	84.8		mg/kg	1.8	40	12-FEB-20
Molybdenum (Mo)-Total		4.08	3.80		mg/kg	7.0	40	12-FEB-20
Nickel (Ni)-Total		0.72	0.70		mg/kg	2.3	40	12-FEB-20
Phosphorus (P)-Total		2570	2540		mg/kg	1.2	40	12-FEB-20
Potassium (K)-Total		12400	12300		mg/kg	0.6	40	12-FEB-20
Rubidium (Rb)-Total		6.79	6.83		mg/kg	0.6	40	12-FEB-20
Selenium (Se)-Total		1.40	1.42		mg/kg	1.7	40	12-FEB-20
Sodium (Na)-Total		<20	<20	RPD-NA	mg/kg	N/A	40	12-FEB-20
Strontium (Sr)-Total		13.5	12.6		mg/kg	6.8	60	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 24 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA								
	Tissue							
Batch	R4995951							
WG3272564-2	DUP	L2387288-9						
Tellurium (Te)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	12-FEB-20
Thallium (Tl)-Total		0.0026	0.0023		mg/kg	13	40	12-FEB-20
Tin (Sn)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	12-FEB-20
Uranium (U)-Total		0.0091	0.0068		mg/kg	28	40	12-FEB-20
Vanadium (V)-Total		0.15	0.12		mg/kg	21	40	12-FEB-20
Zinc (Zn)-Total		38.7	43.2		mg/kg	11	40	12-FEB-20
Zirconium (Zr)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	12-FEB-20
WG3272564-4								
	LCS							
Aluminum (Al)-Total			103.7		%		80-120	12-FEB-20
Antimony (Sb)-Total			95.6		%		80-120	12-FEB-20
Arsenic (As)-Total			107.2		%		80-120	12-FEB-20
Barium (Ba)-Total			111.1		%		80-120	12-FEB-20
Beryllium (Be)-Total			88.4		%		80-120	12-FEB-20
Bismuth (Bi)-Total			88.4		%		80-120	12-FEB-20
Boron (B)-Total			88.0		%		80-120	12-FEB-20
Cadmium (Cd)-Total			102.8		%		80-120	12-FEB-20
Calcium (Ca)-Total			89.2		%		80-120	12-FEB-20
Cesium (Cs)-Total			96.8		%		80-120	12-FEB-20
Chromium (Cr)-Total			106.4		%		80-120	12-FEB-20
Cobalt (Co)-Total			105.1		%		80-120	12-FEB-20
Copper (Cu)-Total			105.0		%		80-120	12-FEB-20
Iron (Fe)-Total			111.8		%		80-120	12-FEB-20
Lead (Pb)-Total			89.7		%		80-120	12-FEB-20
Lithium (Li)-Total			90.6		%		80-120	12-FEB-20
Magnesium (Mg)-Total			105.7		%		80-120	12-FEB-20
Manganese (Mn)-Total			107.5		%		80-120	12-FEB-20
Molybdenum (Mo)-Total			95.9		%		80-120	12-FEB-20
Nickel (Ni)-Total			104.0		%		80-120	12-FEB-20
Phosphorus (P)-Total			113.2		%		80-120	12-FEB-20
Potassium (K)-Total			110.7		%		80-120	12-FEB-20
Rubidium (Rb)-Total			106.4		%		80-120	12-FEB-20
Selenium (Se)-Total			108.5		%		80-120	12-FEB-20
Sodium (Na)-Total			107.9		%		80-120	12-FEB-20
Strontium (Sr)-Total			94.4		%		80-120	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 25 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch	R4995951							
WG3272564-4	LCS							
Tellurium (Te)-Total			98.1		%		80-120	12-FEB-20
Thallium (Tl)-Total			88.7		%		80-120	12-FEB-20
Tin (Sn)-Total			90.5		%		80-120	12-FEB-20
Uranium (U)-Total			91.1		%		80-120	12-FEB-20
Vanadium (V)-Total			107.8		%		80-120	12-FEB-20
Zinc (Zn)-Total			103.3		%		80-120	12-FEB-20
Zirconium (Zr)-Total			92.6		%		80-120	12-FEB-20
WG3272564-1	MB							
Aluminum (Al)-Total			<2.0		mg/kg		2	12-FEB-20
Antimony (Sb)-Total			<0.010		mg/kg		0.01	12-FEB-20
Arsenic (As)-Total			<0.020		mg/kg		0.02	12-FEB-20
Barium (Ba)-Total			<0.050		mg/kg		0.05	12-FEB-20
Beryllium (Be)-Total			<0.010		mg/kg		0.01	12-FEB-20
Bismuth (Bi)-Total			<0.010		mg/kg		0.01	12-FEB-20
Boron (B)-Total			<1.0		mg/kg		1	12-FEB-20
Cadmium (Cd)-Total			<0.0050		mg/kg		0.005	12-FEB-20
Calcium (Ca)-Total			<20		mg/kg		20	12-FEB-20
Cesium (Cs)-Total			<0.0050		mg/kg		0.005	12-FEB-20
Chromium (Cr)-Total			<0.050		mg/kg		0.05	12-FEB-20
Cobalt (Co)-Total			<0.020		mg/kg		0.02	12-FEB-20
Copper (Cu)-Total			<0.10		mg/kg		0.1	12-FEB-20
Iron (Fe)-Total			<3.0		mg/kg		3	12-FEB-20
Lead (Pb)-Total			<0.020		mg/kg		0.02	12-FEB-20
Lithium (Li)-Total			<0.50		mg/kg		0.5	12-FEB-20
Magnesium (Mg)-Total			<2.0		mg/kg		2	12-FEB-20
Manganese (Mn)-Total			<0.050		mg/kg		0.05	12-FEB-20
Molybdenum (Mo)-Total			<0.020		mg/kg		0.02	12-FEB-20
Nickel (Ni)-Total			<0.20		mg/kg		0.2	12-FEB-20
Phosphorus (P)-Total			<10		mg/kg		10	12-FEB-20
Potassium (K)-Total			<20		mg/kg		20	12-FEB-20
Rubidium (Rb)-Total			<0.050		mg/kg		0.05	12-FEB-20
Selenium (Se)-Total			<0.050		mg/kg		0.05	12-FEB-20
Sodium (Na)-Total			<20		mg/kg		20	12-FEB-20
Strontium (Sr)-Total			<0.050		mg/kg		0.05	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 26 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA								
	Tissue							
Batch	R4995951							
WG3272564-1	MB							
Tellurium (Te)-Total			<0.020		mg/kg		0.02	12-FEB-20
Thallium (Tl)-Total			<0.0020		mg/kg		0.002	12-FEB-20
Tin (Sn)-Total			<0.10		mg/kg		0.1	12-FEB-20
Uranium (U)-Total			<0.0020		mg/kg		0.002	12-FEB-20
Vanadium (V)-Total			<0.10		mg/kg		0.1	12-FEB-20
Zinc (Zn)-Total			<0.50		mg/kg		0.5	12-FEB-20
Zirconium (Zr)-Total			<0.20		mg/kg		0.2	12-FEB-20
MOISTURE-BU								
	Tissue							
Batch	R4976647							
WG3254533-2	LCS							
% Moisture			94.7		%		50-150	23-JAN-20
WG3254533-1	MB							
% Moisture			<0.10		%		0.1	23-JAN-20
Batch	R4980115							
WG3254677-2	LCS							
% Moisture			96.6		%		50-150	27-JAN-20
WG3254677-1	MB							
% Moisture			<0.10		%		0.1	27-JAN-20
MOISTURE-TISS-VA								
	Tissue							
Batch	R4992446							
WG3270879-3	DUP	L2387288-19						
% Moisture		58.0	58.1		%	0.3	20	07-FEB-20
WG3270879-6	DUP	L2387288-23						
% Moisture		35.3	35.1		%	0.5	20	07-FEB-20
WG3270879-2	LCS							
% Moisture			93.7		%		90-110	07-FEB-20
WG3270879-5	LCS							
% Moisture			90.9		%		90-110	07-FEB-20
WG3270879-1	MB							
% Moisture			<0.50		%		0.5	07-FEB-20
WG3270879-4	MB							
% Moisture			<0.50		%		0.5	07-FEB-20
Batch	R4993331							
WG3272631-3	DUP	L2387288-35						
% Moisture		19.8	20.2		%	2.1	20	10-FEB-20
WG3272631-2	LCS							



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 27 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-TISS-VA		Tissue						
Batch	R4993331							
WG3272631-2	LCS							
% Moisture			100.0		%		90-110	10-FEB-20
WG3272631-1	MB							
% Moisture			<0.50		%		0.5	10-FEB-20
PCB-C428-LRMS-BU		Tissue						
Batch	R4988567							
WG3254521-2	LCS							
Total PCB			109.0		%		50-150	28-JAN-20
WG3254521-4	LCS							
Total PCB			106.8		%		50-150	28-JAN-20
WG3254521-1	MB							
Total PCB			<0.010		ng/g		0.01	28-JAN-20
Surrogate: 13C12 PCB 1			24.1		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 3			32.7		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 4			24.2		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 15			47.6		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 19			22.7		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 37			58.8		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 54			23.2		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 81			62.9		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 104			37.3		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 123			58.8		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 118			61.1		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 114			61.6		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 105			65.1		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 126			81.9		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 155			52.0		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 167			65.7		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 156			72.3		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 157			62.9		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 169			67.7		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 188			60.8		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 202			65.7		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 205			64.9		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 208			64.1		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 206			67.2		%		10-145	28-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 28 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-C428-LRMS-BU Tissue								
Batch	R4988567							
WG3254521-1	MB							
Surrogate: 13C12 PCB 209			61.9		%		10-145	28-JAN-20
S-DRY-CCMS-N-VA Tissue								
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Sulfur (S)-Total			113.0		%		70-130	10-FEB-20
WG3270945-2	DUP	L2387288-49						
Sulfur (S)-Total			1080	850	mg/kg	24	40	10-FEB-20
WG3270945-4	LCS							
Sulfur (S)-Total			107.6		%		70-130	10-FEB-20
WG3270945-1	MB							
Sulfur (S)-Total			<100		mg/kg		100	10-FEB-20
Batch	R4995951							
WG3272564-3	CRM	VA-NRC-DORM4						
Sulfur (S)-Total			106.5		%		70-130	12-FEB-20
WG3272564-2	DUP	L2387288-9						
Sulfur (S)-Total			3460	3420	mg/kg	1.2	40	12-FEB-20
WG3272564-4	LCS							
Sulfur (S)-Total			107.1		%		70-130	12-FEB-20
WG3272564-1	MB							
Sulfur (S)-Total			<100		mg/kg		100	12-FEB-20
TI-DRY-CCMS-N-VA Tissue								
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Titanium (Ti)-Total			118.0		%		70-130	10-FEB-20
WG3270945-2	DUP	L2387288-49						
Titanium (Ti)-Total			<0.25	<0.25	mg/kg	RPD-NA	40	10-FEB-20
WG3270945-4	LCS							
Titanium (Ti)-Total			107.2		%		80-120	10-FEB-20
WG3270945-1	MB							
Titanium (Ti)-Total			<0.25		mg/kg		0.25	10-FEB-20
Batch	R4995951							
WG3272564-3	CRM	VA-NRC-DORM4						
Titanium (Ti)-Total			105.0		%		70-130	12-FEB-20
WG3272564-2	DUP	L2387288-9						
Titanium (Ti)-Total			1.34	1.04	mg/kg	25	40	12-FEB-20
WG3272564-4	LCS							



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 29 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TI-DRY-CCMS-N-VA		Tissue						
Batch R4995951								
WG3272564-4 LCS								
Titanium (Ti)-Total			103.0		%		80-120	12-FEB-20
WG3272564-1 MB								
Titanium (Ti)-Total			<0.25		mg/kg		0.25	12-FEB-20
CP-CUSTOM-LRMS-BU		Solid						
Batch R5008427								
WG3255028-2 LCS								
Pentachlorophenol			110.0		%		50-150	11-FEB-20
COMMENTS: There is low recovery of 13C6-Pentachlorophenol.								
WG3255028-4 LCS								
Pentachlorophenol			127.0		%		50-150	11-FEB-20
COMMENTS: There is low recovery of 13C6-Pentachlorophenol.								
WG3255028-1 MB								
Pentachlorophenol			<0.25	[U]	ng/g		0.25	11-FEB-20
Surrogate: 13C6-Pentachlorophenol			43.0	G	%		50-150	11-FEB-20
COMMENTS: There is low recovery of 13C6-Pentachlorophenol.								
OCPEST-1699-HRMS-BU		Solid						
Batch R5007833								
WG3253398-4 DUP		L2387288-7						
alpha-BHC		<0.0068	<0.0092	RPD-NA	ng/g	N/A	50	10-FEB-20
beta-BHC		<0.0087	<0.013	RPD-NA	ng/g	N/A	50	10-FEB-20
delta-BHC		<0.0089	<0.013	RPD-NA	ng/g	N/A	50	10-FEB-20
gamma-BHC		<0.0088	<0.011	RPD-NA	ng/g	N/A	50	10-FEB-20
Heptachlor		0.00210	0.00150		ng/g	33	50	10-FEB-20
Aldrin		<0.00097	<0.00084	RPD-NA	ng/g	N/A	50	10-FEB-20
Heptachlor Epoxide		0.0102	0.0089		ng/g	14	50	10-FEB-20
trans-Chlordane		<0.0084	<0.0030	RPD-NA	ng/g	N/A	50	10-FEB-20
cis-Chlordane		<0.0080	0.0108	G	ng/g	N/A	50	10-FEB-20
Dieldrin		0.0240	0.0170		ng/g	34	50	10-FEB-20
Endrin		<0.013	<0.0062	RPD-NA	ng/g	N/A	50	10-FEB-20
Endrin Aldehyde		0.0084	<0.0031	G	ng/g	N/A	50	10-FEB-20
Endosulfan I		<0.0060	<0.0064	RPD-NA	ng/g	N/A	50	10-FEB-20
Endosulfan II		<0.020	<0.012	RPD-NA	ng/g	N/A	50	10-FEB-20
Endosulfan Sulfate		<0.0025	<0.0027	RPD-NA	ng/g	N/A	50	10-FEB-20
4,4-DDE		0.102	0.0825		ng/g	21	50	10-FEB-20
4,4-DDD		0.013	0.0052	J	ng/g	0.0078	0.02	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 30 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU Solid								
Batch	R5007833							
WG3253398-4 DUP		L2387288-7						
4,4-DDT		0.114	0.0914		ng/g	22	50	10-FEB-20
Methoxychlor		<0.0032	<0.0041	RPD-NA	ng/g	N/A	50	10-FEB-20
Mirex		0.00920	<0.00032	G	ng/g	N/A	50	10-FEB-20
Heptachlor Epoxide A		<0.0077	<0.0080	RPD-NA	ng/g	N/A	50	10-FEB-20
COMMENTS: Sample and duplicate RPD criteria outside method limits due to presence of low level hits.								
WG3253398-2 LCS								
alpha-BHC			115.0		%		50-120	10-FEB-20
beta-BHC			112.0		%		50-120	10-FEB-20
delta-BHC			109.0		%		50-120	10-FEB-20
gamma-BHC			111.0		%		50-120	10-FEB-20
Heptachlor			108.0		%		50-120	10-FEB-20
Aldrin			95.0		%		50-120	10-FEB-20
Heptachlor Epoxide			115.0		%		20-200	10-FEB-20
trans-Chlordane			105.0		%		50-120	10-FEB-20
cis-Chlordane			109.0		%		50-120	10-FEB-20
Dieldrin			105.0		%		50-120	10-FEB-20
Endrin			109.0		%		50-120	10-FEB-20
Endrin Aldehyde			101.0		%		20-200	10-FEB-20
Endosulfan I			88.0		%		50-120	10-FEB-20
Endosulfan II			96.0		%		5-200	10-FEB-20
Endosulfan Sulfate			106.0		%		50-200	10-FEB-20
4,4-DDE			111.0		%		50-120	10-FEB-20
4,4-DDD			109.0		%		42-120	10-FEB-20
4,4-DDT			108.0		%		50-120	10-FEB-20
Methoxychlor			110.0		%		50-120	10-FEB-20
Mirex			105.0		%		50-120	10-FEB-20
Heptachlor Epoxide A			116.0		%		50-150	10-FEB-20
COMMENTS: 13C12-Methoxychlor % recovery above the method limit; native target calculation against labelled using isotope dilution, therefore minimal impact on data quality is expected.								
WG3253398-1 MB								
alpha-BHC			<0.0077	[U]	ng/g		0.14	10-FEB-20
beta-BHC			<0.010	[U]	ng/g		0.14	10-FEB-20
delta-BHC			<0.010	[U]	ng/g		0.14	10-FEB-20
gamma-BHC			<0.0090	[U]	ng/g		0.14	10-FEB-20
Heptachlor			0.00085	M,J,R	ng/g		0.14	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 31 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU								
	Solid							
Batch	R5007833							
WG3253398-1	MB							
Aldrin			<0.00074	[U]	ng/g		0.14	10-FEB-20
Heptachlor Epoxide			0.0013	M,J,R	ng/g		0.14	10-FEB-20
trans-Chlordane			<0.0055	[U]	ng/g		0.14	10-FEB-20
cis-Chlordane			<0.0053	[U]	ng/g		0.14	10-FEB-20
Dieldrin			<0.0031	M,U	ng/g		0.14	10-FEB-20
Endrin			<0.0084	[U]	ng/g		0.14	10-FEB-20
Endrin Aldehyde			<0.011	[U]	ng/g		0.14	10-FEB-20
Endosulfan I			<0.0067	[U]	ng/g		0.14	10-FEB-20
Endosulfan II			<0.012	[U]	ng/g		0.14	10-FEB-20
Endosulfan Sulfate			<0.0029	[U]	ng/g		0.14	10-FEB-20
4,4-DDE			<0.0051	[U]	ng/g		0.14	10-FEB-20
4,4-DDD			<0.0042	[U]	ng/g		0.14	10-FEB-20
4,4-DDT			<0.010	[U]	ng/g		0.14	10-FEB-20
Methoxychlor			<0.0019	[U]	ng/g		0.14	10-FEB-20
Mirex			<0.00037	[U]	ng/g		0.14	10-FEB-20
Surrogate: alpha-BHC, 13C6-			74.0		%		16-129	10-FEB-20
Surrogate: trans-Nonachlor, 13C10-			87.0		%		14-136	10-FEB-20
Surrogate: Dieldrin, 13C12-			97.0		%		40-151	10-FEB-20
Surrogate: Endrin, 13C12-			93.0		%		35-155	10-FEB-20
Surrogate: Endosulfan II, 13C9-			94.0		%		5-122	10-FEB-20
Surrogate: 4,4'-DDE, 13C12-			91.0		%		21-125	10-FEB-20
Surrogate: 4,4'-DDT, 13C12-			87.0		%		5-120	10-FEB-20
Surrogate: Mirex, 13C10-			83.0		%		5-120	10-FEB-20
Heptachlor Epoxide A			<0.0081	[U]	ng/g		0.14	10-FEB-20
Surrogate: 4,4'-DDD, 13C12-			94.0		%		5-120	10-FEB-20
Surrogate: gamma-BHC, 13C6-			80.0		%		11-120	10-FEB-20
Surrogate: Methoxychlor, 13C12-			84.0		%		5-120	10-FEB-20
Surrogate: beta-BHC, 13C6-			89.0		%		11-120	10-FEB-20
Surrogate: delta-BHC, 13C6-			88.0		%		11-120	10-FEB-20
Batch	R5011480							
WG3254521-2	LCS							
alpha-BHC			108.0		%		50-120	11-FEB-20
beta-BHC			104.0		%		50-120	11-FEB-20
delta-BHC			113.0		%		50-120	11-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 32 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU								
	Solid							
Batch	R5011480							
WG3254521-2	LCS							
gamma-BHC			105.0		%		50-120	11-FEB-20
Heptachlor			104.0		%		50-120	11-FEB-20
Aldrin			99.0		%		50-120	11-FEB-20
Heptachlor Epoxide			120.0		%		20-200	11-FEB-20
trans-Chlordane			100.0		%		50-120	11-FEB-20
cis-Chlordane			105.0		%		50-120	11-FEB-20
Dieldrin			106.0		%		50-120	11-FEB-20
Endrin			114.0		%		50-120	11-FEB-20
Endrin Aldehyde			73.0		%		20-200	11-FEB-20
Endosulfan I			83.0		%		50-120	11-FEB-20
Endosulfan II			100.0		%		5-200	11-FEB-20
Endosulfan Sulfate			108.0		%		50-200	11-FEB-20
4,4-DDE			113.0		%		50-120	11-FEB-20
4,4-DDD			107.0		%		42-120	11-FEB-20
4,4-DDT			110.0		%		50-120	11-FEB-20
Methoxychlor			110.0		%		50-120	11-FEB-20
Mirex			109.0		%		50-120	11-FEB-20
Endrin Ketone			104.0		%		50-150	11-FEB-20
Heptachlor Epoxide A			111.0		%		50-150	11-FEB-20
<p>COMMENTS: Methoxychlor-ES recovery outside method limits. Target results are calculated against labelled isotopes using isotope dilution, therefore minimal impact on data quality is expected.</p>								
WG3254521-1	MB							
alpha-BHC			<0.034	[U]	ng/g		1.3	11-FEB-20
beta-BHC			<0.046	[U]	ng/g		1.3	11-FEB-20
delta-BHC			<0.042	[U]	ng/g		1.3	11-FEB-20
gamma-BHC			<0.042	[U]	ng/g		1.3	11-FEB-20
Heptachlor			0.0015	M,J,R	ng/g		1.3	11-FEB-20
Aldrin			<0.0050	[U]	ng/g		1.3	11-FEB-20
Heptachlor Epoxide			<0.0058	[U]	ng/g		1.3	11-FEB-20
trans-Chlordane			<0.015	[U]	ng/g		1.3	11-FEB-20
cis-Chlordane			<0.015	[U]	ng/g		1.3	11-FEB-20
Dieldrin			<0.0095	[U]	ng/g		1.3	11-FEB-20
Endrin			<0.013	[U]	ng/g		1.3	11-FEB-20
Endrin Aldehyde			<0.013	[U]	ng/g		1.3	11-FEB-20
Endosulfan I			<0.023	[U]	ng/g		1.3	11-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 33 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU								
	Solid							
Batch	R5011480							
WG3254521-1	MB							
Endosulfan II			<0.055	[U]	ng/g		1.3	11-FEB-20
Endosulfan Sulfate			<0.018	[U]	ng/g		1.3	11-FEB-20
4,4-DDE			<0.018	[U]	ng/g		1.3	11-FEB-20
4,4-DDD			<0.017	[U]	ng/g		1.3	11-FEB-20
4,4-DDT			<0.027	[U]	ng/g		1.3	11-FEB-20
Methoxychlor			<0.0043	[U]	ng/g		1.3	11-FEB-20
Mirex			<0.0010	[U]	ng/g		1.3	11-FEB-20
Surrogate: alpha-BHC, 13C6-			42.0		%		16-129	11-FEB-20
Surrogate: Heptachlor, 13C10-			41.0		%		5-120	11-FEB-20
Surrogate: trans-Nonachlor, 13C10-			64.0		%		14-136	11-FEB-20
Surrogate: Dieldrin, 13C12-			68.0		%		40-151	11-FEB-20
Surrogate: Endrin, 13C12-			67.0		%		35-155	11-FEB-20
Surrogate: Endosulfan II, 13C9-			66.0		%		5-122	11-FEB-20
Surrogate: 4,4'-DDE, 13C12-			69.0		%		21-125	11-FEB-20
Surrogate: 4,4'-DDT, 13C12-			80.0		%		5-120	11-FEB-20
Surrogate: Mirex, 13C10-			79.0		%		5-120	11-FEB-20
Endrin Ketone			<0.032	[U]	ng/g		1.3	11-FEB-20
Heptachlor Epoxide A			<0.045	[U]	ng/g		1.3	11-FEB-20
Surrogate: 4,4'-DDD, 13C12-			78.0		%		5-120	11-FEB-20
Surrogate: gamma-BHC, 13C6-			46.0		%		11-120	11-FEB-20
Surrogate: Methoxychlor, 13C12-			95.0		%		5-120	11-FEB-20
Surrogate: beta-BHC, 13C6-			51.0		%		11-120	11-FEB-20
Surrogate: delta-BHC, 13C6-			54.0		%		11-120	11-FEB-20
PCB-C428-LRMS-BU								
	Solid							
Batch	R4996239							
WG3253398-4	DUP	L2387288-7						
Total PCB		0.347	0.547		ng/g	45	50	28-JAN-20
WG3253398-2	LCS							
Total PCB			108.8		%		50-150	27-JAN-20
WG3253398-5	LCS							
Total PCB			102.2		%		50-150	27-JAN-20
WG3253398-1	MB							
Total PCB			<0.010		ng/g		0.01	28-JAN-20
Surrogate: 13C12 PCB 1			40.2		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 3			52.4		%		5-145	28-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 34 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-C428-LRMS-BU								
	Solid							
Batch	R4996239							
WG3253398-1	MB							
Surrogate: 13C12 PCB 4			36.7		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 15			70.4		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 19			33.8		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 37			80.4		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 54			32.8		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 81			75.1		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 104			51.7		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 123			67.6		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 118			66.3		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 114			71.8		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 105			75.6		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 126			98.3		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 155			67.3		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 167			76.3		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 156			81.0	M	%		10-145	28-JAN-20
Surrogate: 13C12 PCB 157			73.9		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 169			83.9		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 188			73.1		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 202			76.0		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 205			71.6		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 208			70.2		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 206			68.8		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 209			66.1		%		10-145	28-JAN-20
DX-1613B-HRMS-BU								
	Biota							
Batch	R4982112							
WG3254540-2	LCS							
2,3,7,8-TCDD			97.0		%		67-158	27-JAN-20
1,2,3,7,8-PeCDD			99.0		%		70-142	27-JAN-20
1,2,3,4,7,8-HxCDD			100.0		%		70-164	27-JAN-20
1,2,3,6,7,8-HxCDD			91.0		%		76-134	27-JAN-20
1,2,3,7,8,9-HxCDD			99.0		%		64-162	27-JAN-20
1,2,3,4,6,7,8-HpCDD			102.0		%		70-140	27-JAN-20
OCDD			94.0		%		78-144	27-JAN-20
2,3,7,8-TCDF			93.0		%		75-158	27-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 35 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU		Biota						
Batch	R4982112							
WG3254540-2 LCS								
1,2,3,7,8-PeCDF			99.0		%		80-134	27-JAN-20
2,3,4,7,8-PeCDF			90.0		%		68-160	27-JAN-20
1,2,3,4,7,8-HxCDF			96.0		%		72-134	27-JAN-20
1,2,3,6,7,8-HxCDF			101.0		%		84-130	27-JAN-20
2,3,4,6,7,8-HxCDF			98.0		%		70-156	27-JAN-20
1,2,3,7,8,9-HxCDF			105.0		%		78-130	27-JAN-20
1,2,3,4,6,7,8-HpCDF			103.0		%		82-122	27-JAN-20
1,2,3,4,7,8,9-HpCDF			93.0		%		78-138	27-JAN-20
OCDF			87.0		%		63-170	27-JAN-20
WG3254540-1 MB								
2,3,7,8-TCDD			<0.044	[U]	pg/g		0.044	27-JAN-20
1,2,3,7,8-PeCDD			<0.024	[U]	pg/g		0.024	27-JAN-20
1,2,3,4,7,8-HxCDD			<0.018	[U]	pg/g		0.018	27-JAN-20
1,2,3,6,7,8-HxCDD			<0.018	[U]	pg/g		0.018	27-JAN-20
1,2,3,7,8,9-HxCDD			<0.018	[U]	pg/g		0.018	27-JAN-20
1,2,3,4,6,7,8-HpCDD			0.025	M,J,R	pg/g		0.022	27-JAN-20
OCDD			0.086	M,J	pg/g		0.018	27-JAN-20
2,3,7,8-TCDF			<0.032	[U]	pg/g		0.032	27-JAN-20
1,2,3,7,8-PeCDF			0.030	M,J	pg/g		0.015	27-JAN-20
2,3,4,7,8-PeCDF			<0.013	[U]	pg/g		0.013	27-JAN-20
1,2,3,4,7,8-HxCDF			<0.015	[U]	pg/g		0.015	27-JAN-20
1,2,3,6,7,8-HxCDF			<0.015	[U]	pg/g		0.015	27-JAN-20
2,3,4,6,7,8-HxCDF			<0.015	[U]	pg/g		0.015	27-JAN-20
1,2,3,7,8,9-HxCDF			0.024	M,J,R	pg/g		0.02	27-JAN-20
1,2,3,4,6,7,8-HpCDF			0.021	M,J,R	pg/g		0.017	27-JAN-20
1,2,3,4,7,8,9-HpCDF			<0.020	[U]	pg/g		0.02	27-JAN-20
OCDF			0.049	M,J	pg/g		0.024	27-JAN-20
Total-TCDD			<0.044	[U]	pg/g		0.044	27-JAN-20
Total-PeCDD			<0.024	[U]	pg/g		0.024	27-JAN-20
Total-HxCDD			<0.018	[U]	pg/g		0.018	27-JAN-20
Total-HpCDD			<0.022	[U]	pg/g		0.022	27-JAN-20
Total-TCDF			<0.032	[U]	pg/g		0.032	27-JAN-20
Total-PeCDF			0.030	A	pg/g		0.015	27-JAN-20
Total-HxCDF			<0.020	[U]	pg/g		0.02	27-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 36 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU		Biota						
Batch R4982112								
WG3254540-1 MB								
Total-HpCDF			<0.020	[U]	pg/g		0.02	27-JAN-20
Surrogate: 13C12-2,3,7,8-TCDD			65.0		%		25-164	27-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDD			73.0		%		25-181	27-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			65.0		%		32-141	27-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			71.0		%		28-130	27-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			70.0		%		23-140	27-JAN-20
Surrogate: 13C12-OCDD			71.0		%		17-157	27-JAN-20
Surrogate: 13C12-2,3,7,8-TCDF			64.0		%		24-169	27-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDF			71.0		%		21-192	27-JAN-20
Surrogate: 13C12-2,3,4,7,8-PeCDF			71.0		%		21-178	27-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			62.0		%		26-152	27-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			70.0		%		26-123	27-JAN-20
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			66.0		%		29-147	27-JAN-20
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			59.0		%		28-136	27-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			70.0		%		28-143	27-JAN-20
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			72.0		%		26-138	27-JAN-20
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			68.0		%		31-197	27-JAN-20

COMMENTS: Blank has low levels of select targets. No impact to data quality is expected.

Batch R4985267

WG3254570-2 LCS

2,3,7,8-TCDD			101.0		%		67-158	28-JAN-20
1,2,3,7,8-PeCDD			102.0		%		70-142	28-JAN-20
1,2,3,4,7,8-HxCDD			103.0		%		70-164	28-JAN-20
1,2,3,6,7,8-HxCDD			97.0		%		76-134	28-JAN-20
1,2,3,7,8,9-HxCDD			95.0		%		64-162	28-JAN-20
1,2,3,4,6,7,8-HpCDD			103.0		%		70-140	28-JAN-20
OCDD			93.0		%		78-144	28-JAN-20
2,3,7,8-TCDF			94.0		%		75-158	28-JAN-20
1,2,3,7,8-PeCDF			100.0		%		80-134	28-JAN-20
2,3,4,7,8-PeCDF			96.0		%		68-160	28-JAN-20
1,2,3,4,7,8-HxCDF			99.0		%		72-134	28-JAN-20
1,2,3,6,7,8-HxCDF			102.0		%		84-130	28-JAN-20
2,3,4,6,7,8-HxCDF			100.0		%		70-156	28-JAN-20
1,2,3,7,8,9-HxCDF			106.0		%		78-130	28-JAN-20
1,2,3,4,6,7,8-HpCDF			103.0		%		82-122	28-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 37 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU		Biota						
Batch	R4985267							
WG3254570-2 LCS								
1,2,3,4,7,8,9-HpCDF			94.0		%		78-138	28-JAN-20
OCDF			92.0		%		63-170	28-JAN-20
WG3254570-1 MB								
2,3,7,8-TCDD			<0.029	[U]	pg/g		0.029	28-JAN-20
1,2,3,7,8-PeCDD			0.020	M,J	pg/g		0.019	28-JAN-20
1,2,3,4,7,8-HxCDD			0.021	M,J	pg/g		0.019	28-JAN-20
1,2,3,6,7,8-HxCDD			<0.020	M,U	pg/g		0.02	28-JAN-20
1,2,3,7,8,9-HxCDD			0.035	M,J,R	pg/g		0.019	28-JAN-20
1,2,3,4,6,7,8-HpCDD			0.071	M,J	pg/g		0.014	28-JAN-20
OCDD			0.260	M,J,R	pg/g		0.024	28-JAN-20
2,3,7,8-TCDF			<0.019	[U]	pg/g		0.019	28-JAN-20
1,2,3,7,8-PeCDF			<0.015	[U]	pg/g		0.015	28-JAN-20
2,3,4,7,8-PeCDF			<0.011	M,U	pg/g		0.011	28-JAN-20
1,2,3,4,7,8-HxCDF			<0.016	[U]	pg/g		0.016	28-JAN-20
1,2,3,6,7,8-HxCDF			<0.016	[U]	pg/g		0.016	28-JAN-20
2,3,4,6,7,8-HxCDF			<0.016	M,U	pg/g		0.016	28-JAN-20
1,2,3,7,8,9-HxCDF			0.042	M,J,R	pg/g		0.021	28-JAN-20
1,2,3,4,6,7,8-HpCDF			0.031	M,J,R	pg/g		0.013	28-JAN-20
1,2,3,4,7,8,9-HpCDF			<0.017	M,U	pg/g		0.017	28-JAN-20
OCDF			0.069	M,J,R	pg/g		0.021	28-JAN-20
Total-TCDD			<0.029	[U]	pg/g		0.029	28-JAN-20
Total-PeCDD			0.020	A	pg/g		0.019	28-JAN-20
Total-HxCDD			0.021	A	pg/g		0.02	28-JAN-20
Total-HpCDD			0.125	A	pg/g		0.014	28-JAN-20
Total-TCDF			<0.019	[U]	pg/g		0.019	28-JAN-20
Total-PeCDF			<0.015	[U]	pg/g		0.015	28-JAN-20
Total-HxCDF			<0.021	[U]	pg/g		0.021	28-JAN-20
Total-HpCDF			<0.017	[U]	pg/g		0.017	28-JAN-20
Surrogate: 13C12-2,3,7,8-TCDD			69.0		%		25-164	28-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDD			78.0		%		25-181	28-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			74.0		%		32-141	28-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			74.0		%		28-130	28-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			75.0		%		23-140	28-JAN-20
Surrogate: 13C12-OCDD			73.0		%		17-157	28-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 38 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	Biota							
Batch	R4985267							
WG3254570-1	MB							
Surrogate: 13C12-2,3,7,8-TCDF			70.0		%		24-169	28-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDF			74.0		%		21-192	28-JAN-20
Surrogate: 13C12-2,3,4,7,8-PeCDF			72.0		%		21-178	28-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			69.0		%		26-152	28-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			72.0		%		26-123	28-JAN-20
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			72.0		%		29-147	28-JAN-20
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			66.0		%		28-136	28-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			73.0		%		28-143	28-JAN-20
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			75.0		%		26-138	28-JAN-20
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			78.0		%		31-197	28-JAN-20

COMMENTS: Blank has low levels of select targets, no impact to data quality is expected.

Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 39 of 42

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	Duplicate results and limits are expressed in terms of absolute difference.
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.
[U]	The analyte was not detected above the EDL.

Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 40 of 42

Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 41 of 42

Quality Control Report

Workorder: L2387288

Report Date: 28-FEB-20

Page 42 of 42

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.



www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form



COC Number: 17 -

L2387288-COFC

Page 1 of 6

Canada Toll Free: 1 800 668 9878

Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)																																																																																		
Company: Stantec Consulting Ltd.		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply																																																																																		
Contact: Katherine Ketis		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>					EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>																																																																											
Phone: (519) 780-8198		<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>						Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>																																																																											
Company address below will appear on the final report		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm																																																																																		
Street: 70 Southgate Drive Suite 1		Email 1 or Fax Katherine.Ketis@stantec.com			For tests that can not be performed according to the service level selected, you will be contacted.																																																																																		
City/Province: Guelph, ON		Email 2			Analysis Request																																																																																		
Postal Code: N1G 4P5		Email 3			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																																																																																		
Invoice To Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Invoice Distribution			NUMBER OF CONTAINERS	<table border="1"> <tr> <th>Metals (list attached) Note: Fluoride (NEW)</th> <th>Chloride</th> <th>OCPs</th> <th>PCBs (no arachlors)</th> <th>PCP</th> <th>PCDD/PCDF</th> </tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>										Metals (list attached) Note: Fluoride (NEW)	Chloride	OCPs	PCBs (no arachlors)	PCP	PCDD/PCDF																																																																		
Metals (list attached) Note: Fluoride (NEW)	Chloride	OCPs	PCBs (no arachlors)	PCP												PCDD/PCDF																																																																							
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			SAMPLES ON HOLD																																																																																		
Company: Clean Harbors		Email 1 or Fax carabott.eric@cleanharbors.com													SUSPECTED HAZARD (see Special Instructions)																																																																								
Contact: Erica Carabott		Email 2																																																																																					
Project Information		Oil and Gas Required Fields (client use)																																																																																					
ALS Account # / Quote #: Q53923		AFE/Cost Center:		PO#																																																																																			
Job #: 122160003		Major/Minor Code:		Routing Code:																																																																																			
PO / AFE:		Requisitioner:																																																																																					
LSD:		Location:																																																																																					
ALS Lab Work Order # (lab use only):		ALS Contact:		Sampler:																																																																																			
ALS Sample # (lab use only)		Sample Identification and/or Coordinates (This description will appear on the report)		Date (dd-mmm-yy)																					Time (hh:mm)	Sample Type																																																													
1		19-W2-SS-CH-001*		10-Oct-19*																					8:30*	Soil																																																													
2		19-W2-NG-CH-003*		10-Oct-19*																					9:00*	Plant Tissue																																																													
3		19-W2-SB-CH-005*		10-Oct-19*	9:30*	Plant Tissue																																																																																	
4		19-W4-SS-CH-007*		9-Oct-19*	16:00*	Soil																																																																																	
5		19-W4-NG-CH-009*		9-Oct-19*	16:15*	Plant Tissue																																																																																	
6		19-W4-SB-CH-011*		9-Oct-19*	16:30*	Plant Tissue																																																																																	
7		19-N2-SS-CH-013*		8-Oct-19*	14:00*	Soil																																																																																	
8		19-N2-SD-CH-015*		8-Oct-19*	14:30*	Sediment																																																																																	
9		19-N2-NG-CH-019*		8-Oct-19*	15:00*	Plant Tissue																																																																																	
10		19-N2-SB-CH-021*		8-Oct-19*	15:30*	Plant Tissue																																																																																	
11		19-N4-SS-CH-023*		8-Oct-19*	12:30*	Soil																																																																																	
12		19-N4-NG-CH-025*		8-Oct-19*	12:40*	Plant Tissue																																																																																	
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)																																																																																		
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																																																																																		
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO					Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																																																																		
					Cooling Initiated <input checked="" type="checkbox"/>					INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C																																																																								
					5.8°C																																																																																		
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)																																																																															
Released by: <i>Michelle Kite</i>		Date: Nov 22, 2019		Time: 9:00		Received by: <i>ARRON BURTON</i>		Date: 25-Nov-2019		Time: 11:15		Received by:		Date:		Time:																																																																							

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NOV 2018 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.



www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L2387288-COCF

COC Number: 17 -

Page 2 of 6

Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)										
Company:	Stantec Consulting Ltd.	Select Report Format:	<input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)	Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply											
Contact:	Katherine Ketis	Quality Control (QC) Report with Report	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>		EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>							
Phone:	(519) 780-8198	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked			3 day [P3-25%] <input type="checkbox"/>			Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>							
Company address below will appear on the final report		Select Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX		2 day [P2-50%] <input type="checkbox"/>										
Street:	70 Southgate Drive Suite 1	Email 1 or Fax	Katherine.Ketis@stantec.com	Date and Time Required for all E&P TATs:			dd-mmm-yy hh:mm								
City/Province:	Guelph, ON	Email 2		For tests that can not be performed according to the service level selected, you will be contacted.											
Postal Code:	N1G 4P5	Email 3		Analysis Request											
Invoice To	Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Invoice Distribution			NUMBER OF CONTAINERS	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below						SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)		
	Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Select Invoice Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX	Metals (list attached) Note: Fluoride (NEW)											
Company:	Clean Harbors	Email 1 or Fax	carabott.eric@cleanharbors.com	Chloride											
Contact:	Erica Carabott	Email 2		OCPs											
Project Information		Oil and Gas Required Fields (client use)				PCBs (no arachlors)									
ALS Account # / Quote #:	Q53923	AFE/Cost Center:	PO#	PCP											
Job #:	122160003	Major/Minor Code:	Routing Code:	PCDD/PCDF											
PO / AFE:		Requisitioner:													
LSD:		Location:													
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler:												
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type											
13	19-N4-SB-CH-027*	8-Oct-19 *	13:00 *	Plant Tissue	1	R									
14	19-N5-SS-CH-029*	14-Aug-19*	13:00 *	Soil	1	R									
15	19-N5-SD-CH-031*	14-Aug-19*	13:30 *	Sediment	1	R									
16	19-N5-NG-CH-035*	14-Aug-19*	10:50 18:15	Plant Tissue	1	R									
17	19-E1-SS-CH-037*	9-Oct-19 *	9:00 *	Soil	1	R									
18	19-E1-NG-CH-039 *	9-Oct-19 *	9:30 *	Plant Tissue	1	R									
19	19-E1-SB-CHR-042*	9-Oct-19*	9:20 *	Plant Tissue	1	R									
20	19-E2-SS-CH-043 *	10-Oct-19 *	15:00 *	Soil	1	R		R							
21	19-E2-SD-CH-045*	10-Oct-19 *	15:30 *	Sediment	1	R		R	R						
22	19-E2-NG-CH-049*	10-Oct-19 *	16:00 *	Plant Tissue	1	R		R	R						
23	19-E2-FC-CH-051*	10-Oct-19*	16:30 *	Plant Tissue	2	R		R	R	R					
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)										
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>										
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO					Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>										
					Cooling Initiated <input checked="" type="checkbox"/>			INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C				
					S.8 °C										
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)							
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:				
<i>[Signature]</i>	Nov 22, 2019	9:00	ARRAN BUCKAN	25-Nov-2019	11:15										



Report To Company: Stantec Consulting Ltd. Contact: Katherine Ketis Phone: (519) 780-8198 Street: 70 Southgate Drive Suite 1 City/Province: Guelph, ON Postal Code: N1G 4P5	Report Format / Distribution Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL) Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX Email 1 or Fax: Katherine.Ketis@stantec.com Email 2 Email 3	Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply) Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply PRIORITY (Business Days) 4 day [P4-20%] <input type="checkbox"/> 3 day [P3-25%] <input type="checkbox"/> 2 day [P2-50%] <input type="checkbox"/> EMERGENCY 1 Business day [E - 100%] <input type="checkbox"/> Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/> Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm For tests that can not be performed according to the service level selected, you will be contacted.
--	--	--

Invoice To Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Company: Clean Harbors Contact: Erica Carabott	Invoice Distribution Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX Email 1 or Fax: carabott.eric@cleanharbors.com Email 2	Analysis Request Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below NUMBER OF CONTAINERS Metals (list attached) Note: Fluoride (NEW) Chloride OCs PCBs (no arachlors) PCP PCDD/PCDF SAMPLES ON HOLD SUSPECTED HAZARD (see Special Instructions)
--	---	--

Project Information ALS Account # / Quote #: Q53923 Job #: 122160003 PO / AFE: LSD:	Oil and Gas Required Fields (client use) AFE/Cost Center: Major/Minor Code: Requisitioner: Location:
--	---

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Metals (list attached) Note: Fluoride (NEW)	Chloride	OCs	PCBs (no arachlors)	PCP	PCDD/PCDF	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
24	19-E5-SS-CH-053 *	9-Oct-19 *	10:00 *	Soil	1	R	R				R		
25	19-E5-NG-CH-055 *	9-Oct-19 *	10:30 *	Plant Tissue	1	R	R				R		
26	19-E5-SB-CH-057 *	9-Oct-19 *	10:15 *	Plant Tissue	1	R	R				R		
27	19-E6-SS-CH-059 *	14-Aug-19 *	12:30 *	Soil	1	R	R	R	R		R		
28	19-E6-NG-CH-061 *	14-Aug-19 *	12:45 *	Plant Tissue	1	R	R	R	R		R		
29	19-E7-SS-CH-303 *	9-Oct-19 *	13:00 *	Soil	1	R	R				R		
30	19-E7-NG-CH-305 *	9-Oct-19 *	13:30 *	Plant Tissue	1	R	R				R		
31	19-E7-SB-CH-300 *	1-Oct-19 *	12:30 *	Plant Tissue	1	R	R				R		

Drinking Water (DW) Samples¹ (client use) Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only) Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.	SAMPLE CONDITION AS RECEIVED (lab use only) Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Cooling Initiated <input checked="" type="checkbox"/> INITIAL COOLER TEMPERATURES °C: 5.8°C FINAL COOLER TEMPERATURES °C:
---	---	---

SHIPMENT RELEASE (client use) Released by: <i>Kath Ketis</i> Date: <i>Nov 22 2019</i> Time: <i>9:00</i>	INITIAL SHIPMENT RECEPTION (lab use only) Received by: <i>ARRON BURTON</i> Date: <i>25-Nov-2019</i> Time: <i>11:15</i>	FINAL SHIPMENT RECEPTION (lab use only) Received by: Date: Time:
---	--	--



www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form



COC Number: 17 -

Canada Toll Free: 1 800 668 9878

L2387288 GOFG

Page 4 of 6

Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)												
Company: Stantec Consulting Ltd.		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply												
Contact: Katherine Ketis		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>		EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>								
Phone: (519) 780-8198		<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>			Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>								
Company address below will appear on the final report		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				2 day [P2-50%] <input type="checkbox"/>											
Street: 70 Southgate Drive Suite 1		Email 1 or Fax: Katherine.Ketis@stantec.com			Date and Time Required for all E&P TATs:				dd-mmm-yy hh:mm								
City/Province: Guelph, ON		Email 2			For tests that can not be performed according to the service level selected, you will be contacted.												
Postal Code: N1G 4P5		Email 3			Analysis Request												
Invoice To		Invoice Distribution			NUMBER OF CONTAINERS	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below											
Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				Metals (list attached) Note: Fluoride (NEW)	Chloride	OCPs	PCBs (no arachlors)	PCP	PCDD/PCDF	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)				
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Email 1 or Fax: carabott.eric@cleanharbors.com															
Company: Clean Harbors		Email 2															
Contact: Erica Carabott																	
Project Information		Oil and Gas Required Fields (client use)															
ALS Account # / Quote #: Q53923		AFE/Cost Center: PO#															
Job #: 122160003		Major/Minor Code: Routing Code:															
PO / AFE:		Requisitioner:															
LSD:		Location:															
ALS Lab Work Order # (lab use only):		ALS Contact:		Sampler:													
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type													
32	19-S1-SS-CH-063*	10-Oct-19*	11:00*	Soil	1	R	R				R						
33	19-S1-SD-CH-065*	10-Oct-19*	11:15*	Sediment	1	R	R										
34	19-S1-NG-CH-069*	10-Oct-19*	11:30*	Plant Tissue	1	R	R				R						
35	19-S1-SB-CH-071*	10-Oct-19*	11:45*	Plant Tissue	1	R	R				R						
36	19-S2-SS-CH-073*	10-Oct-19*	10:00*	Soil	1	R	R				R						
37	19-S2-NG-CH-075*	10-Oct-19*	10:30*	Plant Tissue	1	R	R				R						
38	19-S2-SB-CH-077*	10-Oct-19*	11:00*	Plant Tissue	1	R	R				R						
39	19-S4-SS-CH-087*	9-Oct-19*	14:00*	Soil	1	R	R				R						
40	19-S4-SD-CH-089*	9-Oct-19*	14:45*	Sediment	1	R	R										
41	19-S4-NG-CH-093*	9-Oct-19*	14:30*	Plant Tissue	1	R	R				R						
42	19-S4-SB-CH-095*	1-Oct-19*	13:30*	Plant Tissue	1	R	R				R						
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)												
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>												
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO					Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>												
					Cooling Initiated <input checked="" type="checkbox"/>												
					INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C								
					5.8°C												
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)									
Released by: <i>[Signature]</i>		Date: Nov 22, 2019		Time: 9:00		Received by: <i>[Signature]</i>		Date: 25-Nov-2019		Time: 11:15		Received by:		Date:		Time:	

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NOV 2018 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.



Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)																																																		
Company:	Stantec Consulting Ltd.	Select Report Format:	<input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)	Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply		EMERGENCY		1 Business day [E - 100%] <input type="checkbox"/>																																															
Contact:	Katherine Ketis	Quality Control (QC) Report with Report	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	4 day [P4-20%] <input type="checkbox"/>		3 day [P3-25%] <input type="checkbox"/>		Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>																																															
Phone:	(519) 780-8198	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked		2 day [P2-50%] <input type="checkbox"/>																																																			
Company address below will appear on the final report		Select Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX	Date and Time Required for all E&P TATs:				dd-mmm-yy hh:mm																																															
Street:	70 Southgate Drive Suite 1	Email 1 or Fax	Katherine.Ketis@stantec.com	For tests that can not be performed according to the service level selected, you will be contacted.																																																			
City/Province:	Guelph, ON	Email 2		Analysis Request																																																			
Postal Code:	N1G 4P5	Email 3		Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																																																			
Invoice To	Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Invoice Distribution			NUMBER OF CONTAINERS	<table border="1"> <tr> <th>Metals (list attached) Note: Fluoride (NEW)</th> <th>Chloride</th> <th>OCFs</th> <th>PCBs (no arachnids)</th> <th>PCP</th> <th>PCDD/PCDF</th> </tr> <tr> <td>1 R</td> <td>R</td> <td>R</td> <td>R</td> <td></td> <td>R</td> </tr> <tr> <td>1 R</td> <td>R</td> <td>R</td> <td>R</td> <td></td> <td>R</td> </tr> <tr> <td>1 R</td> <td>R</td> <td>R</td> <td>R</td> <td></td> <td>R</td> </tr> <tr> <td>1 R</td> <td>R</td> <td>R</td> <td>R</td> <td></td> <td>R</td> </tr> <tr> <td>1 R</td> <td>R</td> <td>R</td> <td>R</td> <td>R</td> <td>R</td> </tr> <tr> <td>2 R</td> <td>R</td> <td>R</td> <td>R</td> <td>R</td> <td>R</td> </tr> </table>								Metals (list attached) Note: Fluoride (NEW)	Chloride	OCFs	PCBs (no arachnids)	PCP	PCDD/PCDF	1 R	R	R	R		R	1 R	R	R	R		R	1 R	R	R	R		R	1 R	R	R	R		R	1 R	R	R	R	R	R	2 R	R	R	R	R	R
Metals (list attached) Note: Fluoride (NEW)	Chloride	OCFs	PCBs (no arachnids)	PCP										PCDD/PCDF																																									
1 R	R	R	R											R																																									
1 R	R	R	R											R																																									
1 R	R	R	R											R																																									
1 R	R	R	R											R																																									
1 R	R	R	R	R										R																																									
2 R	R	R	R	R										R																																									
Copy of Invoice with Report	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Select Invoice Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX																																																				
Company:	Clean Harbors	Email 1 or Fax	carabott.eric@cleanharbors.com																																																				
Contact:	Erica Carabott	Email 2																																																					
Project Information		Oil and Gas Required Fields (client use)																																																					
ALS Account # / Quote #:	Q53923	AFE/Cost Center:	PO#																																																				
Job #:	122160003	Major/Minor Code:	Routing Code:																																																				
PO / AFE:		Requisitioner:																																																					
LSD:		Location:																																																					
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler:																																																				
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SAMPLES ON HOLD																																																		
43	19-D1-SS-CH-200*	8-Oct-19*	14:10*	Soil	SUSPECTED HAZARD (see Special Instructions)																																																		
44	19-D2-SS-CH-201*	10-Oct-19*	15:15*	Soil																																																			
45	19-D3-NG-CH-203*	8-Oct-19*	15:10*	Plant Tissue																																																			
46	19-D8-NG-CH-208*	10-Oct-19*	16:10*	Plant Tissue																																																			
47	19-D4-SD-CH-204*	8-Oct-19*	14:40*	Sediment																																																			
48	19-D5-SB-CH-206*	8-Oct-19*	15:40*	Plant Tissue																																																			
49	19-D6-FC-CH-207*	10-Oct-19*	16:40*	Plant Tissue																																																			
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)																																																		
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO					Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Cooling Initiated <input checked="" type="checkbox"/>																																																		
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			INITIAL COOLER TEMPERATURES °C: 5.8°C FINAL COOLER TEMPERATURES °C:																																																		
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)																																																		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:																																												
<i>[Signature]</i>	Nov 22 2019	9:00	AARON METZ	25-Nov-2019	11:15																																																		



Chain of Custody (COC) / Analytical Request Form



COC Number: 17 -

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L2387288-COFC

Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)								
Company:	Stantec Consulting Ltd.	Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply								
Contact:	Katherine Ketis	Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>			EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>			
Phone:	(519) 780-8198	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>				Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>			
Company address below will appear on the final report		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				2 day [P2-50%] <input type="checkbox"/>							
Street:	70 Southgate Drive Suite 1	Email 1 or Fax Katherine.Ketis@stantec.com			Date and Time Required for all E&P TATs:				dd-mmm-yy hh:mm				
City/Province:	Guelph, ON	Email 2			For tests that can not be performed according to the service level selected, you will be contacted.								
Postal Code:	N1G 4P5	Email 3			Analysis Request								
Invoice To		Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below								
Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX											
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Email 1 or Fax carabott.eric@cleanharbors.com			NUMBER OF CONTAINERS	Metals (list attached) Note: Fluoride (NEW)	Chloride	OCPs	PCBs (no arachnids)	PCP	PCDD/PCDF	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
Company:	Clean Harbors	Email 2											
Contact:	Erica Carabott												
Project Information		Oil and Gas Required Fields (client use)											
ALS Account # / Quote #:	Q53923	AFE/Cost Center:	PO#										
Job #:	122160003	Major/Minor Code:	Routing Code:										
PO / AFE:		Requisitioner:											
LSD:		Location:											
ALS Lab Work Order # (lab use only):		ALS Contact:		Sampler:									
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type									
50	19-E6-FB-CH-211*	14-Aug-19*	12:05*	Water	2	R	R						
51	19-E1-FB-CH-213*	9-Oct-19*	8:30*	Water	2	R	R						
52	19-E6-RB-CH-215*	14-Aug-19*	12:00*	Water	2	R	R						
53	19-E1-RB-CH-216*	9-Oct-19*	8:35*	Water	2	R	R						
54	19-E6-TB-CH-220*	14-Aug-19*	not applicable	Water	2	R	R						
55	19-E1-TB-CH-221*	9-Oct-19*	not applicable	Water	2	R	R						
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)								
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>								
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO					Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>								
					Cooling Initiated <input checked="" type="checkbox"/>								
					INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C				
					5.8°C								
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)							
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:		
<i>Katherine Ketis</i>	Nov 22 2019	9:00	<i>ARON BRETAN</i>	25-Nov-2019	11:15								



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

Date Received: 25-NOV-19
Report Date: 26-MAR-20 14:45 (MT)
Version: FINAL REV. 2

Client Phone: 519-836-6050


Certificate of Analysis

Lab Work Order #: L2387288
Project P.O. #: NOT SUBMITTED
Job Reference: 122160003 CLEAN HARBORS
C of C Numbers:
Legal Site Desc:

Comments: Report Revisions:

For the pentachlorophenol and PCB results for the plant tissues, the data have now been calculated on a dry weight basis. Prior data had been calculated on a wet weight basis.

For the Laboratory Control Sample (LCS) for the PCB data for the solid samples, there have been minor revisions to selected peak integrations resulting in a slight change to the reported total PCB recovery. Sample data have not changed.



Lynne Wrona, M.Sc.
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 1435 Norjohn Court, Unit 1, Burlington, ON, L7L 0E6 Canada | Phone: +1 905 331 3111 | Fax: +1 905 331 4567
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2387288-1 19-W2-SS-CH-001							
Sampled By: Client on 10-OCT-19 @ 08:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	17.1		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.49		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0471		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	16.7		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	14800		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.25		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.91		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	59.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.59		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	7.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.447		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	3680		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	20.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	7.11		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	12.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	17700		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	19.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	3710		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	416		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.87		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	17.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	484		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	1480		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.39		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	52		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	11.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.202		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	139		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.51		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	35.1		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	50.5		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	1.8		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.226	M,J	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.244	M,J	0.041	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.258	M,J	0.071	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.386	M,J	0.070	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.400	M,J,R	0.070	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	6.75		0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	37.4		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.295	M,J	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.252	M,J	0.063	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.720	[J]	0.050	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-1 19-W2-SS-CH-001							
Sampled By: Client on 10-OCT-19 @ 08:30							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8-HxCDF	0.476	M,J	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.310	M,J,R	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.565	M,J	0.082	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.16	M,J,R	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	2.30	[J]	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.160	M,J,R	0.074	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.91	[J]	0.059	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	0.226		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	1				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	1.87		0.041	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	4.99		0.071	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	4				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	13.0		0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	7.06		0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	11.2		0.063	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	5.48		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	3.68		0.074	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	73.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	76.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	71.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	70.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	45.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	70.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	68.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	72.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	64.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.994			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-2 19-W2-NG-CH-003							
Sampled By: Client on 10-OCT-19 @ 09:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	74.7		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	70.7		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	2300	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0292		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	0.0055		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-2 19-W2-NG-CH-003							
Sampled By: Client on 10-OCT-19 @ 09:00							
Matrix: Plant Tissue							
Sulfur (S)-Total	2350		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.44		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	47.5		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.025		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.046		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	9.67		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	0.021		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	11.7		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0937		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	8190		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0228		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.644		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.029		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	9.28		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	111		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.835		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2270		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	28.3		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.58		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.61		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2440		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	11900		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	2.50		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.689		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	27		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	13.6		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	0.14		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0049		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.17		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	26.7		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.088	[U]	0.088	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.093	M,J	0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.072	M,U	0.072	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.126	M,J	0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.110	M,J,R	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.54	[J]	0.062	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	4.85	[J]	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	0.106	M,J	0.078	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.059	[U]	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	0.100	M,J	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.096	M,J	0.067	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.110	M,J,R	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.087	M,U	0.087	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	<0.088	[U]	0.088	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.440	M,J,R	0.067	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-2 19-W2-NG-CH-003							
Sampled By: Client on 10-OCT-19 @ 09:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8,9-HpCDF	<0.090	M,U	0.090	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.21	[J]	0.060	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.482		0.088	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	2.03		0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	1.70		0.072	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	4				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	4.25		0.062	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.998		0.078	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.569		0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.232		0.088	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.090	[U]	0.090	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	60.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	69.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	56.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	63.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	61.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	57.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	61.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	68.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	68.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	58.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	61.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	51.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	56.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	61.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	64.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	66.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.173			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.257			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.314			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-3 19-W2-SB-CH-005							
Sampled By: Client on 10-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	34.7		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	33.1		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	44	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4210		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-3 19-W2-SB-CH-005							
Sampled By: Client on 10-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.05		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	32.4		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0380		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2810		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0137		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.121		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	12.4		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	72.2		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3240		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	28.7		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	10.6		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.49		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7370		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	23900		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	10.5		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.252		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	2.35		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	34.9		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.036	[U]	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.019	[U]	0.019	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.019	[U]	0.019	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.018	[U]	0.018	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.028	M,J,R	0.018	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.052	M,J,R	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	0.344	J,B	0.018	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.015	[U]	0.015	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.012	[U]	0.012	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.011	[U]	0.011	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.011	[U]	0.011	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.016	M,J,R	0.011	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.016	M,J,R	0.014	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	<0.010	[U]	0.010	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.012	[U]	0.012	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.165	M,J,B	0.017	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.036	[U]	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-3 19-W2-SB-CH-005 Sampled By: Client on 10-OCT-19 @ 09:30 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.019	[U]	0.019	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.019	[U]	0.019	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	0.039		0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.015	[U]	0.015	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	<0.014	[U]	0.014	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.012	[U]	0.012	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	48.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	56.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	50.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	48.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	48.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	50.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	47.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	55.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	53.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	49.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	50.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	48.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	46.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	50.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HpCDF	52.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	58.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.000153			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.0406			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.0745			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-4 19-W4-SS-CH-007 Sampled By: Client on 09-OCT-19 @ 16:00 Matrix: Soil							
Miscellaneous Parameters							
% Moisture	22.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	1.45		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0482		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	22.5		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	23300		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.26		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.22		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	94.3		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.98		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	<0.20		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	16.3		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-4 19-W4-SS-CH-007							
Sampled By: Client on 09-OCT-19 @ 16:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Cadmium (Cd)	0.472		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	4530		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	32.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	8.66		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	23.3		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	24000		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	15.4		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	27.8		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	6370		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	268		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	1.50		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	29.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	989		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	4070		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.50		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	64		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	18.2		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.277		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	112		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	2.11		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	42.7		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	87.6		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.3		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.600	M,J	0.091	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.411	M,J	0.040	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.397	[J]	0.097	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	1.28	[J]	0.096	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.891	M,J	0.095	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	25.6		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	116		0.20	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.530	M,J	0.085	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.339	M,J	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.687	[J]	0.068	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.588	M,J	0.088	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.476	M,J	0.088	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.794	[J]	0.095	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.15	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	8.93		0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.386	[J]	0.090	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	16.1		0.090	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	2.42		0.091	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	4.06		0.040	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	9.57		0.097	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-4 19-W4-SS-CH-007							
Sampled By: Client on 09-OCT-19 @ 16:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total-HpCDD	40.3		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	10.9		0.085	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	15				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	10.3		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	10.1		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	8				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	20.4		0.090	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	69.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	67.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	69.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	45.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	70.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	73.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	69.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	69.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	65.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	63.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	72.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	72.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	2.13			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	2.13			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	2.13			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-5 19-W4-NG-CH-009							
Sampled By: Client on 09-OCT-19 @ 16:15							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	70.8		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	68.1		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	8500	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0115		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	0.0052		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3110		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.32		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	62.0		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.019		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.138		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	10.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.3		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.180		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4410		20	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-5 19-W4-NG-CH-009							
Sampled By: Client on 09-OCT-19 @ 16:15							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Cesium (Cs)-Total	0.0418		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.290		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.096		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	8.25		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	122		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.234		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2520		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	90.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.94		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	1.29		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3760		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	24400		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	2.46		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.222		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	68		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	7.42		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0026		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	0.15		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0053		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.17		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	29.3		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.068	[U]	0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.071	M,J,R	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	0.058	M,J,R	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.150	M,J	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.160	M,J,R	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.32	[J]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	3.55	[J]	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	0.160	M,J	0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.096	M,J,R	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	0.085	M,J	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.072	M,J	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.067	M,J	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.064	M,J,R	0.047	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.075	M,J	0.043	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.344	[J]	0.024	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.029	[U]	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.653	[J]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.550		0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.45		0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	2.93		0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	4				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	3.66		0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.755		0.075	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-5 19-W4-NG-CH-009							
Sampled By: Client on 09-OCT-19 @ 16:15							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total TCDF # Homologues	4				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.683		0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.521		0.047	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	6				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.479		0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	76.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	89.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	80.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	78.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	61.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	83.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	84.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	81.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	79.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	60.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	75.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	79.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	82.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	74.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0958			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.232			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.266			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-6 19-W4-SB-CH-011							
Sampled By: Client on 09-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	54.3		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	52.4		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	38	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4820		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.10		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	34.0		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.282		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2610		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0143		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.101		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-6 19-W4-SB-CH-011							
Sampled By: Client on 09-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Copper (Cu)-Total	16.7		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	78.9		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3200		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	24.0		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	8.82		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	3.50		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7990		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	23400		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	13.4		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.305		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	2.28		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	51.7		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.081	[U]	0.081	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.041	[U]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.028	[U]	0.028	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.057	M,J,R	0.021	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	0.301	J,B	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.045	[U]	0.045	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.026	[U]	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.021	[U]	0.021	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.016	[U]	0.016	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.017	[U]	0.017	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.017	[U]	0.017	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.027	M,J,R	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	<0.022	[U]	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.206	M,J,B	0.028	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.081	[U]	0.081	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.041	[U]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.028	[U]	0.028	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	0.036		0.021	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.045	[U]	0.045	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.026	[U]	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-6 19-W4-SB-CH-011							
Sampled By: Client on 09-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HxCDF	<0.022	[U]	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	76.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	90.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	80.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	90.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	91.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	71.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	86.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	87.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	77.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	76.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	74.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	72.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	85.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	93.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	76.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.000152			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.0771			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.151			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-7 19-N2-SS-CH-013							
Sampled By: Client on 08-OCT-19 @ 14:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	23.7		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.43		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0635		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	23.7		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	26200		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.33		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	4.94		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	120		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	1.16		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	0.23		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	15.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.473		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	5550		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	38.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	11.2		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	31.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	25000		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	15.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	35.6		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	7320		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	339		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.35		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-7 19-N2-SS-CH-013							
Sampled By: Client on 08-OCT-19 @ 14:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Nickel (Ni)	36.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	959		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	4010		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.60		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	64		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	21.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.228		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	128		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.87		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	44.3		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	82.9		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	6.4		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
CARB428 PCB TOTALS							
Total PCB	0.347		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	30.8		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	42.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	28.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	70.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	29.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	83.9		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	29.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	73.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	48.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	70.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	64.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	69.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	71.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	91.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	65.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	71.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	69.5	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	71.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	77.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	69.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	73.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	66.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	69.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	64.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	62.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.0068	[U]	0.0068	ng/g	22-JAN-20	10-FEB-20	R5007833
beta-BHC	<0.0087	[U]	0.0087	ng/g	22-JAN-20	10-FEB-20	R5007833
delta-BHC	<0.0089	[U]	0.0089	ng/g	22-JAN-20	10-FEB-20	R5007833
gamma-BHC	<0.0088	[U]	0.0088	ng/g	22-JAN-20	10-FEB-20	R5007833
Heptachlor	0.00210	M,J,R	0.00033	ng/g	22-JAN-20	10-FEB-20	R5007833
Aldrin	<0.00097	[U]	0.00097	ng/g	22-JAN-20	10-FEB-20	R5007833
Heptachlor Epoxide	0.0102	M,J	0.0010	ng/g	22-JAN-20	10-FEB-20	R5007833

* 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
L2387288-7 19-N2-SS-CH-013							
Sampled By: Client on 08-OCT-19 @ 14:00							
Matrix: Soil							
OC Pesticides by Method 1699							
trans-Chlordane	<0.0084	[U]	0.0084	ng/g	22-JAN-20	10-FEB-20	R5007833
cis-Chlordane	<0.0080	[U]	0.0080	ng/g	22-JAN-20	10-FEB-20	R5007833
Dieldrin	0.0240	M,J,R	0.0049	ng/g	22-JAN-20	10-FEB-20	R5007833
Endrin	<0.013	M,U	0.013	ng/g	22-JAN-20	10-FEB-20	R5007833
Endrin Aldehyde	0.0084	M,J	0.0079	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan I	<0.0060	[U]	0.0060	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan II	<0.020	M,U	0.020	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan Sulfate	<0.0025	[U]	0.0025	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDE	0.102	[J]	0.0043	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDD	0.013	M,J,R	0.010	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDT	0.114	M,J	0.0064	ng/g	22-JAN-20	10-FEB-20	R5007833
Methoxychlor	<0.0032	U	0.0032	ng/g	22-JAN-20	10-FEB-20	R5007833
Mirex	0.00920	J,R	0.00025	ng/g	22-JAN-20	10-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	59.0		16-129	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	70.0		14-136	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	77.0		40-151	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Endrin, 13C12-	75.0		35-155	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	77.0		5-122	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	81.0		21-125	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	82.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Mirex, 13C10-	85.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Heptachlor Epoxide A	<0.0077	[U]	0.0077	ng/g	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	87.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	62.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	88.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	72.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	73.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.302	M,J	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.207	[J]	0.046	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.22	M,J,R	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.43	M,J	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.38	M,J	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	5.55		0.16	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	27.8		0.25	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.523	M,J	0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.290	M,J,R	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.580	[J]	0.073	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.402	M,J,B	0.036	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.316	M,J	0.036	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.450	M,J	0.038	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.120	M,J	0.050	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	2.00	M,J,R	0.079	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.162	M,J	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.93	[J]	0.18	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	2.08		0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	3.81		0.046	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	6.15		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-7 19-N2-SS-CH-013							
Sampled By: Client on 08-OCT-19 @ 14:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total-HpCDD	10.6		0.16	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	7.87		0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	7.62		0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	3.61		0.050	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	1.85		0.079	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	76.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	77.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	66.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	59.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	23.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	74.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	77.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	72.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	64.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	66.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	62.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	48.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	66.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.01			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.06			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.06			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-8 19-N2-SD-CH-015							
Sampled By: Client on 08-OCT-19 @ 14:30							
Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	21.1		0.10	%	22-JAN-20	23-JAN-20	R4976673
Chloride (Cl)	36.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.82		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0231		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	21.2		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	13300		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.32		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	6.22		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	63.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.62		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	<0.20		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	17.4		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.214		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	94900		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	24.3		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	9.04		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	17.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-8 19-N2-SD-CH-015							
Sampled By: Client on 08-OCT-19 @ 14:30							
Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Iron (Fe)	20400		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	8.21		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	25.3		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	33300		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	362		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	3.14		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	26.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	455		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	2850		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.49		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	169		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	86.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.258		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	212		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	1.26		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	32.2		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	52.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	6.1		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
CARB428 PCB TOTALS							
Total PCB	0.363		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	25.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	35.3		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	23.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	54.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	24.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	63.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	22.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	57.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	36.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	58.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	40.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	56.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	54.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	73.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	50.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	57.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	58.4	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	55.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	61.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	54.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	58.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	51.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	54.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	54.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	51.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	10-FEB-20	R5007833

* 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
L2387288-8 19-N2-SD-CH-015 Sampled By: Client on 08-OCT-19 @ 14:30 Matrix: Sediment							
OC Pesticides by Method 1699							
beta-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	10-FEB-20	R5007833
delta-BHC	<0.015	[U]	0.015	ng/g	22-JAN-20	10-FEB-20	R5007833
gamma-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	10-FEB-20	R5007833
Heptachlor	0.00180	M,J,R	0.00086	ng/g	22-JAN-20	10-FEB-20	R5007833
Aldrin	<0.0015	[U]	0.0015	ng/g	22-JAN-20	10-FEB-20	R5007833
Heptachlor Epoxide	<0.0032	M,U	0.0032	ng/g	22-JAN-20	10-FEB-20	R5007833
trans-Chlordane	<0.016	[U]	0.016	ng/g	22-JAN-20	10-FEB-20	R5007833
cis-Chlordane	<0.015	[U]	0.015	ng/g	22-JAN-20	10-FEB-20	R5007833
Dieldrin	0.0084	M,J,R	0.0066	ng/g	22-JAN-20	10-FEB-20	R5007833
Endrin	<0.019	M,U	0.019	ng/g	22-JAN-20	10-FEB-20	R5007833
Endrin Aldehyde	<0.011	[U]	0.011	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan I	<0.0082	[U]	0.0082	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan II	<0.020	M,U	0.020	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan Sulfate	<0.0053	[U]	0.0053	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDE	0.0404	M,J	0.0076	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDD	0.0210	M,J,R	0.0088	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDT	0.012	M,J,R	0.011	ng/g	22-JAN-20	10-FEB-20	R5007833
Methoxychlor	<0.013	[U]	0.013	ng/g	22-JAN-20	10-FEB-20	R5007833
Mirex	<0.00069	[U]	0.00069	ng/g	22-JAN-20	10-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	44.0		16-129	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	45.0		14-136	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	52.0		40-151	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Endrin, 13C12-	50.0		35-155	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	51.0		5-122	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	57.0		21-125	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	49.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Mirex, 13C10-	49.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Heptachlor Epoxide A	<0.024	[U]	0.024	ng/g	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	56.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	47.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	48.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	56.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	54.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
L2387288-9 19-N2-NG-CH-019 Sampled By: Client on 08-OCT-19 @ 15:00 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	62.4		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	54.3		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	6930	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0154		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3460		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.34		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	62.8		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.011		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.044		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	8.75		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-9 19-N2-NG-CH-019							
Sampled By: Client on 08-OCT-19 @ 15:00							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.7		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0416		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4640		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0132		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.246		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.055		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	5.46		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	113		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.279		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2090		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	86.4		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	4.08		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.72		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2570		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	12400		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	6.79		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	1.40		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	13.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0026		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0091		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.15		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	38.7		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
PCB congeners by SIM GC/LRMS							
Total PCB	0.595		0.045	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	39.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	58.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	36.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	80.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	34.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	86.4		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	33.1		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	83.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	58.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	68.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	62.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	68.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	69.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	88.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	64.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	71.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	67.3	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	94.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	82.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	69.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	72.9		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-9 19-N2-NG-CH-019							
Sampled By: Client on 08-OCT-19 @ 15:00							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 205	66.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	84.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	66.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	60.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.35	[U]	0.35	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.50	[U]	0.50	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.48	[U]	0.48	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.43	[U]	0.43	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.038	[U]	0.038	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.043	[U]	0.043	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.14	M,U	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.28	[U]	0.28	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.27	[U]	0.27	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.42	M,J	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.42	M,U	0.42	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.23	[U]	0.23	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.35	[U]	0.35	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.55	[U]	0.55	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.23	[U]	0.23	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	0.33	M,J,R	0.28	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.31	[U]	0.31	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.80	[U]	0.80	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.23	[U]	0.23	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	0.074	M,J	0.021	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	47.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	41.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	70.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	68.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	67.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	63.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	74.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	47.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	46.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	54.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.63	[U]	0.63	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<1.1	[U]	1.1	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	51.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	34.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	54.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	56.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.079	[U]	0.079	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.057	M,J	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.082	[U]	0.082	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.081	[U]	0.081	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	<0.081	[U]	0.081	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.06	[J]	0.046	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	3.12	[J]	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	0.169	M,J	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.065	M,J,R	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-9 19-N2-NG-CH-019							
Sampled By: Client on 08-OCT-19 @ 15:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,4,7,8-PeCDF	0.071	M,J,R	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.053	M,J,R	0.046	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.076	M,J,R	0.047	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.099	M,J	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.068	M,J,R	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.312	[J]	0.024	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.063	M,J,R	0.030	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.830	M,J,R	0.037	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.402		0.079	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.30		0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	4				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	2.30		0.082	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	2.74		0.046	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	1.04		0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.522		0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.199		0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.312		0.030	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	71.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	83.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	71.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	72.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	76.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	66.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	71.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	80.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	80.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	73.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	72.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	62.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	68.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	73.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	78.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	75.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0980			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.194			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.245			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-10 19-N2-SB-CH-021							
Sampled By: Client on 08-OCT-19 @ 15:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	53.4		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	53.8		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	49	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346

* 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
L2387288-10 19-N2-SB-CH-021							
Sampled By: Client on 08-OCT-19 @ 15:30							
Matrix: Plant Tissue							
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4730		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.19		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	36.0		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0810		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2400		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.084		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	15.6		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	81.8		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3130		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	26.8		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	7.30		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	3.30		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	8290		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	24500		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	6.20		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.632		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	1.84		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	45.3		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<1.1	[U]	1.1	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	31.0	G	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: 13C6-Pentachlorophenol has low recovery.							
PCB congeners by SIM GC/LRMS							
Total PCB	<0.021		0.021	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	46.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	59.2		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	41.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	80.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	41.0		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	84.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	36.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	69.9		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-10 19-N2-SB-CH-021							
Sampled By: Client on 08-OCT-19 @ 15:30							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 104	50.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	72.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	56.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	67.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	66.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	88.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	61.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	65.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	68.6	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	62.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	69.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	63.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	65.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	61.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	62.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	61.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	57.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
beta-BHC	<0.019	[U]	0.019	ng/g	21-JAN-20	11-FEB-20	R5011480
delta-BHC	<0.018	[U]	0.018	ng/g	21-JAN-20	11-FEB-20	R5011480
gamma-BHC	<0.018	[U]	0.018	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor	0.0030	M,J,R	0.0011	ng/g	21-JAN-20	11-FEB-20	R5011480
Aldrin	<0.0018	[U]	0.0018	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide	0.0145	M,J	0.0047	ng/g	21-JAN-20	11-FEB-20	R5011480
trans-Chlordane	<0.015	[U]	0.015	ng/g	21-JAN-20	11-FEB-20	R5011480
cis-Chlordane	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
Dieldrin	0.033	M,J	0.011	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin	<0.015	[U]	0.015	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin Aldehyde	<0.013	[U]	0.013	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan I	<0.018	[U]	0.018	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan II	<0.025	[U]	0.025	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan Sulfate	<0.0064	[U]	0.0064	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDE	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDD	<0.0098	[U]	0.0098	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDT	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
Methoxychlor	<0.0027	[U]	0.0027	ng/g	21-JAN-20	11-FEB-20	R5011480
Mirex	0.00230	M,J,R	0.00074	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	66.0		16-129	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	63.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	92.0		14-136	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	88.0		40-151	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endrin, 13C12-	93.0		35-155	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	86.0		5-122	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	99.0		21-125	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	111.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Mirex, 13C10-	106.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	103.0		5-150	%	21-JAN-20	11-FEB-20	R5011480
Endrin ketone	<0.019	[U]	0.019	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide A	<0.036	[U]	0.036	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	72.0		11-120	%	21-JAN-20	11-FEB-20	R5011480

* 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
L2387288-10 19-N2-SB-CH-021							
Sampled By: Client on 08-OCT-19 @ 15:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: Methoxychlor, 13C12-	139.0	G	5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	82.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	86.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Note: Methoxychlor-ES recovery outside method limits. Target results are calculated against labelled isotopes using isotope dilution, therefore minimal impact on data quality is expected.							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.15	[U]	0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.061	[U]	0.061	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.049	[U]	0.049	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.070	M,J,R	0.051	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.066	M,J,R	0.049	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.334	M,J	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	2.42	[J]	0.044	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.083	[U]	0.083	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.040	[U]	0.040	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.040	[U]	0.040	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.042	[U]	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.041	[U]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.072	M,J,R	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.120	M,J,R	0.032	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.110	M,J,R	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.03	[J]	0.045	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.15	[U]	0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.061	[U]	0.061	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.051	[U]	0.051	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	0.522		0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.083	[U]	0.083	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	<0.055	[U]	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.036	[U]	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	58.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	76.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	63.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	63.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	77.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	86.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	57.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	67.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	72.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	59.0		26-152	%	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-10 19-N2-SB-CH-021							
Sampled By: Client on 08-OCT-19 @ 15:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	60.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	60.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	56.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	70.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	80.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	60.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.00438			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.152			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.277			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-11 19-N4-SS-CH-023							
Sampled By: Client on 08-OCT-19 @ 12:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	19.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.97		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0572		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	18.9		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	15800		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.22		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.78		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	77.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.68		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	0.23		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	7.5		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.499		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	5020		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	22.7		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	8.31		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	15.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	18400		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	19.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	4920		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	409		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.83		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	20.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	590		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	1730		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.41		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	<50		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	15.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.194		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	84.3		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.69		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	33.3		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-11 19-N4-SS-CH-023							
Sampled By: Client on 08-OCT-19 @ 12:30							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Zinc (Zn)	59.8		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.9		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.188	M,J	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.190	M,J,R	0.064	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.183	M,J	0.071	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.336	M,J	0.063	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.371	M,J	0.066	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	4.67		0.075	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	25.9		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.403	M,J	0.081	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.269	M,J	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.533	[J]	0.053	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.353	M,J,B	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.289	M,J	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.381	[J]	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.103	M,J	0.098	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.90	M,J	0.034	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.130	M,J,R	0.040	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.49	[J]	0.082	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.55		0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	1.05		0.064	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	4				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	3.94		0.071	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	9.40		0.075	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	5.99		0.081	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	6.99		0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	4.01		0.098	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	2.86		0.040	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	77.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	77.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	70.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	79.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	70.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	40.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	78.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	74.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	70.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	75.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	73.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	69.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	64.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	73.0		26-138	%	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-11 19-N4-SS-CH-023 Sampled By: Client on 08-OCT-19 @ 12:30 Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.672			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.863			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.863			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-12 19-N4-NG-CH-025 Sampled By: Client on 08-OCT-19 @ 12:40 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	56.7		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	52.0		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	7650	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0168		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3190		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.67		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	17.9		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.012		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.033		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	7.49		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.5		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0522		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4170		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0100		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.158		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.039		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	7.01		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	75.8		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.257		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1960		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	86.0		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	3.39		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.71		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2890		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	11700		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	8.66		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	1.33		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	12.6		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0042		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	57.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
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
L2387288-12 19-N4-NG-CH-025							
Sampled By: Client on 08-OCT-19 @ 12:40							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.057	[U]	0.057	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.052	M,J,R	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	0.060	M,J,R	0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.070	M,J,R	0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.076	M,J,R	0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.823	[J]	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	3.11	[J]	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.053	M,U	0.053	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.053	M,J,R	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	0.038	M,J,R	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.046	M,J,R	0.040	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.053	M,J,R	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.055	M,U	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.066	[J]	0.048	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.356	[J]	0.023	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.044	M,J,R	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.04	[J]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.678		0.057	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.10		0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	2.13		0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	2.39		0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.794		0.053	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.361		0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.370		0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.435		0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	83.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	73.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	75.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	66.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	72.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	81.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	79.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	75.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	70.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	50.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	69.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	72.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	79.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	77.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0196			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.149			pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-12 19-N4-NG-CH-025 Sampled By: Client on 08-OCT-19 @ 12:40 Matrix: Plant Tissue Dioxins and Furans HR 1613B Upper Bound PCDD/F TEQ (WHO 2005)	0.183			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-13 19-N4-SB-CH-027 Sampled By: Client on 08-OCT-19 @ 13:00 Matrix: Plant Tissue Miscellaneous Parameters							
% Moisture	46.9		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	46.9		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	46	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4700		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.530		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	33.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0642		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	1990		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0084		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.081		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	14.8		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	74.7		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3180		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	25.0		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	18.7		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	2.03		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	8500		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	23000		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	13.4		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.114		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	1.62		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	42.6		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.086	[U]	0.086	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.056	[U]	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.034	[U]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-13 19-N4-SB-CH-027							
Sampled By: Client on 08-OCT-19 @ 13:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,6,7,8-HxCDD	<0.034	[U]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	<0.033	[U]	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.088	M,J,R	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	0.646	J,B	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.053	[U]	0.053	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.029	[U]	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.025	[U]	0.025	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.057	M,J	0.038	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.037	[U]	0.037	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.038	[U]	0.038	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	<0.049	[U]	0.049	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.046	M,J,R	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.030	M,U	0.030	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.444	J,B	0.032	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.086	[U]	0.086	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.056	[U]	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.034	[U]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	<0.033	[U]	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.053	[U]	0.053	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.029	[U]	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.057		0.049	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.030	[U]	0.030	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	66.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	69.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	75.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	93.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	103.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	65.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	74.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	68.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	88.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	100.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	75.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.00605			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.0966			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.186			pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-14 19-N5-SS-CH-029							
Sampled By: Client on 14-AUG-19 @ 13:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	19.1		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.70		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0761		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	19.2		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	14200		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.32		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.75		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	65.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.59		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	0.22		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	11.8		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.560		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	19800		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	22.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	7.55		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	14.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	17800		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	22.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	20.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	9700		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	287		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	1.71		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	18.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	394		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	1940		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.49		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	88		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	40.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.231		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	109		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	0.991		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	32.2		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	74.6		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	1.6		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.277	M,J	0.057	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.409	[J]	0.039	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	1.01	[J]	0.082	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	4.05		0.080	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	1.85	M,J	0.080	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	218		0.36	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	2130		0.30	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.422	[J]	0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.403	M,J	0.041	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.650	[J]	0.035	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-14 19-N5-SS-CH-029							
Sampled By: Client on 14-AUG-19 @ 13:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8-HxCDF	1.45	[J]	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	1.06	[J]	0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	2.74	[J]	0.093	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.27	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	36.1		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	1.67	[J]	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	108		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	2.72		0.057	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	5.76		0.039	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	8				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	26.2		0.082	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	388		0.36	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	6.69		0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	15				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	9.65		0.041	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	28.6		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	96.2		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	76.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	81.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	67.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	76.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	71.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	54.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	80.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	69.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	66.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	63.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	76.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	5.41			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	5.41			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	5.41			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-15 19-N5-SD-CH-031							
Sampled By: Client on 14-AUG-19 @ 13:30							
Matrix: Sediment							
Miscellaneous Parameters							
Chloride (Cl)	167		5.0	mg/kg	18-FEB-20	18-FEB-20	R4998419
Fluoride (F)	2.53		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.178		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	65.4		0.25	%		03-FEB-20	R4987031
Metals in Soil by CRC ICMS							

* 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
L2387288-15 19-N5-SD-CH-031 Sampled By: Client on 14-AUG-19 @ 13:30 Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Aluminum (Al)	34300		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.60		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	8.20		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	182		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	1.37		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	0.42		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	22.4		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	1.18		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	21800		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	47.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	11.7		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	33.5		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	34200		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	27.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	53.9		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	15500		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	365		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	5.98		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	42.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	1010		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	5050		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	3.77		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	0.20		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	293		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	50.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	1900		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.485		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	2.2		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	78.9		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	2.55		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	60.3		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	189		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	4.9		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
L2387288-16 19-N5-NG-CH-035 Sampled By: Client on 14-AUG-19 @ 15:15 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	57.3		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	52.6		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	6440	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0202		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3380		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.10		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	31.0		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.017		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.055		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	11.7		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-16 19-N5-NG-CH-035							
Sampled By: Client on 14-AUG-19 @ 15:15							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	0.011		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	9.0		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.164		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5970		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0066		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.299		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.036		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	3.16		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	76.9		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.719		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1940		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	13.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	2.73		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.26		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	1160		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	13900		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	2.10		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.066		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	46		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	24.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0041		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0041		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	15.7		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.14	[U]	0.14	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.102	M,J	0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.10	[U]	0.10	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.13	M,J,R	0.10	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.13	M,J,R	0.10	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.23	[J]	0.064	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	4.87	[J]	0.070	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.11	[U]	0.11	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.087	[U]	0.087	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.069	[U]	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.078	M,J,R	0.062	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.092	M,J,R	0.064	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.083	M,J	0.061	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.140	M,J,R	0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.448	[J]	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.099	M,J,R	0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.93	[J]	0.066	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.14	[U]	0.14	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	0.708		0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-16 19-N5-NG-CH-035							
Sampled By: Client on 14-AUG-19 @ 15:15							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HxCDD	0.17		0.10	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	1.23		0.064	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.45		0.11	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.264		0.087	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.170		0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.448		0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	67.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	79.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	69.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	67.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	73.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	71.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	67.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	77.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	64.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	64.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	69.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	78.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	74.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.129			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.279			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.371			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-17 19-E1-SS-CH-037							
Sampled By: Client on 09-OCT-19 @ 09:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	15.3		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	1.61		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0431		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	15.2		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	12100		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.18		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	4.39		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	55.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.53		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	7.5		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.339		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	3140		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	18.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-17 19-E1-SS-CH-037							
Sampled By: Client on 09-OCT-19 @ 09:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Cobalt (Co)	5.67		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	13.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	13400		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	10.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	13.2		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	3280		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	284		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.03		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	15.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	668		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	1610		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.49		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	<50		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	10.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.160		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	92.7		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.31		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	28.4		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	48.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.6		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.220	M,J	0.093	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.176	M,J	0.052	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.150	J,R	0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.270	J,R	0.088	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.300	M,J,R	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	5.08		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	33.7		0.17	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.31	M,J,R	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.304	M,J	0.079	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.421	[J]	0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.630	M,J	0.093	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.350	M,J,R	0.096	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.499	M,J	0.094	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	<0.14	M,U	0.14	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	3.69		0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.170	J,R	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	6.17		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.69		0.093	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	1.60		0.052	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	4				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	4.11		0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	10.4		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	3.06		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-17 19-E1-SS-CH-037							
Sampled By: Client on 09-OCT-19 @ 09:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total TCDF # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	5.06		0.079	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	3.98		0.14	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	4.18		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	67.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	68.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	60.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	62.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	37.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	65.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	66.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	67.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	59.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	67.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	65.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	58.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	56.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	65.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	66.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.744			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.891			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.898			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-18 19-E1-NG-CH-039							
Sampled By: Client on 09-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	75.7		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	76.7		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	3290	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0157		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3590		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.02		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	29.4		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.015		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.035		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	37.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	5.3		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0921		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5890		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0141		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.307		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.023		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-18 19-E1-NG-CH-039							
Sampled By: Client on 09-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Copper (Cu)-Total	6.78		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	77.5		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.519		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2120		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	20.3		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.33		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.35		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3810		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	20100		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	1.24		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.585		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	29		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	19.4		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	0.20		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0040		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	23.5		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.085	[U]	0.085	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.052	M,U	0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	0.074	M,J	0.054	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.102	M,J	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.127	M,J	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.05	[J]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	3.52	[J]	0.043	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.056	[U]	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.070	J,R	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	0.062	M,J	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.054	M,J	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.054	M,J	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.080	M,J	0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.068	M,J	0.035	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.356	[J]	0.021	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.035	M,J,R	0.023	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.19	[J]	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.317		0.085	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.46		0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	1.87		0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	2.85		0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	1.09		0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	7				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	1.02		0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	6				22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-18 19-E1-NG-CH-039							
Sampled By: Client on 09-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HxCDF	0.532		0.035	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.516		0.023	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	75.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	84.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	76.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	74.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	80.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	76.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	80.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	77.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	77.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	73.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	68.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	75.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	76.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	87.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	78.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0902			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.164			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.235			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-19 19-E1-SB-CH-042							
Sampled By: Client on 09-OCT-19 @ 09:20							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	57.8		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	58.0		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	35	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	3710		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.967		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	40.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0806		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2460		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0184		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.058		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	13.0		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	62.8		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-19 19-E1-SB-CH-042							
Sampled By: Client on 09-OCT-19 @ 09:20							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	2980		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	30.6		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	5.86		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	4.15		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	6360		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	18600		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	16.4		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.566		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	1.97		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	0.0023		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	0.12		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	39.9		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.16	[U]	0.16	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.067	[U]	0.067	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.059	[U]	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.058	[U]	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	<0.058	[U]	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.148	M,J	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	0.593	M,J,B	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.11	[U]	0.11	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.066	[U]	0.066	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.052	[U]	0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.041	[U]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.042	[U]	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.073	M,J	0.043	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	<0.055	[U]	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.094	M,J,R	0.046	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.160	M,J,R	0.057	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.16	[U]	0.16	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.067	[U]	0.067	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.059	[U]	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	0.148		0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.11	[U]	0.11	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.066	[U]	0.066	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.073		0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-19 19-E1-SB-CH-042							
Sampled By: Client on 09-OCT-19 @ 09:20							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	61.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	79.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	60.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	66.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	84.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	94.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	59.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	70.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	61.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	63.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	60.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	61.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	77.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	85.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.00898			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.154			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.297			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-20 19-E2-SS-CH-043							
Sampled By: Client on 10-OCT-19 @ 15:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	20.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.57		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0670		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	20.4		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	15700		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.31		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.20		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	79.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.58		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	<0.20		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	8.4		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.387		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	5790		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	21.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	8.66		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	17.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	19100		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	22.7		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	20.8		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	4910		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	400		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	1.70		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	19.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	748		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	2440		100	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-20 19-E2-SS-CH-043							
Sampled By: Client on 10-OCT-19 @ 15:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Selenium (Se)	0.47		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	54		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	19.3		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.196		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	76.0		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	1.11		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	32.2		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	66.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	1.9		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
CARB428 PCB TOTALS							
Total PCB	0.686		0.012	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	36.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	48.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	33.8		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	76.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	36.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	84.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	36.5		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	75.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	54.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	70.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	63.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	75.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	73.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	95.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	69.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	76.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	77.1	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	73.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	80.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	75.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	77.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	69.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	72.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	69.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	63.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.013	[U]	0.013	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00100	M,J,R	0.00062	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.0011	[U]	0.0011	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0136	M,J	0.0010	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	<0.0065	M,U	0.0065	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	0.0099	M,J	0.0062	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0159	M,J	0.0038	ng/g	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-20 19-E2-SS-CH-043							
Sampled By: Client on 10-OCT-19 @ 15:00							
Matrix: Soil							
OC Pesticides by Method 1699							
Endrin	<0.011	M,U	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0061	[U]	0.0061	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0026	[U]	0.0026	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.142		0.0055	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0058	M,J,R	0.0035	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.066	M,J,R	0.010	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0040	M,U	0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00035	[U]	0.00035	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	60.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	68.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	72.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	68.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	73.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	81.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	79.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	86.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0079	[U]	0.0079	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	83.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	66.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	80.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	78.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	75.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.235	M,J	0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.23	M,J	0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.19	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.34	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.45	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	6.42		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	32.4		0.18	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.32	M,J,R	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.253	M,J	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.415	[J]	0.054	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.393	M,J,B	0.084	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.333	M,J	0.078	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.433	[J]	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	<0.12	M,U	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.89	M,J	0.047	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.143	M,J	0.061	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.01	[J]	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.69		0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	2.47		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	5.68		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	12.7		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	4.80		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-20 19-E2-SS-CH-043							
Sampled By: Client on 10-OCT-19 @ 15:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total TCDF # Homologues	8				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	5.92		0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	12				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	3.28		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	2.85		0.061	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	63.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	78.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	68.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	41.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	78.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	73.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	71.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	68.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	70.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	80.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.906			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.944			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.950			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-21 19-E2-SD-CH-045							
Sampled By: Client on 10-OCT-19 @ 15:30							
Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	24.0		0.10	%	22-JAN-20	23-JAN-20	R4976673
Chloride (Cl)	148		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	6.48		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0228		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	24.2		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	17300		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.25		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.34		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	84.5		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.74		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	<0.20		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	20.8		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.176		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	95400		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	27.4		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	9.37		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	18.4		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	21400		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	8.26		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	29.8		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-21 19-E2-SD-CH-045							
Sampled By: Client on 10-OCT-19 @ 15:30							
Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Magnesium (Mg)	30400		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	379		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	2.81		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	28.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	398		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	3480		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.42		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	221		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	99.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.227		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	217		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	1.32		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	34.0		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	52.8		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.7		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
CARB428 PCB TOTALS							
Total PCB	<0.013		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	25.8		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	38.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	25.2		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	58.9		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	27.7		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	66.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	26.5		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	59.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	39.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	54.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	50.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	54.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	53.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	70.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	48.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	55.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	60.3	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	53.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	61.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	52.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	54.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	55.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	55.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	55.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	52.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.017	[U]	0.017	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-21 19-E2-SD-CH-045 Sampled By: Client on 10-OCT-19 @ 15:30 Matrix: Sediment							
OC Pesticides by Method 1699							
Heptachlor	0.00470	M,J,R	0.00071	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.0023	[U]	0.0023	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0045	M,J,R	0.0021	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	<0.010	[U]	0.010	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0100	M,J,R	0.0065	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.020	M,U	0.020	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.037	M,U	0.037	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0043	[U]	0.0043	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.0187	M,J	0.0089	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	<0.013	[U]	0.013	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	<0.017	[U]	0.017	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0095	[U]	0.0095	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00057	[U]	0.00057	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	50.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	48.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	57.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	50.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	50.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	57.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	45.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	47.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.016	[U]	0.016	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	53.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	52.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	45.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	57.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	54.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
L2387288-22 19-E2-NG-CH-049 Sampled By: Client on 10-OCT-19 @ 16:00 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	43.3		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	44.8		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	2250	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0133		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	1880		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.88		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	33.3		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.014		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.024		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	32.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	7.1		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0256		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-22 19-E2-NG-CH-049							
Sampled By: Client on 10-OCT-19 @ 16:00							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Calcium (Ca)-Total	6050		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.193		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.025		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	3.72		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	61.1		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.152		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1800		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	26.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.18		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2400		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	11400		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	1.35		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.180		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	20.9		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0032		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	14.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
PCB congeners by SIM GC/LRMS							
Total PCB	0.699		0.037	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	42.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	57.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	37.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	75.4		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	36.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	81.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	33.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	65.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	46.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	66.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	56.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	65.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	64.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	83.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	60.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	65.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	66.1	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	65.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	69.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	61.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	64.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	58.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	69.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	56.6		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-22 19-E2-NG-CH-049							
Sampled By: Client on 10-OCT-19 @ 16:00							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 209	94.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.56	[U]	0.56	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.76	[U]	0.76	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.77	[U]	0.77	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.66	[U]	0.66	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.053	[U]	0.053	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.063	[U]	0.063	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.30	M,U	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.45	[U]	0.45	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.43	M,U	0.43	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.88	M,J	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.19	[U]	0.19	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.26	[U]	0.26	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.80	[U]	0.80	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<1.2	[U]	1.2	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.33	[U]	0.33	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	0.74	M,J,R	0.42	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.49	[U]	0.49	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.72	[U]	0.72	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.29	[U]	0.29	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	<0.027	[U]	0.027	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	42.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	36.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	61.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	57.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	59.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	55.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	68.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	47.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	48.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	53.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.79	[U]	0.79	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<2.3	[U]	2.3	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	46.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	44.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	48.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	50.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.15	[U]	0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.12	M,U	0.12	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	0.140	M,J,R	0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.143	M,J	0.077	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.150	M,J,R	0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.967	M,J	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	2.94	[J]	0.077	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.15	[U]	0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.086	M,J,B	0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.042	[U]	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.068	[U]	0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.082	M,J,R	0.073	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-22 19-E2-NG-CH-049							
Sampled By: Client on 10-OCT-19 @ 16:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,4,6,7,8-HxCDF	<0.099	[U]	0.099	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.130	M,J,R	0.091	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.370	M,J,R	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.065	M,J,R	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.31	[J]	0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.39		0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.09		0.12	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	1.77		0.077	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	2.42		0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.25		0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.213		0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	<0.099	[U]	0.099	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	74.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	89.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	78.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	79.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	70.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	74.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	83.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	85.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	77.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	75.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	59.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	70.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	77.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	78.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	78.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0278			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.240			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.397			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-23 19-E2-FC-CH-051							
Sampled By: Client on 10-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	37.9		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	35.3		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	436	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	1030		100	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-23 19-E2-FC-CH-051							
Sampled By: Client on 10-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	3.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	43		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	1.24		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	18.5		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	1260		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	3.82		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	0.472		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	0.24		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	3830		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	4860		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	0.982		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	0.095		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	19.1		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<0.80	[U]	0.80	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	32.0	G	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: 13C6-Pentachlorophenol has low recovery.							
PCB congeners by SIM GC/LRMS							
Total PCB	<0.016		0.016	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	40.4		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	53.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	34.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	65.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	33.2		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	71.0		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	29.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	58.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	43.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	60.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	51.3		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-23 19-E2-FC-CH-051							
Sampled By: Client on 10-OCT-19 @ 16:30							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 114	58.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	59.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	71.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	57.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	60.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	61.8	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	56.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	58.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	57.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	60.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	50.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	57.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	51.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	47.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
beta-BHC	<0.017	[U]	0.017	ng/g	21-JAN-20	11-FEB-20	R5011480
delta-BHC	<0.017	[U]	0.017	ng/g	21-JAN-20	11-FEB-20	R5011480
gamma-BHC	<0.017	[U]	0.017	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor	0.00130	M,J,R	0.00053	ng/g	21-JAN-20	11-FEB-20	R5011480
Aldrin	<0.0021	[U]	0.0021	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide	<0.0024	[U]	0.0024	ng/g	21-JAN-20	11-FEB-20	R5011480
trans-Chlordane	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
cis-Chlordane	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
Dieldrin	<0.0046	M,U	0.0046	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin	0.0071	M,J,R	0.0058	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin Aldehyde	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan I	<0.015	[U]	0.015	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan II	<0.029	[U]	0.029	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan Sulfate	<0.0035	[U]	0.0035	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDE	<0.0088	[U]	0.0088	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDD	<0.0041	[U]	0.0041	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDT	<0.013	[U]	0.013	ng/g	21-JAN-20	11-FEB-20	R5011480
Methoxychlor	<0.0039	[U]	0.0039	ng/g	21-JAN-20	11-FEB-20	R5011480
Mirex	0.00110	M,J,R	0.00029	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	72.0		16-129	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	71.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	93.0		14-136	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	97.0		40-151	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endrin, 13C12-	104.0		35-155	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	89.0		5-122	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	110.0		21-125	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	115.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Mirex, 13C10-	99.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	111.0		5-150	%	21-JAN-20	11-FEB-20	R5011480
Endrin ketone	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide A	<0.018	[U]	0.018	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	78.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	118.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	89.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	93.0		11-120	%	21-JAN-20	11-FEB-20	R5011480

* 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
L2387288-23 19-E2-FC-CH-051							
Sampled By: Client on 10-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.023	[U]	0.023	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.010	[U]	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.0098	[U]	0.0098	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.010	[U]	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.0110	M,J,R	0.0099	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.053	[J]	0.011	pg/g	22-JAN-20	28-JAN-20	R4982112
OCDD	0.239	M,J,B	0.011	pg/g	22-JAN-20	28-JAN-20	R4982112
2,3,7,8-TCDF	<0.017	M,U	0.017	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.0095	[U]	0.0095	pg/g	22-JAN-20	28-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.0073	[U]	0.0073	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.0082	[U]	0.0082	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.0079	M,U	0.0079	pg/g	22-JAN-20	28-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.0078	M,U	0.0078	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.028	M,J,R	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.0390	J,R	0.0074	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.0088	[U]	0.0088	pg/g	22-JAN-20	28-JAN-20	R4982112
OCDF	0.209	M,J,B	0.012	pg/g	22-JAN-20	28-JAN-20	R4982112
Total-TCDD	<0.023	[U]	0.023	pg/g	22-JAN-20	28-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-PeCDD	<0.010	[U]	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-HxCDD	<0.010	[U]	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-HpCDD	0.077		0.011	pg/g	22-JAN-20	28-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	28-JAN-20	R4982112
Total-TCDF	<0.017	[U]	0.017	pg/g	22-JAN-20	28-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-PeCDF	<0.0095	[U]	0.0095	pg/g	22-JAN-20	28-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-HxCDF	0.013		0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
Total HxCDF # Homologues	1				22-JAN-20	28-JAN-20	R4982112
Total-HpCDF	<0.0088	[U]	0.0088	pg/g	22-JAN-20	28-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	75.0		25-164	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	86.0		25-181	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	83.0		32-141	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	78.0		28-130	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	82.0		23-140	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-OCDD	89.0		17-157	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	74.0		24-169	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	79.0		21-192	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	83.0		21-178	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	79.0		26-152	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	77.0		26-123	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	78.0		29-147	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	73.0		28-136	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	80.0		28-143	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	86.0		26-138	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	80.0		31-197	%	22-JAN-20	28-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.000659			pg/g	22-JAN-20	28-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.0258			pg/g	22-JAN-20	28-JAN-20	R4982112

* 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
L2387288-23 19-E2-FC-CH-051 Sampled By: Client on 10-OCT-19 @ 16:30 Matrix: Plant Tissue Dioxins and Furans HR 1613B Upper Bound PCDD/F TEQ (WHO 2005)	0.0466			pg/g	22-JAN-20	28-JAN-20	R4982112
L2387288-24 19-E5-SS-CH-053 Sampled By: Client on 09-OCT-19 @ 10:00 Matrix: Soil Miscellaneous Parameters							
% Moisture	15.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.17		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0295		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	14.6		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	13700		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.19		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.09		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	58.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.50		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	7.0		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.317		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	6970		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	20.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	7.02		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	9.73		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	17000		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	12.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	17.6		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	5410		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	316		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.51		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	17.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	332		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	1500		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.28		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	53		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	14.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.172		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	128		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.03		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	32.6		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	48.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	1.2		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.246	M,J	0.074	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.150	M,J	0.056	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.18	M,J	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.25	M,J,R	0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.34	M,J,R	0.10	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-24 19-E5-SS-CH-053							
Sampled By: Client on 09-OCT-19 @ 10:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,6,7,8-HpCDD	4.32		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	21.1		0.21	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.228	M,J	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.187	M,J	0.070	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.313	M,J	0.060	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.300	M,J,B	0.084	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.201	M,J	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.270	J,R	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.14	M,J	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.58	[J]	0.058	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.110	M,J,R	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.00	[J]	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.18		0.074	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	2.14		0.056	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	2.11		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	8.62		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	2.90		0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	4.70		0.070	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	1.46		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	2.17		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	73.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	69.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	69.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	78.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	66.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	40.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	71.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	72.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	68.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	68.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	77.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	72.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	65.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	68.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	77.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.666			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.753			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.753			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-25 19-E5-NG-CH-055							
Sampled By: Client on 09-OCT-19 @ 10:30							
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
L2387288-25 19-E5-NG-CH-055							
Sampled By: Client on 09-OCT-19 @ 10:30							
Matrix: Plant Tissue							
% Moisture	69.2		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	58.4		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	3480	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0250		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	0.0069		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2810		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.72		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	59.8		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.024		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.079		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	21.7		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	0.034		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	10.1		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.275		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	8070		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0122		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.436		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.074		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	5.93		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	106		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	1.57		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	1.04		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2440		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	176		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	8.00		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.34		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	1540		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	9030		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	3.23		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.189		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	27		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	12.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0027		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0059		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.20		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	29.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.056	[U]	0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.071	M,J,B	0.038	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.061	M,J,R	0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.120	M,J,R	0.051	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.081	M,J,R	0.052	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.46	[J]	0.037	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	4.73	[J]	0.052	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	0.118	M,J	0.058	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.139	[J]	0.037	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.110	J,R	0.027	pg/g	23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-25 19-E5-NG-CH-055							
Sampled By: Client on 09-OCT-19 @ 10:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8-HxCDF	0.102	M,J	0.039	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.089	M,J	0.042	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.128	[J]	0.037	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.094	M,J,R	0.052	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.513	[J]	0.028	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.043	M,J,R	0.032	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	0.807	[J]	0.039	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	1.08		0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	1.23		0.038	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	3				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	1.18		0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-HpCDD	3.53		0.037	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	2.53		0.058	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	11				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	1.69		0.037	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.930		0.052	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	0.678		0.032	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	68.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	67.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	68.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	69.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	67.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	69.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	72.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	69.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	62.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	76.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.140			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.237			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.265			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-26 19-E5-SB-CH-057							
Sampled By: Client on 09-OCT-19 @ 10:15							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	57.8		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	55.7		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	62	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-26 19-E5-SB-CH-057							
Sampled By: Client on 09-OCT-19 @ 10:15							
Matrix: Plant Tissue							
Sulfur (S)-Total	4220		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.469		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	39.4		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0361		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2790		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0240		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.103		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	14.9		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	66.9		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3270		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	24.9		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	20.8		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.23		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7090		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	20500		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	16.7		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.277		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	2.12		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	0.0036		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	43.8		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.25	[U]	0.25	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.14	[U]	0.14	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.13	[U]	0.13	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.12	[U]	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.12	[U]	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.190	M,J,R	0.097	pg/g	23-JAN-20	30-JAN-20	R4985267
OCDD	0.28	M,J,R	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,7,8-TCDF	0.19	M,J	0.15	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.25	M,J	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.18	M,J,R	0.10	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.20	M,J	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	<0.16	[U]	0.16	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.471	M,J	0.081	pg/g	23-JAN-20	30-JAN-20	R4985267

* 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
L2387288-26 19-E5-SB-CH-057							
Sampled By: Client on 09-OCT-19 @ 10:15							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8,9-HpCDF	<0.097	[U]	0.097	pg/g	23-JAN-20	30-JAN-20	R4985267
OCDF	0.62	M,J	0.13	pg/g	23-JAN-20	30-JAN-20	R4985267
Total-TCDD	<0.25	[U]	0.25	pg/g	23-JAN-20	30-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Total-PeCDD	<0.14	[U]	0.14	pg/g	23-JAN-20	30-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Total-HxCDD	<0.13	[U]	0.13	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Total-HpCDD	0.156		0.097	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HpCDD # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-TCDF	0.40		0.15	pg/g	23-JAN-20	30-JAN-20	R4985267
Total TCDF # Homologues	2				23-JAN-20	30-JAN-20	R4985267
Total-PeCDF	0.94		0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
Total PeCDF # Homologues	3				23-JAN-20	30-JAN-20	R4985267
Total-HxCDF	0.20		0.16	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-HpCDF	0.471		0.097	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HpCDF # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	56.0		25-164	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	60.0		25-181	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	64.0		32-141	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	60.0		28-130	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	61.0		23-140	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-OCDD	54.0		17-157	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	64.0		24-169	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	65.0		21-192	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	61.0		21-178	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	70.0		26-152	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	64.0		29-147	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	57.0		28-136	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	67.0		26-138	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	73.0		31-197	%	23-JAN-20	30-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0517			pg/g	23-JAN-20	30-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.341	0		pg/g	23-JAN-20	30-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.574			pg/g	23-JAN-20	30-JAN-20	R4985267
L2387288-27 19-E6-SS-CH-059							
Sampled By: Client on 14-AUG-19 @ 12:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	16.3		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.58		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0548		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	15.5		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	16000		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.30		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.90		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	73.7		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-27 19-E6-SS-CH-059							
Sampled By: Client on 14-AUG-19 @ 12:30							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Beryllium (Be)	0.65		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	11.7		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.449		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	20200		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	25.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	7.88		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	15.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	19500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	21.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	10200		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	378		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	2.33		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	23.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	438		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	2290		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.42		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	80		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	36.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.221		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	143		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.11		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	35.6		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	63.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.1		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
CARB428 PCB TOTALS							
Total PCB	2.01		0.012	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	53.7		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	67.2		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	50.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	91.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	49.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	95.7		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	45.5		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	84.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	66.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	84.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	74.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	84.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	75.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	99.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	75.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	82.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	87.4	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	78.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	80.9		10-145	%	22-JAN-20	28-JAN-20	R4996239

* 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
L2387288-27 19-E6-SS-CH-059							
Sampled By: Client on 14-AUG-19 @ 12:30							
Matrix: Soil							
CARB428 PCB TOTALS							
Surrogate: 13C12 PCB 188	76.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	77.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	68.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	76.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	67.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	60.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.0055	[U]	0.0055	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.0074	[U]	0.0074	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.0075	M,U	0.0075	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	0.0400	J,R	0.0071	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00240	M,J,R	0.00031	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.00076	[U]	0.00076	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0167	[J]	0.00074	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	0.0097	M,J	0.0074	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	0.0120	M,J,R	0.0071	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0230	M,J	0.0025	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.0064	M,U	0.0064	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.0049	[U]	0.0049	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0051	[U]	0.0051	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.0091	[U]	0.0091	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0011	[U]	0.0011	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.306		0.0030	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0300	[J]	0.0025	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.265		0.0075	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	0.0096	M,J,R	0.0029	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	0.00859	[J]	0.00031	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	82.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	81.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	91.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	89.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	93.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	98.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	99.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	96.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0057	[U]	0.0057	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	109.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	84.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	105.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	98.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	99.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.417	[J]	0.091	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.263	[J]	0.086	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.246	[J]	0.096	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.507	M,J	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.516	M,J	0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	8.46		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	57.8		0.26	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.295	M,J	0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.386	M,J	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-27 19-E6-SS-CH-059							
Sampled By: Client on 14-AUG-19 @ 12:30							
Matrix: Soil							
Dioxins and Furans HR 1613B							
2,3,4,7,8-PeCDF	0.484	[J]	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.66	M,J	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.42	M,J,R	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.51	[J]	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.16	M,J	0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	3.22		0.081	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.213	[J]	0.094	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	5.15	[J]	0.090	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	3.63		0.091	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	3.73		0.086	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	7.89		0.096	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	17.3		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	6.17		0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	12				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	6.59		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	4.46		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	5.32		0.094	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	4				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	73.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	65.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	75.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	68.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	43.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	71.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	71.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	75.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	71.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	64.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	64.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	72.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	73.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.26			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.31			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.31			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-28 19-E6-NG-CH-061							
Sampled By: Client on 14-AUG-19 @ 12:45							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	50.6		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	51.7		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	8770	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0998		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704

* 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
L2387288-28 19-E6-NG-CH-061							
Sampled By: Client on 14-AUG-19 @ 12:45							
Matrix: Plant Tissue							
Silver (Ag)-Total	0.0261		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2270		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.35		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	40.8		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.055		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.202		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	6.33		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	0.086		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	15.9		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.981		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5730		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0216		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.457		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.099		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	3.82		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	84.9		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	6.94		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	2.88		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1720		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	64.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	9.90		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.64		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	625		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	12200		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	2.09		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.322		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	79		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	33.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0178		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	0.18		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0077		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.15		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	29.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
PCB congeners by SIM GC/LRMS							
Total PCB	0.860		0.036	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	39.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	57.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	35.4		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	77.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	33.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	80.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	32.1		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	68.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	48.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	65.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	56.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	64.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	65.6		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-28 19-E6-NG-CH-061							
Sampled By: Client on 14-AUG-19 @ 12:45							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 126	83.7	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	59.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	65.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	72.3	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	62.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	72.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	60.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	63.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	54.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	57.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	54.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	48.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.34	[U]	0.34	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.49	[U]	0.49	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.47	[U]	0.47	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.45	[U]	0.45	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.028	[U]	0.028	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.079	[U]	0.079	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.11	[U]	0.11	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.32	[U]	0.32	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.30	[U]	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	<0.31	M,U	0.31	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.43	[U]	0.43	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.19	[U]	0.19	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.46	[U]	0.46	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<1.1	[U]	1.1	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.25	[U]	0.25	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	0.35	M,J,R	0.32	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.34	[U]	0.34	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.37	[U]	0.37	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.26	[U]	0.26	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	<0.017	[U]	0.017	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	49.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	38.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	63.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	61.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	59.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	55.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	72.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	52.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	51.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	58.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.59	[U]	0.59	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.81	[U]	0.81	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	51.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	48.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	52.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	57.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.090	[U]	0.090	pg/g	23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-28 19-E6-NG-CH-061							
Sampled By: Client on 14-AUG-19 @ 12:45							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,7,8-PeCDD	0.089	M,J,B	0.050	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.069	M,J,R	0.061	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.084	M,J,R	0.062	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.095	M,J	0.061	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.40	[J]	0.051	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	7.24	[J]	0.046	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	<0.078	M,U	0.078	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.074	M,J	0.040	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.031	[U]	0.031	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.058	[U]	0.058	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.058	[U]	0.058	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.078	M,U	0.078	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	<0.076	[U]	0.076	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.673	[J]	0.031	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.036	[U]	0.036	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	1.92	[J]	0.049	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	<0.090	[U]	0.090	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	0.323		0.050	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	2.18		0.062	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	3				23-JAN-20	28-JAN-20	R4985267
Total-HpCDD	3.62		0.051	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	0.092		0.078	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	0.074		0.040	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.097		0.078	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	1.34		0.036	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	90.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	77.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	82.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	75.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	77.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	82.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	87.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	80.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	76.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	76.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	80.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	88.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	84.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.124			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.206			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.274			pg/g	23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-29 19-E7-SS-CH-303							
Sampled By: Client on 09-OCT-19 @ 13:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	17.9		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	14.1		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.85		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0355		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	17.7		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	19400		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.23		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	6.35		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	89.7		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.77		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	10.7		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.332		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	5770		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	26.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	9.88		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	14.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	21800		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	24.9		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	6300		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	365		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.68		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	25.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	537		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	2500		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.34		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	60		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	18.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.231		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	142		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.45		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	40.1		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	55.5		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	1.9		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
CARB428 PCB TOTALS							
Total PCB	0.529		0.012	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	44.9		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	59.9		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	42.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	85.2		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	42.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	93.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	40.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	79.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	59.9		10-145	%	22-JAN-20	28-JAN-20	R4996239

* 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
L2387288-29 19-E7-SS-CH-303							
Sampled By: Client on 09-OCT-19 @ 13:00							
Matrix: Soil							
CARB428 PCB TOTALS							
Surrogate: 13C12 PCB 123	76.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	68.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	76.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	73.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	97.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	72.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	78.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	80.8	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	72.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	82.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	74.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	75.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	76.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	77.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	76.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	71.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.0081	[U]	0.0081	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.010	[U]	0.010	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00120	M,J,R	0.00046	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	0.223		0.00071	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0144	[J]	0.00093	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	<0.0052	[U]	0.0052	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	<0.0050	[U]	0.0050	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	2.13		0.0063	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.019	M,U	0.019	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0068	[U]	0.0068	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.010	M,U	0.010	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0020	[U]	0.0020	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.198		0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0058	M,J	0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.210		0.0075	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	0.0077	M,J,R	0.0031	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00045	[U]	0.00045	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	64.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	72.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	79.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	71.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	79.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	85.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	77.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	85.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0071	[U]	0.0071	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	86.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	67.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	81.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	75.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	75.0		11-120	%	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-29 19-E7-SS-CH-303							
Sampled By: Client on 09-OCT-19 @ 13:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.211	M,J	0.075	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.213	[J]	0.061	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.227	[J]	0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.493	M,J	0.076	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.451	M,J	0.080	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	10.4		0.18	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	73.2		0.30	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.478	[J]	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.21	M,J,R	0.14	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.60	[J]	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.382	M,J,B	0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.309	M,J	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.588	[J]	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.130	M,J,R	0.098	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	3.22		0.094	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.18	M,J,R	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	6.12	M	0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.80		0.075	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	1.98		0.061	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	6.65		0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	19.8		0.18	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	5.86		0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	8				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	7.50		0.14	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	5.54		0.098	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	6.34		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	68.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	67.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	60.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	72.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	62.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	33.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	66.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	68.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	64.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	61.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	69.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	65.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	59.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	58.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	63.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	73.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.06			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-29 19-E7-SS-CH-303 Sampled By: Client on 09-OCT-19 @ 13:00 Matrix: Soil Dioxins and Furans HR 1613B Upper Bound PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-30 19-E7-NG-CH-305 Sampled By: Client on 09-OCT-19 @ 13:30 Matrix: Plant Tissue Miscellaneous Parameters							
% Moisture	69.3		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	72.0		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	11500	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0157		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3800		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.32		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	50.4		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.012		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.036		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	10.8		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	9.1		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0661		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5260		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0092		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.391		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.038		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	6.13		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	79.9		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.247		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	3080		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	17.4		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	3.76		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.56		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3220		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	23000		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	7.07		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.110		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	24		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	13.8		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0022		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0097		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.14		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	19.9		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
PCB congeners by SIM GC/LRMS							
Total PCB	<0.060		0.060	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	34.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	48.5		5-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-30 19-E7-NG-CH-305							
Sampled By: Client on 09-OCT-19 @ 13:30							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 4	31.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	66.0		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	29.4		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	70.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	28.0		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	63.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	44.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	63.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	54.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	61.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	61.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	85.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	56.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	65.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	60.4	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	59.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	65.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	59.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	62.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	55.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	60.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	56.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	66.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.37	[U]	0.37	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.51	[U]	0.51	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.46	[U]	0.46	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.42	[U]	0.42	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.037	[U]	0.037	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.054	[U]	0.054	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.046	[U]	0.046	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.29	[U]	0.29	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.28	[U]	0.28	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.21	M,J	0.11	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.19	[U]	0.19	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.30	[U]	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.23	[U]	0.23	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.65	[U]	0.65	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.18	[U]	0.18	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	<0.24	M,U	0.24	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.17	[U]	0.17	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.48	[U]	0.48	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.20	[U]	0.20	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	0.027	M,J,R	0.016	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	40.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	32.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	60.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	61.0	M	40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	52.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	56.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	69.0		21-125	%	21-JAN-20	12-FEB-20	R5011480

* 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
L2387288-30 19-E7-NG-CH-305							
Sampled By: Client on 09-OCT-19 @ 13:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: 4,4'-DDT, 13C12-	47.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	46.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Endrin Ketone	<0.55	[U]	0.55	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.35	[U]	0.35	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	54.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	44.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	44.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	46.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	50.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.068	[U]	0.068	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.063	M,J,B	0.040	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.049	M,J,R	0.044	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.116	M,J	0.044	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.102	M,J	0.044	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.964	[J]	0.033	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	3.78	[J]	0.045	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	0.151	M,J	0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.088	M,J	0.030	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.056	M,J	0.023	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.052	M,J,R	0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.062	M,J,R	0.036	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.065	M,J	0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.062	M,J,R	0.046	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.353	[J]	0.023	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.041	M,J,R	0.026	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	0.713	[J]	0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	1.02		0.068	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	1.32		0.040	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	1.58		0.044	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	4				23-JAN-20	28-JAN-20	R4985267
Total-HpCDD	2.51		0.033	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	1.36		0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	9				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	0.662		0.030	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	4				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.595		0.046	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	3				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	0.502		0.026	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	83.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	73.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	79.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	77.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		21-192	%	23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-30 19-E7-NG-CH-305							
Sampled By: Client on 09-OCT-19 @ 13:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,4,7,8-PeCDF	80.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	74.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	75.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	71.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	75.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	85.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	77.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.140			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.197			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.231			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-31 19-E7-SB-CH-300							
Sampled By: Client on 01-OCT-19 @ 12:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	16.0		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	14.6		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	66	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	3520		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.901		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	33.2		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0587		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2630		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0118		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.138		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	10.1		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	57.1		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3070		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	25.9		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	16.6		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.05		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	6640		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	20100		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	11.1		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.259		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	3.93		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-31 19-E7-SB-CH-300							
Sampled By: Client on 01-OCT-19 @ 12:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	30.7		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<2.9	[U]	2.9	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	5.0	G	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: 13C6-Pentachlorophenol has low recovery.							
PCB congeners by SIM GC/LRMS							
Total PCB	0.330		0.010	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	40.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	52.0		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	36.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	74.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	37.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	83.0		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	34.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	68.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	48.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	70.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	61.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	67.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	68.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	95.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	67.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	73.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	73.7	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	61.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	74.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	68.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	76.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	64.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	64.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	67.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	60.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
beta-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
delta-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
gamma-BHC	<0.013	[U]	0.013	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor	0.00200	M,J,R	0.00090	ng/g	21-JAN-20	11-FEB-20	R5011480
Aldrin	<0.0013	[U]	0.0013	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide	0.0195	M,J	0.0021	ng/g	21-JAN-20	11-FEB-20	R5011480
trans-Chlordane	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
cis-Chlordane	<0.011	[U]	0.011	ng/g	21-JAN-20	11-FEB-20	R5011480
Dieldrin	0.0853	M,J	0.0076	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin	<0.0095	[U]	0.0095	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin Aldehyde	<0.0037	[U]	0.0037	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan I	<0.0077	[U]	0.0077	ng/g	21-JAN-20	11-FEB-20	R5011480

* 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
L2387288-31 19-E7-SB-CH-300							
Sampled By: Client on 01-OCT-19 @ 12:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Endosulfan II	<0.015	[U]	0.015	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan Sulfate	<0.0049	[U]	0.0049	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDE	<0.0083	[U]	0.0083	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDD	<0.0068	[U]	0.0068	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDT	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
Methoxychlor	<0.0059	[U]	0.0059	ng/g	21-JAN-20	11-FEB-20	R5011480
Mirex	0.00140	M,J,R	0.00064	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	55.0		16-129	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	53.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	67.0		14-136	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	70.0		40-151	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endrin, 13C12-	74.0		35-155	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	65.0		5-122	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	82.0		21-125	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	74.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Mirex, 13C10-	53.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	74.0		5-150	%	21-JAN-20	11-FEB-20	R5011480
Endrin ketone	<0.013	[U]	0.013	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide A	<0.016	[U]	0.016	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	61.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	61.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	69.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	71.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.020	[U]	0.020	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.0080	[U]	0.0080	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.0077	[U]	0.0077	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.0146	M,J	0.0078	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.023	M,J,B	0.011	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	0.091	[J]	0.015	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.0140	M,J	0.0092	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0068	[U]	0.0068	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.0076	M,U	0.0076	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.0079	[U]	0.0079	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.0084	[U]	0.0084	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.018	M,J	0.011	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.0140	M,J,R	0.0083	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	0.099	[J]	0.012	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	<0.020	[U]	0.020	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	0.0146		0.0080	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HpCDD	0.040		0.011	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-31 19-E7-SB-CH-300							
Sampled By: Client on 01-OCT-19 @ 12:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-PeCDF	0.0140		0.0092	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.018		0.011	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	63.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	70.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	69.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	62.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	63.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	67.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	71.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	69.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	70.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	63.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	69.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	69.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	64.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00392			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0246			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0452			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-32 19-S1-SS-CH-063							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	18.0		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	5.3		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.43		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0411		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	17.9		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	22300		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.27		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	7.70		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	115		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.95		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	16.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.464		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	15500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	32.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	13.0		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	16.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	24900		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	30.7		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	11000		20	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-32 19-S1-SS-CH-063							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Manganese (Mn)	766		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.34		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	33.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	619		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	3280		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.33		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	88		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	24.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.255		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	193		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.29		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	48.0		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	63.7		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.8		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.525	M,J	0.062	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.254	M,J	0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.185	M,J	0.084	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.290	M,J,R	0.080	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.345	M,J	0.081	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	6.62		0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	36.7		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.366	[J]	0.098	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.230	M,J	0.063	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.421	M,J	0.052	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.336	M,J,B	0.042	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.207	M,J	0.041	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.386	[J]	0.043	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.089	M,J	0.061	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.64	[J]	0.067	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.153	M,J	0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	2.13	[J]	0.072	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	2.90		0.062	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	8				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	1.94		0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	5.58		0.084	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	11.6		0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	5.14		0.098	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	10				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	5.13		0.063	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	8				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	2.89		0.061	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	2.83		0.088	pg/g	21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-32 19-S1-SS-CH-063							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total HpCDF # Homologues	3				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	76.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	67.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	71.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	45.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	70.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	76.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	64.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	63.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	69.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	82.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.20			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.23			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.23			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-33 19-S1-SD-CH-065							
Sampled By: Client on 10-OCT-19 @ 11:15							
Matrix: Sediment							
Miscellaneous Parameters							
Chloride (Cl)	16.9		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.97		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0411		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	29.4		0.25	%		03-FEB-20	R4987031
Metals in Soil by CRC ICPMS							
Aluminum (Al)	15100		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.34		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	4.03		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	70.4		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.68		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	<0.20		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	20.3		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.373		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	77000		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	28.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	8.45		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	17.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	19200		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	12.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	26.7		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	25800		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	247		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	2.76		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	26.2		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	569		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	3050		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.43		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-33 19-S1-SD-CH-065 Sampled By: Client on 10-OCT-19 @ 11:15 Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	152		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	64.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.251		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	180		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	1.19		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	33.8		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	56.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.7		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
L2387288-34 19-S1-NG-CH-069 Sampled By: Client on 10-OCT-19 @ 11:30 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	52.2		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	52.5		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	5500	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0164		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	1950		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.98		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	158		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.014		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.062		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	11.0		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	9.2		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.127		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5100		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0186		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.431		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.082		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	4.42		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	186		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.393		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2170		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	20.4		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	3.17		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.68		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2700		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	12100		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	2.24		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	1.06		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	29		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	8.24		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-34 19-S1-NG-CH-069							
Sampled By: Client on 10-OCT-19 @ 11:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0031		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	0.11		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0123		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.38		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	20.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.070	[U]	0.070	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.132	M,J,B	0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.088	M,J,R	0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.188	[J]	0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.166	M,J	0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.66	[J]	0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	4.15	[J]	0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	0.140	M,J	0.059	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.112	M,J	0.038	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.056	M,J	0.028	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.087	M,J	0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.061	M,J,R	0.055	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.065	M,J,R	0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.069	J,R	0.068	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.334	[J]	0.026	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.050	M,J,R	0.031	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	0.704	[J]	0.046	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	0.449		0.070	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	3				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	0.833		0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	4.22		0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-HpCDD	4.60		0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	1.10		0.059	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	6				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	0.923		0.038	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	6				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.564		0.068	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	4				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	0.368		0.031	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	94.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	110.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	100.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	90.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	100.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	83.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	93.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	101.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	105.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	97.0		26-152	%	23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-34 19-S1-NG-CH-069 Sampled By: Client on 10-OCT-19 @ 11:30 Matrix: Plant Tissue Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	94.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	94.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	93.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	91.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	100.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	101.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.232			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.295			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.330			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-35 19-S1-SB-CH-071 Sampled By: Client on 10-OCT-19 @ 11:45 Matrix: Plant Tissue Miscellaneous Parameters							
% Moisture	19.8		0.50	%		10-FEB-20	R4993331
Chloride (Cl)	66	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	13-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	3900		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.728		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	34.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0537		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2640		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0116		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.171		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	12.3		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	68.3		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	2850		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	25.9		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	9.63		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.80		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7330		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	21000		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	11.1		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.143		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	2.35		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-35 19-S1-SB-CH-071 Sampled By: Client on 10-OCT-19 @ 11:45 Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	34.9		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.0090	[U]	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.0096	M,U	0.0096	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.0087	M,U	0.0087	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.0120	M,J,R	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.0427	M,J,B	0.0083	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	0.194	[J]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	<0.013	[U]	0.013	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.015	M,J,R	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0078	M,U	0.0078	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.0100	M,J,R	0.0073	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.0081	M,J,R	0.0074	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.0107	M,J	0.0070	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.0160	M,J,R	0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.0240	M,J	0.0086	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.0110	M,J,R	0.0094	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.0948	[J]	0.0087	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	<0.0090	[U]	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	<0.0096	[U]	0.0096	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	0.0427		0.0083	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	<0.013	[U]	0.013	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	0.0107		0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	0.0240		0.0094	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	67.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	79.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	68.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	70.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	70.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	66.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	74.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	64.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	63.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	63.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	68.0		28-143	%	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-35 19-S1-SB-CH-071 Sampled By: Client on 10-OCT-19 @ 11:45 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	73.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00182			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0232			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0395			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-36 19-S2-SS-CH-073 Sampled By: Client on 10-OCT-19 @ 10:00 Matrix: Soil							
Miscellaneous Parameters							
% Moisture	18.0		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.05		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0443		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	17.9		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	22900		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.24		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	7.18		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	110		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.94		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	0.22		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	12.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.417		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	7730		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	32.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	13.3		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	15.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	26600		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	15.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	31.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	7360		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	585		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	2.16		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	28.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	497		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	3000		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.38		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	68		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	22.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.259		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	155		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.55		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	45.6		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	66.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.6		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.39	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-36 19-S2-SS-CH-073							
Sampled By: Client on 10-OCT-19 @ 10:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,7,8-PeCDD	0.192	[J]	0.055	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.21	M,J	0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.39	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.40	M,J,R	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	5.15		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	21.7		0.32	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.37	M,J	0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.23	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.504	[J]	0.085	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.44	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.285	M,J	0.099	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.42	M,J	0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	<0.15	[U]	0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.94	[J]	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.22	M,J,R	0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	1.69	M,J	0.16	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	1.52		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	4				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	1.85		0.055	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	5.27		0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	9.95		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	5.89		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	10				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	6.50		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	3.49		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	2.70		0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	77.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	75.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	70.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	83.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	73.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	41.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	73.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	72.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	75.0		29-147	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	65.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	70.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	81.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.03			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-37 19-S2-NG-CH-075							
Sampled By: Client on 10-OCT-19 @ 10:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	60.7		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	56.8		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	5470	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0170		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	0.0053		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2270		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	3.40		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	154		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	0.019		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.076		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	40.3		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	0.012		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.5		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.150		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4570		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0259		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.494		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.064		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	7.17		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	189		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.739		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1770		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	17.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	1.83		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.35		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3380		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	16600		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	4.46		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.259		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	16.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0036		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	0.19		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0117		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.37		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	17.2		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.054	[U]	0.054	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.055	M,J,R	0.027	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.072	J,B	0.034	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.115	[J]	0.034	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.092	M,J,R	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.14	[J]	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	4.13	[J]	0.032	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	0.091	M,J	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.061	M,J,R	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-37 19-S2-NG-CH-075							
Sampled By: Client on 10-OCT-19 @ 10:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,4,7,8-PeCDF	0.052	M,J,R	0.026	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.054	M,J	0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.070	M,J	0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.073	M,J	0.035	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	<0.043	M,U	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.267	[J]	0.024	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.023	[U]	0.023	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.788	[J]	0.022	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	0.196		0.054	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	1.05		0.027	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	5				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	2.42		0.034	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	4				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	2.97		0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	0.832		0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	7				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	0.523		0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	4				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	0.615		0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	6				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	0.420		0.024	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	80.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	71.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	74.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	72.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	69.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	69.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	70.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	78.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0631			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.174			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.203			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-38 19-S2-SB-CH-077							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	36.8		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	32.1		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	61	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346

* 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
L2387288-38 19-S2-SB-CH-077							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Plant Tissue							
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4380		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.16		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	35.5		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0369		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	3110		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0105		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.161		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	12.5		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	82.8		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3320		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	31.6		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	7.98		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.53		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	8420		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	25200		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	13.1		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.368		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	3.39		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	38.2		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.025	[U]	0.025	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.040	M,J,R	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	0.193	[J]	0.021	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	<0.015	[U]	0.015	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.013	M,J,R	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0090	[U]	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.018	M,J	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.018	M,J,R	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-38 19-S2-SB-CH-077							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,4,6,7,8-HpCDF	0.024	M,J,R	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.024	M,J,R	0.016	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.123	[J]	0.019	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	<0.025	[U]	0.025	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	<0.015	[U]	0.015	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	0.018		0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.016	[U]	0.016	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	65.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	72.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	70.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	66.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	66.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	67.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	70.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	70.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	70.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	69.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	78.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00191			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0287			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0525			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-39 19-S4-SS-CH-087							
Sampled By: Client on 09-OCT-19 @ 14:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	21.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	8.8		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.87		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0450		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	20.9		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	29600		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.20		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.19		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-39 19-S4-SS-CH-087							
Sampled By: Client on 09-OCT-19 @ 14:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Barium (Ba)	122		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	1.17		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	0.21		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	20.1		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.280		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	10900		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	38.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	11.4		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	17.7		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	29600		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	15.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	41.7		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	9480		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	368		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	0.80		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	29.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	771		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	4430		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.33		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	81		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	33.7		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.247		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	122		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	1.27		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	49.7		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	77.8		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.1		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.244	M,J	0.060	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.316	M,J	0.065	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.328	M,J	0.061	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.682	M,J	0.056	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.679	M,J	0.058	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	13.7		0.17	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	73.7		0.25	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.520	M,J,R	0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.389	[J]	0.092	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.579	M,J	0.074	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.457	M,J	0.057	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.370	M,J	0.057	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.652	[J]	0.055	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.134	[J]	0.078	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	3.64		0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.29	[J]	0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	7.53		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	2.41		0.060	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	7				21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-39 19-S4-SS-CH-087							
Sampled By: Client on 09-OCT-19 @ 14:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total-PeCDD	3.58		0.065	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	6				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	5.05		0.061	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	22.7		0.17	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	7.99		0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	11				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	7.93		0.092	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	9				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	3.95		0.078	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	7.49		0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	82.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	80.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	69.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	87.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	73.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	42.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	77.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	79.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	76.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	72.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	79.0		29-147	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	69.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	68.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	74.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	88.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.28			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.33			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.33			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-40 19-S4-SD-CH-089							
Sampled By: Client on 09-OCT-19 @ 14:45							
Matrix: Soil							
Miscellaneous Parameters							
Chloride (Cl)	27.1		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.32		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0366		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	41.0		0.25	%		03-FEB-20	R4987031
Metals in Soil by CRC ICPMS							
Aluminum (Al)	24000		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Antimony (Sb)	0.23		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	4.45		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	115		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.95		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Bismuth (Bi)	<0.20		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	25.7		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.269		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	73100		50	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-40 19-S4-SD-CH-089 Sampled By: Client on 09-OCT-19 @ 14:45 Matrix: Soil							
Metals in Soil by CRC ICPMS							
Chromium (Cr)	35.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	11.2		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	20.5		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	27100		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	12.2		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lithium (Li)	38.6		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	24200		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	374		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	1.25		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	32.2		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	803		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	4500		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Selenium (Se)	0.56		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	173		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	96.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.250		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tin (Sn)	<2.0		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	217		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Tungsten (W)	<0.50		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Uranium (U)	1.52		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	44.3		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	69.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.1		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
L2387288-41 19-S4-NG-CH-093 Sampled By: Client on 09-OCT-19 @ 14:30 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	70.0		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	68.5		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	12500	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0102		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2650		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	2.12		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	101		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.032		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	5.88		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	4.9		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0674		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5350		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0105		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.290		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.059		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	5.03		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-41 19-S4-NG-CH-093							
Sampled By: Client on 09-OCT-19 @ 14:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Iron (Fe)-Total	120		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.108		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2720		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	28.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.17		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.81		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	4150		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	25100		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	4.83		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.245		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	9.51		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0049		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.21		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	18.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.19	[U]	0.19	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.18	[U]	0.18	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.02	[J]	0.092	pg/g	23-JAN-20	30-JAN-20	R4985267
OCDD	3.37	[J]	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,7,8-TCDF	<0.14	[U]	0.14	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.104	M,J	0.082	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.095	M,J,R	0.068	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.091	[U]	0.091	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.094	[U]	0.094	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.10	[U]	0.10	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	<0.12	[U]	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.230	M,J,R	0.074	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.093	[U]	0.093	pg/g	23-JAN-20	30-JAN-20	R4985267
OCDF	0.808	M,J	0.096	pg/g	23-JAN-20	30-JAN-20	R4985267
Total-TCDD	<0.19	[U]	0.19	pg/g	23-JAN-20	30-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Total-PeCDD	0.56		0.18	pg/g	23-JAN-20	30-JAN-20	R4985267
Total PeCDD # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-HxCDD	1.53		0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HxCDD # Homologues	2				23-JAN-20	30-JAN-20	R4985267
Total-HpCDD	2.54		0.092	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	30-JAN-20	R4985267
Total-TCDF	0.52		0.14	pg/g	23-JAN-20	30-JAN-20	R4985267
Total TCDF # Homologues	2				23-JAN-20	30-JAN-20	R4985267
Total-PeCDF	0.104		0.082	pg/g	23-JAN-20	30-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-HxCDF	0.33		0.12	pg/g	23-JAN-20	30-JAN-20	R4985267

* 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
L2387288-41 19-S4-NG-CH-093							
Sampled By: Client on 09-OCT-19 @ 14:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total HxCDF # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-HpCDF	<0.093	[U]	0.093	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	69.0		25-164	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	73.0		32-141	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	69.0		28-130	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	72.0		23-140	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-OCDD	59.0		17-157	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	78.0		24-169	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	82.0		21-192	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	81.0		21-178	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	82.0		26-152	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	73.0		28-136	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	76.0		28-143	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	77.0		26-138	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	23-JAN-20	30-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0146			pg/g	23-JAN-20	30-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.275	0		pg/g	23-JAN-20	30-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.504			pg/g	23-JAN-20	30-JAN-20	R4985267
L2387288-42 19-S4-SB-CH-095							
Sampled By: Client on 01-OCT-19 @ 13:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	20.1		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	16.1		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	104	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	3790		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.761		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	33.5		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0223		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2940		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	0.0104		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.111		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	10.8		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	55.3		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-42 19-S4-SB-CH-095							
Sampled By: Client on 01-OCT-19 @ 13:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Magnesium (Mg)-Total	2660		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	24.6		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	5.30		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.66		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7550		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	21200		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	13.2		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	0.077		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	3.41		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	35.3		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.061	[U]	0.061	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.028	[U]	0.028	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.023	[U]	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.023	[U]	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.023	[U]	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.038	M,J,R	0.018	pg/g	23-JAN-20	31-JAN-20	R4985267
OCDD	0.090	M,J,R	0.029	pg/g	23-JAN-20	31-JAN-20	R4985267
2,3,7,8-TCDF	<0.036	[U]	0.036	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,7,8-PeCDF	<0.021	[U]	0.021	pg/g	23-JAN-20	31-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.017	[U]	0.017	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.018	[U]	0.018	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.019	[U]	0.019	pg/g	23-JAN-20	31-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.018	[U]	0.018	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.032	M,J	0.024	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.036	M,J	0.025	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.031	[U]	0.031	pg/g	23-JAN-20	31-JAN-20	R4985267
OCDF	0.055	M,J,R	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
Total-TCDD	<0.061	[U]	0.061	pg/g	23-JAN-20	31-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-PeCDD	<0.028	[U]	0.028	pg/g	23-JAN-20	31-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-HxCDD	<0.023	[U]	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-HpCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	31-JAN-20	R4985267
Total HpCDD # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-TCDF	<0.036	[U]	0.036	pg/g	23-JAN-20	31-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-PeCDF	<0.021	[U]	0.021	pg/g	23-JAN-20	31-JAN-20	R4985267
Total PeCDF # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-HxCDF	0.032		0.024	pg/g	23-JAN-20	31-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	31-JAN-20	R4985267
Total-HpCDF	0.036		0.031	pg/g	23-JAN-20	31-JAN-20	R4985267
Total HpCDF # Homologues	1				23-JAN-20	31-JAN-20	R4985267

* 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
L2387288-42 19-S4-SB-CH-095							
Sampled By: Client on 01-OCT-19 @ 13:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	91.0		25-181	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	87.0		32-141	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	81.0		28-130	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	79.0		23-140	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-OCDD	75.0		17-157	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	88.0		24-169	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	95.0		21-192	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	94.0		21-178	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	96.0		26-152	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	88.0		26-123	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	92.0		29-147	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	83.0		28-136	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	86.0		28-143	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	85.0		26-138	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	86.0		31-197	%	23-JAN-20	31-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00351			pg/g	23-JAN-20	31-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0595	0		pg/g	23-JAN-20	31-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.115			pg/g	23-JAN-20	31-JAN-20	R4985267
L2387288-43 19-D1-SS-CH-200							
Sampled By: Client on 08-OCT-19 @ 14:10							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	22.9		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.41		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0620		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	22.7		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	27500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.32		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.17		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	117		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	1.21		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	0.24		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	18.4		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.463		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	5610		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	42.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	11.5		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	31.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	26100		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	16.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	35.6		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	7790		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	365		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.38		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	37.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	953		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	4350		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.56		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-43 19-D1-SS-CH-200							
Sampled By: Client on 08-OCT-19 @ 14:10							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	68		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	23.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.242		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	166		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.96		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	49.8		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	82.9		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	5.8		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
CARB428 PCB TOTALS							
Total PCB	0.749		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	54.3		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	67.8		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	46.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	91.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	44.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	100.2		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	41.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	88.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	61.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	85.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	75.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	84.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	82.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	108.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	76.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	84.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	89.7	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	83.0		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	89.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	80.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	81.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	73.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	78.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	73.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	71.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.0095	[U]	0.0095	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00220	M,J,R	0.00050	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.00092	[U]	0.00092	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0090	M,J	0.0010	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	0.0171	M,J	0.0063	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	0.0109	M,J	0.0060	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0308	M,J	0.0020	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	0.0068	M,J	0.0057	ng/g	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-43 19-D1-SS-CH-200							
Sampled By: Client on 08-OCT-19 @ 14:10							
Matrix: Soil							
OC Pesticides by Method 1699							
Endrin Aldehyde	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	0.0949	M,J	0.0067	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.0094	[U]	0.0094	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0024	[U]	0.0024	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.109	[J]	0.0035	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0073	M,J,R	0.0044	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.118	[J]	0.0072	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0038	[U]	0.0038	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	0.0130	[J]	0.00044	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	69.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	74.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	86.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	82.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	81.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	94.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	92.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	82.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0079	[U]	0.0079	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	100.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	74.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	88.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	74.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	74.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.244	M,J	0.067	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.189	M,J	0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.20	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.346	M,J	0.096	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.358	M,J	0.097	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	4.72		0.090	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	21.6		0.20	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.29	M,J	0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.243	M,J	0.095	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.465	[J]	0.077	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.328	M,J,B	0.069	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.202	M,J	0.066	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.369	[J]	0.074	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.11	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.69	M,J	0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.136	M,J	0.058	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	1.80	M,J,R	0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	1.25		0.067	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	4				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	1.20		0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	3				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	4.45		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	9.38		0.090	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	6.84		0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	13				21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-43 19-D1-SS-CH-200							
Sampled By: Client on 08-OCT-19 @ 14:10							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total-PeCDF	5.24		0.095	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	9				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	2.80		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	1.83		0.058	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	73.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	62.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	75.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	61.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	34.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	69.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	71.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	69.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	69.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	66.0		29-147	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	61.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	55.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	65.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	77.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.872			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.872			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.872			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-44 19-D2-SS-CH-201							
Sampled By: Client on 10-OCT-19 @ 15:15							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	19.5		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.30		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0716		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	20.5		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	15400		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.33		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.17		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	76.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.60		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	8.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.371		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	6280		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	22.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	7.94		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	16.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	18500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	23.7		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	20.9		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	4950		20	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-44 19-D2-SS-CH-201							
Sampled By: Client on 10-OCT-19 @ 15:15							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Manganese (Mn)	347		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.63		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	19.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	778		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	2320		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.37		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	50		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	19.9		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.198		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	100		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.12		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	31.6		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	65.8		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.4		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
CARB428 PCB TOTALS							
Total PCB	1.63		0.012	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	35.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	50.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	33.9		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	74.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	35.3		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	83.6		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	34.3		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	73.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	51.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 123	70.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	64.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	71.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	72.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	94.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	67.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	72.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	79.4	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	70.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	77.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	70.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	71.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	65.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	69.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	65.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	64.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.0062	[U]	0.0062	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.0084	[U]	0.0084	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.0083	[U]	0.0083	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.0083	[U]	0.0083	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00140	M,J,R	0.00034	ng/g	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-44 19-D2-SS-CH-201							
Sampled By: Client on 10-OCT-19 @ 15:15							
Matrix: Soil							
OC Pesticides by Method 1699							
Aldrin	<0.00095	[U]	0.00095	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0166	[J]	0.00086	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	0.0056	M,J	0.0042	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	0.0077	M,J,R	0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0160	M,J,R	0.0019	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.0052	M,U	0.0052	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0047	[U]	0.0047	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.0089	[U]	0.0089	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0019	[U]	0.0019	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.153		0.0038	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0035	M,J	0.0028	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.0779	M,J	0.0048	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0031	[U]	0.0031	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00067	[U]	0.00067	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	79.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	80.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	88.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	82.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	87.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	94.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	88.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	88.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0066	[U]	0.0066	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	96.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	79.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	89.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	93.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	93.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.179	M,J	0.063	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.224	M,J	0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.221	M,J	0.076	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.382	M,J	0.070	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.409	M,J	0.072	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	6.32		0.095	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	33.2		0.19	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.375	M,J	0.079	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.190	M,J,R	0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.426	M,J	0.045	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.366	M,J,B	0.072	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.307	M,J	0.070	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.407	[J]	0.074	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.13	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.86	[J]	0.032	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.211	[J]	0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	2.15	[J]	0.087	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	1.42		0.063	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	4				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	3.04		0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	6				21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-44 19-D2-SS-CH-201							
Sampled By: Client on 10-OCT-19 @ 15:15							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total-HxCDD	3.47		0.076	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	12.5		0.095	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	4.86		0.079	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	9				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	6.00		0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	3.27		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	3.11		0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	4				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	81.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	72.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	88.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	75.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	46.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	77.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	80.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	75.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	82.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	78.0		29-147	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	73.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	70.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	77.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	83.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.885			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.890			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.890			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-45 19-D3-NG-CH-203							
Sampled By: Client on 08-OCT-19 @ 15:10							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	57.9		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	55.0		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	5360	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0118		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	4240		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.74		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	40.9		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.033		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	8.54		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.5		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-45 19-D3-NG-CH-203							
Sampled By: Client on 08-OCT-19 @ 15:10							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Cadmium (Cd)-Total	0.0564		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4780		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	0.0107		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.595		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.044		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	5.20		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	91.2		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.205		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2510		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	83.6		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	4.19		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.70		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3090		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	19400		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	7.84		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	1.66		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	13.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0047		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	32.7		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
PCB congeners by SIM GC/LRMS							
Total PCB	0.041		0.040	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	35.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	50.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	32.2		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	69.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	32.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	75.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	29.4		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	63.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	48.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	63.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	58.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	62.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	62.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	77.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	62.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	62.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	51.0	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	79.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	61.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	62.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	62.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	55.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	72.5		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-45 19-D3-NG-CH-203							
Sampled By: Client on 08-OCT-19 @ 15:10							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 206	55.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	52.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.26	[U]	0.26	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.33	[U]	0.33	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.36	[U]	0.36	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.33	[U]	0.33	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.020	[U]	0.020	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.054	[U]	0.054	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.083	[U]	0.083	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.29	[U]	0.29	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.27	[U]	0.27	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.21	M,J	0.11	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.14	[U]	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.040	[U]	0.040	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.34	[U]	0.34	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.60	[U]	0.60	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.14	[U]	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	0.27	M,J,R	0.17	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.21	[U]	0.21	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.42	[U]	0.42	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.14	[U]	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	<0.0081	[U]	0.0081	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	53.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	42.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	74.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	75.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	69.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	66.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	86.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	58.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	57.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	67.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.34	[U]	0.34	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.64	[U]	0.64	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	56.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	52.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	61.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	60.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.052	[U]	0.052	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.063	M,J,R	0.029	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.052	M,J,R	0.040	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.092	M,J,R	0.037	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.057	M,J,R	0.038	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.953	[J]	0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	2.66	[J]	0.044	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	0.054	M,J,R	0.045	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.079	M,J	0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.043	M,J,R	0.029	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.058	M,J,R	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-45 19-D3-NG-CH-203							
Sampled By: Client on 08-OCT-19 @ 15:10							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,6,7,8-HxCDF	0.061	M,J,R	0.032	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.049	M,J	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.044	M,J,R	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.270	J,R	0.038	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.050	M,J,R	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.609	[J]	0.039	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	0.668		0.052	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	3				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	1.35		0.029	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	3				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	1.74		0.040	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	2.57		0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	0.444		0.045	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	3				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	0.079		0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	0.049		0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.043	[U]	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	82.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	71.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	73.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	65.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	70.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	78.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	78.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	71.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	68.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	70.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	75.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0178			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.165			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.191			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-46 19-D8-NG-CH-208							
Sampled By: Client on 10-OCT-19 @ 16:10							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	37.0		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	46.5		0.50	%		10-FEB-20	R4993331
Chloride (Cl)	1970	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0144		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-46 19-D8-NG-CH-208							
Sampled By: Client on 10-OCT-19 @ 16:10							
Matrix: Plant Tissue							
Sulfur (S)-Total	2080		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.70		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	35.2		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Antimony (Sb)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.032		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	33.9		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.9		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0411		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5980		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cesium (Cs)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.242		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.023		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	3.89		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	64.6		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.151		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lithium (Li)-Total	<0.50		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1980		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	30.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.45		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2390		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	11900		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Rubidium (Rb)-Total	1.46		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Selenium (Se)-Total	0.193		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	22.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tellurium (Te)-Total	<0.020		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Tin (Sn)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Uranium (U)-Total	0.0030		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.11		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	18.5		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
PCB congeners by SIM GC/LRMS							
Total PCB	0.683		0.030	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	42.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	58.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	37.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	80.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	38.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	83.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	36.2		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	68.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	50.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	59.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	63.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	67.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	67.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	87.6		10-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-46 19-D8-NG-CH-208							
Sampled By: Client on 10-OCT-19 @ 16:10							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 155	66.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	68.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	74.7	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	61.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	69.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	67.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	69.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	60.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	66.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	61.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	74.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.67	[U]	0.67	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<1.1	[U]	1.1	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<1.0	[U]	1.0	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.83	[U]	0.83	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.059	[U]	0.059	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.093	[U]	0.093	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.30	M,U	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.55	[U]	0.55	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.53	[U]	0.53	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.73	M,J	0.60	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.86	[U]	0.86	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.27	[U]	0.27	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.66	[U]	0.66	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<1.3	[U]	1.3	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.41	[U]	0.41	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	1.1	M,J	1.0	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<1.1	[U]	1.1	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<2.1	[U]	2.1	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<1.2	[U]	1.2	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	<0.086	[U]	0.086	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	42.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	37.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	64.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	65.0	M	40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	59.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	51.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	59.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	34.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	29.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	40.0	M	5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<1.4	[U]	1.4	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<2.3	[U]	2.3	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	44.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	20.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	40.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	43.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.12	[U]	0.12	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.076	[U]	0.076	pg/g	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-46 19-D8-NG-CH-208							
Sampled By: Client on 10-OCT-19 @ 16:10							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8-HxCDD	<0.085	[U]	0.085	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.082	M,U	0.082	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.083	M,U	0.083	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.663	M,J,B	0.048	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	1.89	[J]	0.092	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	0.098	M,J,R	0.092	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.125	M,J	0.069	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.054	[U]	0.054	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.070	[U]	0.070	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.070	[U]	0.070	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.069	M,J,R	0.068	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.091	M,J,R	0.089	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.210	M,J,R	0.058	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.064	[U]	0.064	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.561	[J]	0.068	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	0.24		0.12	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	0.283		0.076	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	0.807		0.085	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	1.72		0.048	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	0.510		0.092	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	0.125		0.069	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	<0.089	[U]	0.089	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.064	[U]	0.064	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	75.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	87.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	82.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	79.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	85.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	84.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	78.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	82.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	80.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	80.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	75.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	82.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	90.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	80.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0111			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.165			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.291			pg/g	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-47 19-D4-SD-CH-204							
Sampled By: Client on 08-OCT-19 @ 14:40							
Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	26.1		0.10	%	22-JAN-20	23-JAN-20	R4976673
Chloride (Cl)	34.2		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	5.45		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0218		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	19.4		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	14600		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Antimony (Sb)	0.33		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.49		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	69.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.62		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Bismuth (Bi)	<0.20		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	17.2		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.204		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	96500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	25.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	9.66		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	17.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	20600		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	8.11		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lithium (Li)	26.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	33500		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	418		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	3.66		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	29.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	435		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	2940		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Selenium (Se)	0.38		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	174		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	85.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.268		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tin (Sn)	<2.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	220		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Tungsten (W)	<0.50		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Uranium (U)	1.31		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	32.5		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	51.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	8.8		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
CARB428 PCB TOTALS							
Total PCB	<0.013		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 1	15.1	M	5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 3	27.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 4	16.9		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 15	49.4		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 19	19.1		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 37	66.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 54	21.0		5-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 81	61.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 104	37.1		10-145	%	22-JAN-20	28-JAN-20	R4996239

* 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
L2387288-47 19-D4-SD-CH-204							
Sampled By: Client on 08-OCT-19 @ 14:40							
Matrix: Sediment							
CARB428 PCB TOTALS							
Surrogate: 13C12 PCB 123	68.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 118	45.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 114	64.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 105	66.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 126	95.1		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 155	59.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 167	71.6		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 156	70.3	M	10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 157	65.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 169	77.5		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 188	67.9		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 202	70.2		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 205	66.3		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 208	67.4		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 206	66.8		10-145	%	22-JAN-20	28-JAN-20	R4996239
Surrogate: 13C12 PCB 209	65.7		10-145	%	22-JAN-20	28-JAN-20	R4996239
OC Pesticides by Method 1699							
alpha-BHC	<0.0099	[U]	0.0099	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.013	[U]	0.013	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.013	[U]	0.013	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	<0.00051	M,J,R	0.00051	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.0012	[U]	0.0012	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	<0.0015	[U]	0.0015	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	<0.0073	[U]	0.0073	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	<0.0070	[U]	0.0070	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	<0.0050	M,U	0.0050	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.015	M,U	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.0089	[U]	0.0089	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0044	[U]	0.0044	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	0.0085	M,J,R	0.0075	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0033	[U]	0.0033	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	<0.0045	[U]	0.0045	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	<0.0040	[U]	0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	<0.0037	[U]	0.0037	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0032	[U]	0.0032	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00039	[U]	0.00039	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	54.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	66.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	74.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	67.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	75.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	82.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	76.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	85.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	83.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	55.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	82.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	62.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	61.0		11-120	%	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-48 19-D5-SB-CH-206							
Sampled By: Client on 08-OCT-19 @ 15:40							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	46.6		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	41.2		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	51	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	5100		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.12		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	36.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0942		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2500		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.084		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	17.3		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	91.9		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3470		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	28.7		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	7.68		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	3.55		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	9240		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	28000		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	7.82		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	1.07		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	1.84		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	48.4		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<0.92	[U]	0.92	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	29.0	G	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: 13C6-Pentachlorophenol has low recovery.							
PCB congeners by SIM GC/LRMS							
Total PCB	<0.020		0.020	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	40.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	54.1		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	34.5		5-145	%	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-48 19-D5-SB-CH-206							
Sampled By: Client on 08-OCT-19 @ 15:40							
Matrix: Plant Tissue							
PCB congeners by SIM GC/LRMS							
Surrogate: 13C12 PCB 15	76.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	32.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	79.1		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	29.9		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	67.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	47.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	58.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	54.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	58.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	60.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	78.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	58.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	61.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	59.6	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	52.7		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	56.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	59.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	57.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	53.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	58.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	55.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	53.3		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.018	[U]	0.018	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.020	[U]	0.020	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.020	[U]	0.020	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.020	[U]	0.020	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	0.00130	M,J,R	0.00078	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.0016	[U]	0.0016	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	0.0120	M,J,R	0.0020	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.011	[U]	0.011	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.011	[U]	0.011	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.0420	M,J,R	0.0059	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.0073	M,U	0.0073	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.0052	[U]	0.0052	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.014	[U]	0.014	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.067	[U]	0.067	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.0056	[U]	0.0056	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	<0.012	[U]	0.012	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.0059	[U]	0.0059	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.016	[U]	0.016	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.0097	[U]	0.0097	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	0.00120	M,J,R	0.00074	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	64.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	61.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	87.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	85.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	96.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	79.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	100.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	102.0		5-120	%	21-JAN-20	12-FEB-20	R5011480

* 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
L2387288-48 19-D5-SB-CH-206							
Sampled By: Client on 08-OCT-19 @ 15:40							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: Mirex, 13C10-	85.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	99.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.019	[U]	0.019	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.015	[U]	0.015	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	74.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	111.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	88.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	89.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.024	[U]	0.024	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.014	M,J	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.0370	M,J,R	0.0095	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	0.128	[J]	0.016	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.018	M,J	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0091	[U]	0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.016	M,J,R	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.114	M,J	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	<0.024	[U]	0.024	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	0.014		0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	<0.0095	[U]	0.0095	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	0.018		0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	62.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	63.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	61.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	65.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	59.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	60.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	66.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	67.0		21-178	%	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-48 19-D5-SB-CH-206 Sampled By: Client on 08-OCT-19 @ 15:40 Matrix: Plant Tissue Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	62.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	60.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	61.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	64.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	66.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	66.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00200			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0281			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0522			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-49 19-D6-FC-CH-207 Sampled By: Client on 10-OCT-19 @ 16:40 Matrix: Plant Tissue Miscellaneous Parameters							
% Moisture	37.4		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	34.3		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	404	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	1080		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.25		0.25	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Antimony (Sb)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	3.6		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	53		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cesium (Cs)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	1.26		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	19.3		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lithium (Li)-Total	<0.50		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	1240		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	4.25		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	0.394		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	0.29		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	3860		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	4960		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Rubidium (Rb)-Total	1.03		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Selenium (Se)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	0.097		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Tellurium (Te)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-49 19-D6-FC-CH-207							
Sampled By: Client on 10-OCT-19 @ 16:40							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Tin (Sn)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Uranium (U)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	21.4		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<2.0	[U]	2.0	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	10.0	M	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: 13C6-Pentachlorophenol has low recovery.							
PCB congeners by SIM GC/LRMS							
Total PCB	0.468		0.020	ng/g	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 1	46.3		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 3	59.8		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 4	39.6		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 15	81.1		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 19	37.5		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 37	86.7		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 54	34.1		5-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 81	71.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 104	49.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 123	69.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 118	57.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 114	67.6		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 105	67.9		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 126	87.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 155	64.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 167	68.8		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 156	70.4	M	10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 157	67.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 169	70.2		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 188	67.5		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 202	68.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 205	64.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 208	73.0		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 206	63.1		10-145	%	21-JAN-20	28-JAN-20	R4988567
Surrogate: 13C12 PCB 209	60.4		10-145	%	21-JAN-20	28-JAN-20	R4988567
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.013	[U]	0.013	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.013	[U]	0.013	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	0.00110	M,J,R	0.00064	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.0016	[U]	0.0016	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.0019	M,U	0.0019	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.015	[U]	0.015	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.015	[U]	0.015	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	<0.012	[U]	0.012	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.014	[U]	0.014	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.0058	[U]	0.0058	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.0082	[U]	0.0082	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.027	[U]	0.027	ng/g	21-JAN-20	12-FEB-20	R5011480

* 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
L2387288-49 19-D6-FC-CH-207							
Sampled By: Client on 10-OCT-19 @ 16:40							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Endosulfan Sulfate	<0.0045	[U]	0.0045	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	<0.011	[U]	0.011	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.0086	[U]	0.0086	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.014	[U]	0.014	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.012	[U]	0.012	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	0.00230	M,J,R	0.00057	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	74.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	75.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	102.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	97.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	110.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	88.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	111.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	99.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	78.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	106.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.013	[U]	0.013	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.015	[U]	0.015	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	81.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	97.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	97.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	95.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.0091	[U]	0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.0099	[U]	0.0099	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.0097	[U]	0.0097	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.0110	M,J,R	0.0097	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.0300	M,J,R	0.0065	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	0.117	[J]	0.017	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	<0.013	[U]	0.013	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.0098	M,J,R	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0072	[U]	0.0072	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.0085	[U]	0.0085	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.0082	[U]	0.0082	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.0082	[U]	0.0082	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.028	M,J,R	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	<0.0082	[U]	0.0082	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.097	M,J	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	<0.0091	[U]	0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	<0.0099	[U]	0.0099	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	<0.0065	[U]	0.0065	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	<0.013	[U]	0.013	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	<0.0090	[U]	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-49 19-D6-FC-CH-207 Sampled By: Client on 10-OCT-19 @ 16:40 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total PeCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	70.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	81.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	68.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	67.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	56.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	69.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	75.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	77.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	65.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	62.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	66.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	63.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0000641			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0222			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0398			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-50 19-E6-FB-CH-211 Sampled By: Client on 14-AUG-19 @ 12:05 Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		03-FEB-20	
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Antimony (Sb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Lithium (Li)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008

* 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
L2387288-50 19-E6-FB-CH-211 Sampled By: Client on 14-AUG-19 @ 12:05 Matrix: Water							
Total Metals in Water by CRC ICPMS							
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Selenium (Se)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Tin (Sn)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Uranium (U)-Total	<0.00020		0.00020	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		03-FEB-20	
L2387288-51 19-E1-FB-CH-213 Sampled By: Client on 09-OCT-19 @ 08:30 Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		04-FEB-20	
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Antimony (Sb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Lithium (Li)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Selenium (Se)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Tin (Sn)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Uranium (U)-Total	<0.00020		0.00020	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	0.0113	RRV	0.0050	mg/L		04-FEB-20	R4988192

* 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
L2387288-51 19-E1-FB-CH-213 Sampled By: Client on 09-OCT-19 @ 08:30 Matrix: Water Miscellaneous Parameters Silicon (as SiO2)-Total	<0.21		0.21	mg/L		04-FEB-20	
L2387288-52 19-E6-RB-CH-215 Sampled By: Client on 14-AUG-19 @ 12:00 Matrix: Water Total Metals in Water + Hg (CCME/BCWQG) Hardness Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		04-FEB-20	
Total Mercury in Water by CVAAS or CVAFS Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Antimony (Sb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		04-FEB-20	R4988192
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Lithium (Li)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		04-FEB-20	R4988192
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Selenium (Se)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Tin (Sn)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Uranium (U)-Total	<0.00020		0.00020	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	0.0092	RRV	0.0050	mg/L		04-FEB-20	R4988192
Miscellaneous Parameters Silicon (as SiO2)-Total	<0.21		0.21	mg/L		04-FEB-20	
L2387288-53 19-E1-RB-CH-216 Sampled By: Client on 09-OCT-19 @ 08:35 Matrix: Water Total Metals in Water + Hg (CCME/BCWQG) Hardness Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		03-FEB-20	
Total Mercury in Water by CVAAS or CVAFS Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008

* 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
L2387288-53 19-E1-RB-CH-216 Sampled By: Client on 09-OCT-19 @ 08:35 Matrix: Water							
Total Metals in Water by CRC ICPMS							
Antimony (Sb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Lithium (Li)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Selenium (Se)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Tin (Sn)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Uranium (U)-Total	<0.00020		0.00020	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		03-FEB-20	
L2387288-54 19-E6-TB-CH-220 Sampled By: Client on 14-AUG-19 Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		03-FEB-20	
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Antimony (Sb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008

* 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
L2387288-54 19-E6-TB-CH-220 Sampled By: Client on 14-AUG-19 Matrix: Water							
Total Metals in Water by CRC ICPMS							
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Lithium (Li)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Selenium (Se)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Tin (Sn)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Uranium (U)-Total	<0.00020		0.00020	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		03-FEB-20	
L2387288-55 19-E1-TB-CH-221 Sampled By: Client on 09-OCT-19 Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		03-FEB-20	
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Antimony (Sb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Lithium (Li)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Selenium (Se)-Total	<0.000050		0.000050	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008

* 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
L2387288-55 19-E1-TB-CH-221							
Sampled By: Client on 09-OCT-19							
Matrix: Water							
Total Metals in Water by CRC ICPMS							
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Tin (Sn)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Uranium (U)-Total	<0.00020		0.00020	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		03-FEB-20	

* 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.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
HTC	Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).
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.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis
U	Not Detected.
[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**
AG-DRY-CCMS-N-VA	Tissue	Silver in Tissue by CRC ICPMS (DRY)	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.			
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.			
CL-LEACH-IC-VA	Soil	Chloride leach (1:10) by IC	APHA 4110 IC
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 analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.			
CP-CUSTOM-LRMS-BU	Solid	Chlorophenols as acetate derivatives	EPA 8270 (modified)
Chlorophenols as acetate derivatives by SIM GC/MS.			
DX-1613B-HRMS-BU	Biota	Dioxins and Furans HR 1613B	USEPA 1613B
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			
F-1:5-DI-SIE-VA	Soil	Fluoride leach (1:5) by SIE	BCMEOE/APHA Method 4500-F Fluoride
This analysis is carried out using procedures from the Method: "Fluoride in Soils by 5:1 Aqueous Extraction", BC Ministry of Environment, 22 January 2008, and procedures adapted from APHA Method 4500-F "Fluoride". The procedure involves mixing the dried (at <60°C) and sieved (2mm) sample with deionized/distilled water at a 1:5 ratio of soil to water. Fluoride is determined using a selective ion electrode			

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HARDNESS-CALC-VA	Water	Hardness	APHA 2340B
Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.			
HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAAS	EPA 200.2/1631E (mod)
Soil samples are digested with hot nitric and hydrochloric acids, followed by CVAAS analysis. This method is fully compliant with the BC SALM strong acid leachable metals digestion method.			
HG-DRY-CVAFS-N-VA	Tissue	Mercury in Tissue by CVAAS (DRY)	EPA 200.3, EPA 245.7
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 fluorescence spectrophotometry or atomic absorption spectrophotometry, adapted from US EPA Method 245.7.			
HG-T-CVAA-VA	Water	Total Mercury in Water by CVAAS or CVAFS	EPA 1631E (mod)
Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.			
MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)
Soil/sediment is dried, disaggregated, and sieved (2 mm). Strong Acid Leachable Metals in the <2mm fraction are solubilized by heated digestion with nitric and hydrochloric acids. Instrumental analysis is by Collision / Reaction Cell ICPMS.			
Limitations: This method is intended to liberate environmentally available metals. Silicate minerals are not solubilized. Some metals may be only partially recovered (matrix dependent), including Al, Ba, Be, Cr, S, Sr, Ti, Tl, V, W, and Zr. Elemental Sulfur may be poorly recovered by this method. Volatile forms of sulfur (e.g. sulfide, H ₂ S) may be excluded if lost during sampling, storage, or digestion.			
MET-DRY-CCMS-N-VA	Tissue	Metals in Tissue by CRC ICPMS (DRY)	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-VA	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.			
MOISTURE-BU	Soil	% Moisture	CCME PHC in Soil - Tier 1 (mod)
This method is used to determine the percent moisture in a sample. Samples are homogenized, moisture is removed by heating at 105°C until constant mass is achieved. The residues are measured gravimetrically and the difference in weight between the wet sample and the dried sample is used to determine the moisture content. This percent moisture can be used, in conjunction with analytical results, to report data on a dry weight basis.			
MOISTURE-BU	Tissue	% Moisture	ASTM METHOD D2794-00
This method is used to determine the percent moisture in a sample. Samples are homogenized, moisture is removed by heating at 105°C until constant mass is achieved. The residues are measured gravimetrically and the difference in weight between the wet sample and the dried sample is used to determine the moisture content. This percent moisture can be used, in conjunction with analytical results, to report data on a dry weight basis.			
MOISTURE-TISS-VA	Tissue	% Moisture in Tissues	Puget Sound WQ Authority, Apr 1997
This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.			
MOISTURE-VA	Soil	Moisture content	CCME PHC in Soil - Tier 1 (mod)
This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of two hours.			
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-C428-LRMS-BU	Solid	CARB428 PCB TOTALS	C428 LRMS
PCB-C428-LRMS-BU	Tissue	PCB congeners by SIM GC/LRMS	SIM GC/LRMS

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
<p>Samples are Soxhlet extracted with dichloromethane. Extracts are passed through GPC for lipid removal and cleaned by column chromatography. Extracts are analyzed via SIM GC/LRMS.</p>			
S-DRY-CCMS-N-VA	Tissue	Sulfur in Tissue by CRC ICPMS (DRY)	EPA 200.3/6020A
<p>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).</p>			
<p>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.</p>			
SIO2-T-CALC-VA	Water	Total Silicon (reported as Silica)	CALCULATION
<p>Total Silicon (as SiO₂) is a calculated parameter. Total Silicon (as SiO₂ mg/L) = 2.139 x Total Silicon (mg/L).</p>			
TI-DRY-CCMS-N-VA	Tissue	Ti in Tissue by CRC ICPMS (DRY)	EPA 200.3/6020A
<p>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).</p>			
<p>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.</p>			

** 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
ED	ALS ENVIRONMENTAL - EDMONTON, ALBERTA, 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: L2387288

Report Date: 26-MAR-20

Page 1 of 42

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-VA		Water						
Batch	R4982896							
WG3265542-2	LCS							
Mercury (Hg)-Total			94.6		%		80-120	29-JAN-20
WG3265542-1	MB							
Mercury (Hg)-Total			<0.000005C		mg/L		0.000005	29-JAN-20
MET-T-CCMS-VA		Water						
Batch	R4987008							
WG3268371-2	LCS							
Aluminum (Al)-Total			103.2		%		80-120	03-FEB-20
Antimony (Sb)-Total			104.4		%		80-120	03-FEB-20
Arsenic (As)-Total			101.6		%		80-120	03-FEB-20
Barium (Ba)-Total			103.9		%		80-120	03-FEB-20
Beryllium (Be)-Total			104.9		%		80-120	03-FEB-20
Boron (B)-Total			98.7		%		80-120	03-FEB-20
Cadmium (Cd)-Total			101.9		%		80-120	03-FEB-20
Calcium (Ca)-Total			102.5		%		80-120	03-FEB-20
Chromium (Cr)-Total			108.1		%		80-120	03-FEB-20
Cobalt (Co)-Total			101.4		%		80-120	03-FEB-20
Copper (Cu)-Total			102.1		%		80-120	03-FEB-20
Iron (Fe)-Total			109.0		%		80-120	03-FEB-20
Lead (Pb)-Total			106.6		%		80-120	03-FEB-20
Lithium (Li)-Total			106.9		%		80-120	03-FEB-20
Magnesium (Mg)-Total			104.4		%		80-120	03-FEB-20
Manganese (Mn)-Total			105.7		%		80-120	03-FEB-20
Molybdenum (Mo)-Total			100.3		%		80-120	03-FEB-20
Nickel (Ni)-Total			102.1		%		80-120	03-FEB-20
Potassium (K)-Total			106.1		%		80-120	03-FEB-20
Selenium (Se)-Total			104.8		%		80-120	03-FEB-20
Silver (Ag)-Total			100.8		%		80-120	03-FEB-20
Sodium (Na)-Total			104.0		%		80-120	03-FEB-20
Sulfur (S)-Total			100.4		%		80-120	03-FEB-20
Thallium (Tl)-Total			100.2		%		80-120	03-FEB-20
Tin (Sn)-Total			100.7		%		80-120	03-FEB-20
Titanium (Ti)-Total			98.6		%		80-120	03-FEB-20
Uranium (U)-Total			104.9		%		80-120	03-FEB-20
Vanadium (V)-Total			105.1		%		80-120	03-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 2 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-VA		Water						
Batch	R4987008							
WG3268371-2	LCS							
Zinc (Zn)-Total			98.1		%		80-120	03-FEB-20
WG3268371-1	MB							
Aluminum (Al)-Total			<0.0030		mg/L		0.003	03-FEB-20
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Arsenic (As)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Barium (Ba)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Boron (B)-Total			<0.010		mg/L		0.01	03-FEB-20
Cadmium (Cd)-Total			<0.0000050		mg/L		0.000005	03-FEB-20
Calcium (Ca)-Total			<0.050		mg/L		0.05	03-FEB-20
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Copper (Cu)-Total			<0.00050		mg/L		0.0005	03-FEB-20
Iron (Fe)-Total			<0.010		mg/L		0.01	03-FEB-20
Lead (Pb)-Total			<0.000050		mg/L		0.00005	03-FEB-20
Lithium (Li)-Total			<0.0010		mg/L		0.001	03-FEB-20
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	03-FEB-20
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	03-FEB-20
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	03-FEB-20
Potassium (K)-Total			<0.050		mg/L		0.05	03-FEB-20
Selenium (Se)-Total			<0.000050		mg/L		0.00005	03-FEB-20
Silver (Ag)-Total			<0.000010		mg/L		0.00001	03-FEB-20
Sodium (Na)-Total			<0.050		mg/L		0.05	03-FEB-20
Sulfur (S)-Total			<0.50		mg/L		0.5	03-FEB-20
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	03-FEB-20
Tin (Sn)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	03-FEB-20
Uranium (U)-Total			<0.000010		mg/L		0.00001	03-FEB-20
Vanadium (V)-Total			<0.00050		mg/L		0.0005	03-FEB-20
Zinc (Zn)-Total			<0.0030		mg/L		0.003	03-FEB-20
Batch	R4988192							
WG3268944-2	LCS							
Aluminum (Al)-Total			108.0		%		80-120	04-FEB-20
Antimony (Sb)-Total			105.3		%		80-120	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 3 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-VA		Water						
Batch	R4988192							
WG3268944-2	LCS							
Arsenic (As)-Total			101.7		%		80-120	04-FEB-20
Barium (Ba)-Total			106.7		%		80-120	04-FEB-20
Beryllium (Be)-Total			101.5		%		80-120	04-FEB-20
Boron (B)-Total			101.5		%		80-120	04-FEB-20
Cadmium (Cd)-Total			104.3		%		80-120	04-FEB-20
Calcium (Ca)-Total			101.8		%		80-120	04-FEB-20
Chromium (Cr)-Total			106.1		%		80-120	04-FEB-20
Cobalt (Co)-Total			104.9		%		80-120	04-FEB-20
Copper (Cu)-Total			102.8		%		80-120	04-FEB-20
Iron (Fe)-Total			104.9		%		80-120	04-FEB-20
Lead (Pb)-Total			100.4		%		80-120	04-FEB-20
Lithium (Li)-Total			104.3		%		80-120	04-FEB-20
Magnesium (Mg)-Total			105.6		%		80-120	04-FEB-20
Manganese (Mn)-Total			107.9		%		80-120	04-FEB-20
Molybdenum (Mo)-Total			98.0		%		80-120	04-FEB-20
Nickel (Ni)-Total			105.2		%		80-120	04-FEB-20
Potassium (K)-Total			103.8		%		80-120	04-FEB-20
Selenium (Se)-Total			99.1		%		80-120	04-FEB-20
Silver (Ag)-Total			107.0		%		80-120	04-FEB-20
Sodium (Na)-Total			105.7		%		80-120	04-FEB-20
Sulfur (S)-Total			101.9		%		80-120	04-FEB-20
Thallium (Tl)-Total			101.9		%		80-120	04-FEB-20
Tin (Sn)-Total			102.0		%		80-120	04-FEB-20
Titanium (Ti)-Total			96.9		%		80-120	04-FEB-20
Uranium (U)-Total			99.4		%		80-120	04-FEB-20
Vanadium (V)-Total			108.1		%		80-120	04-FEB-20
Zinc (Zn)-Total			102.8		%		80-120	04-FEB-20
WG3268944-1	MB							
Aluminum (Al)-Total			<0.0030		mg/L		0.003	04-FEB-20
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Arsenic (As)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Barium (Ba)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Boron (B)-Total			<0.010		mg/L		0.01	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 4 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-VA								
	Water							
Batch	R4988192							
WG3268944-1	MB							
Cadmium (Cd)-Total			<0.0000050		mg/L		0.000005	04-FEB-20
Calcium (Ca)-Total			<0.050		mg/L		0.05	04-FEB-20
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Copper (Cu)-Total			<0.00050		mg/L		0.0005	04-FEB-20
Iron (Fe)-Total			<0.010		mg/L		0.01	04-FEB-20
Lead (Pb)-Total			<0.000050		mg/L		0.00005	04-FEB-20
Lithium (Li)-Total			<0.0010		mg/L		0.001	04-FEB-20
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	04-FEB-20
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	04-FEB-20
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	04-FEB-20
Potassium (K)-Total			<0.050		mg/L		0.05	04-FEB-20
Selenium (Se)-Total			<0.000050		mg/L		0.00005	04-FEB-20
Silver (Ag)-Total			<0.000010		mg/L		0.00001	04-FEB-20
Sodium (Na)-Total			<0.050		mg/L		0.05	04-FEB-20
Sulfur (S)-Total			<0.50		mg/L		0.5	04-FEB-20
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	04-FEB-20
Tin (Sn)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	04-FEB-20
Uranium (U)-Total			<0.000010		mg/L		0.00001	04-FEB-20
Vanadium (V)-Total			<0.00050		mg/L		0.0005	04-FEB-20
Zinc (Zn)-Total			<0.0030		mg/L		0.003	04-FEB-20
CL-LEACH-IC-VA								
	Soil							
Batch	R4995561							
WG3272652-4	DUP	L2387288-24						
Chloride (Cl)		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	11-FEB-20
WG3272669-3	DUP	L2387288-29						
Chloride (Cl)		14.1	13.5		mg/kg	4.9	30	11-FEB-20
WG3272652-2	LCS							
Chloride (Cl)			99.7		%		70-130	11-FEB-20
WG3272669-2	LCS							
Chloride (Cl)			98.7		%		70-130	11-FEB-20
WG3272652-1	MB							
Chloride (Cl)			<5.0		mg/kg		5	11-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 5 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-LEACH-IC-VA								
Soil								
Batch	R4995561							
WG3272669-1	MB							
Chloride (Cl)			<5.0		mg/kg		5	11-FEB-20
Batch								
R4998419								
WG3277018-3	DUP	L2387288-15						
Chloride (Cl)		167	164		mg/kg	2.0	30	18-FEB-20
WG3277018-2	LCS							
Chloride (Cl)			99.0		%		70-130	18-FEB-20
WG3277018-1	MB							
Chloride (Cl)			<5.0		mg/kg		5	18-FEB-20
DX-1613B-HRMS-BU								
Soil								
Batch	R4981388							
WG3253377-4	DUP	L2387288-1						
2,3,7,8-TCDD		0.226	0.225		pg/g	0.4	50	24-JAN-20
1,2,3,7,8-PeCDD		0.244	0.229		pg/g	6.3	50	24-JAN-20
1,2,3,4,7,8-HxCDD		0.258	0.230		pg/g	11	50	24-JAN-20
1,2,3,6,7,8-HxCDD		0.386	0.399		pg/g	3.3	50	24-JAN-20
1,2,3,7,8,9-HxCDD		0.400	0.440		pg/g	9.5	50	24-JAN-20
1,2,3,4,6,7,8-HpCDD		6.75	6.04		pg/g	11	50	24-JAN-20
OCDD		37.4	31.7		pg/g	16	50	24-JAN-20
2,3,7,8-TCDF		0.295	0.32		pg/g	8.1	50	24-JAN-20
1,2,3,7,8-PeCDF		0.252	0.216		pg/g	15	50	24-JAN-20
2,3,4,7,8-PeCDF		0.720	0.634		pg/g	13	50	24-JAN-20
1,2,3,4,7,8-HxCDF		0.476	0.384		pg/g	21	50	24-JAN-20
1,2,3,6,7,8-HxCDF		0.310	0.289		pg/g	7.0	50	24-JAN-20
2,3,4,6,7,8-HxCDF		0.565	0.512		pg/g	9.8	50	24-JAN-20
1,2,3,7,8,9-HxCDF		0.16	0.113		pg/g	34	50	24-JAN-20
1,2,3,4,6,7,8-HpCDF		2.30	1.94		pg/g	17	50	24-JAN-20
1,2,3,4,7,8,9-HpCDF		0.160	0.122		pg/g	27	50	24-JAN-20
OCDF		2.91	2.52		pg/g	14	50	24-JAN-20
Total-TCDD		0.226	0.958	G	pg/g	124	50	24-JAN-20
Total-PeCDD		1.87	2.48		pg/g	28	50	24-JAN-20
Total-HxCDD		4.99	4.20		pg/g	17	50	24-JAN-20
Total-HpCDD		13.0	11.4		pg/g	13	50	24-JAN-20
Total-TCDF		7.06	5.15		pg/g	31	50	24-JAN-20
Total-PeCDF		11.2	9.74		pg/g	14	50	24-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 6 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU								
	Soil							
Batch	R4981388							
WG3253377-4	DUP	L2387288-1						
Total-HxCDF		5.48	4.58		pg/g	18	50	24-JAN-20
Total-HpCDF		3.68	3.20		pg/g	14	50	24-JAN-20
COMMENTS: Sample and duplicate replication criteria not met for Total TCDD results. None of the compounds were detected at levels above the Lower Quantitation Limit so replication criteria are not applicable.								
WG3253377-2	LCS							
2,3,7,8-TCDD			96.0		%		67-158	24-JAN-20
1,2,3,7,8-PeCDD			102.0		%		70-142	24-JAN-20
1,2,3,4,7,8-HxCDD			97.0		%		70-164	24-JAN-20
1,2,3,6,7,8-HxCDD			97.0		%		76-134	24-JAN-20
1,2,3,7,8,9-HxCDD			103.0		%		64-162	24-JAN-20
1,2,3,4,6,7,8-HpCDD			98.0		%		70-140	24-JAN-20
OCDD			95.0		%		78-144	24-JAN-20
2,3,7,8-TCDF			97.0		%		75-158	24-JAN-20
1,2,3,7,8-PeCDF			98.0		%		80-134	24-JAN-20
2,3,4,7,8-PeCDF			91.0		%		68-160	24-JAN-20
1,2,3,4,7,8-HxCDF			98.0		%		72-134	24-JAN-20
1,2,3,6,7,8-HxCDF			104.0		%		84-130	24-JAN-20
2,3,4,6,7,8-HxCDF			98.0		%		70-156	24-JAN-20
1,2,3,7,8,9-HxCDF			104.0		%		78-130	24-JAN-20
1,2,3,4,6,7,8-HpCDF			104.0		%		82-122	24-JAN-20
1,2,3,4,7,8,9-HpCDF			92.0		%		78-138	24-JAN-20
OCDF			107.0		%		63-170	24-JAN-20
WG3253377-1	MB							
2,3,7,8-TCDD			<0.065	[U]	pg/g		0.065	24-JAN-20
1,2,3,7,8-PeCDD			<0.055	[U]	pg/g		0.055	24-JAN-20
1,2,3,4,7,8-HxCDD			<0.054	[U]	pg/g		0.054	24-JAN-20
1,2,3,6,7,8-HxCDD			<0.051	[U]	pg/g		0.051	24-JAN-20
1,2,3,7,8,9-HxCDD			<0.051	[U]	pg/g		0.051	24-JAN-20
1,2,3,4,6,7,8-HpCDD			0.067	M,J,R	pg/g		0.057	24-JAN-20
OCDD			0.67	M,J	pg/g		0.16	24-JAN-20
2,3,7,8-TCDF			<0.047	[U]	pg/g		0.047	24-JAN-20
1,2,3,7,8-PeCDF			<0.035	M,U	pg/g		0.035	24-JAN-20
2,3,4,7,8-PeCDF			<0.032	[U]	pg/g		0.032	24-JAN-20
1,2,3,4,7,8-HxCDF			0.041	M,J	pg/g		0.036	24-JAN-20
1,2,3,6,7,8-HxCDF			<0.035	[U]	pg/g		0.035	24-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 7 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU								
	Soil							
Batch	R4981388							
WG3253377-1	MB							
2,3,4,6,7,8-HxCDF			<0.038	[U]	pg/g		0.038	24-JAN-20
1,2,3,7,8,9-HxCDF			<0.057	[U]	pg/g		0.057	24-JAN-20
1,2,3,4,6,7,8-HpCDF			<0.050	[U]	pg/g		0.05	24-JAN-20
1,2,3,4,7,8,9-HpCDF			<0.064	[U]	pg/g		0.064	24-JAN-20
OCDF			<0.15	[U]	pg/g		0.15	24-JAN-20
Total-TCDD			<0.065	[U]	pg/g		0.065	24-JAN-20
Total-PeCDD			<0.055	[U]	pg/g		0.055	24-JAN-20
Total-HxCDD			<0.054	[U]	pg/g		0.054	24-JAN-20
Total-HpCDD			<0.057	[U]	pg/g		0.057	24-JAN-20
Total-TCDF			<0.047	[U]	pg/g		0.047	24-JAN-20
Total-PeCDF			<0.035	[U]	pg/g		0.035	24-JAN-20
Total-HxCDF			<0.057	[U]	pg/g		0.057	24-JAN-20
Total-HpCDF			<0.064	[U]	pg/g		0.064	24-JAN-20
Surrogate: 13C12-2,3,7,8-TCDD			73.0		%		25-164	24-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDD			72.0		%		25-181	24-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			64.0		%		32-141	24-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			82.0		%		28-130	24-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			71.0		%		23-140	24-JAN-20
Surrogate: 13C12-OCDD			39.0		%		17-157	24-JAN-20
Surrogate: 13C12-2,3,7,8-TCDF			71.0		%		24-169	24-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDF			75.0		%		24-185	24-JAN-20
Surrogate: 13C12-2,3,4,7,8-PeCDF			71.0		%		21-178	24-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			67.0		%		26-152	24-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			75.0		%		26-123	24-JAN-20
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			71.0		%		29-147	24-JAN-20
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			64.0		%		28-136	24-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			62.0		%		28-143	24-JAN-20
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			72.0		%		26-138	24-JAN-20
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			77.0		%		35-197	24-JAN-20
F-1:5-DI-SIE-VA								
	Soil							
Batch	R4994593							
WG3268526-3	DUP	L2387288-4						
Fluoride (F)		1.45	1.33		mg/kg	8.4	30	11-FEB-20
WG3268526-2	LCS							



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 8 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F-1:5-DI-SIE-VA								
Soil								
Batch	R4994593							
WG3268526-2	LCS							
Fluoride (F)			94.8		%		70-130	11-FEB-20
WG3268526-1	MB							
Fluoride (F)			<0.20		mg/kg		0.2	11-FEB-20
WG3268526-4	MS	L2387288-8						
Fluoride (F)			110.1		%		60-140	11-FEB-20
Batch	R4994600							
WG3272809-3	DUP	L2387288-1						
Fluoride (F)		3.49	3.62		mg/kg	3.7	30	11-FEB-20
WG3272809-2	LCS							
Fluoride (F)			90.6		%		70-130	11-FEB-20
WG3272809-1	MB							
Fluoride (F)			<0.20		mg/kg		0.2	11-FEB-20
HG-200.2-CVAF-VA								
Soil								
Batch	R4987948							
WG3268520-4	CRM	VA-CANMET-TILL2						
Mercury (Hg)			106.9		%		70-130	04-FEB-20
WG3268520-3	LCS							
Mercury (Hg)			97.9		%		80-120	04-FEB-20
WG3268520-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	04-FEB-20
Batch	R4994872							
WG3272817-4	CRM	VA-CANMET-TILL2						
Mercury (Hg)			103.1		%		70-130	12-FEB-20
WG3272817-2	DUP	L2387288-7						
Mercury (Hg)		0.0635	0.0647		mg/kg	1.9	40	12-FEB-20
WG3272817-3	LCS							
Mercury (Hg)			99.3		%		80-120	12-FEB-20
WG3272817-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	12-FEB-20
MET-200.2-CCMS-VA								
Soil								
Batch	R4988988							
WG3268520-4	CRM	VA-CANMET-TILL2						
Aluminum (Al)			101.9		%		70-130	04-FEB-20
Antimony (Sb)			100.6		%		70-130	04-FEB-20
Arsenic (As)			100.3		%		70-130	04-FEB-20
Barium (Ba)			94.2		%		70-130	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 9 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R4988988							
WG3268520-4	CRM	VA-CANMET-TILL2						
Beryllium (Be)			93.0		%		70-130	04-FEB-20
Bismuth (Bi)			93.4		%		70-130	04-FEB-20
Cadmium (Cd)			104.7		%		70-130	04-FEB-20
Calcium (Ca)			102.7		%		70-130	04-FEB-20
Chromium (Cr)			97.0		%		70-130	04-FEB-20
Cobalt (Co)			94.2		%		70-130	04-FEB-20
Copper (Cu)			95.9		%		70-130	04-FEB-20
Iron (Fe)			101.9		%		70-130	04-FEB-20
Lead (Pb)			93.7		%		70-130	04-FEB-20
Lithium (Li)			96.3		%		70-130	04-FEB-20
Magnesium (Mg)			101.6		%		70-130	04-FEB-20
Manganese (Mn)			100.0		%		70-130	04-FEB-20
Molybdenum (Mo)			99.1		%		70-130	04-FEB-20
Nickel (Ni)			97.6		%		70-130	04-FEB-20
Phosphorus (P)			95.5		%		70-130	04-FEB-20
Potassium (K)			97.7		%		70-130	04-FEB-20
Selenium (Se)			0.33		mg/kg		0.15-0.55	04-FEB-20
Silver (Ag)			0.27		mg/kg		0.16-0.36	04-FEB-20
Sodium (Na)			90.5		%		70-130	04-FEB-20
Strontium (Sr)			100.3		%		70-130	04-FEB-20
Thallium (Tl)			91.4		%		70-130	04-FEB-20
Tin (Sn)			2.2		mg/kg		0.2-4.2	04-FEB-20
Titanium (Ti)			94.2		%		70-130	04-FEB-20
Tungsten (W)			1.24		mg/kg		1-2	04-FEB-20
Uranium (U)			98.7		%		70-130	04-FEB-20
Vanadium (V)			98.4		%		70-130	04-FEB-20
Zinc (Zn)			99.4		%		70-130	04-FEB-20
Zirconium (Zr)			100.4		%		70-130	04-FEB-20
WG3268520-3	LCS							
Aluminum (Al)			103.4		%		80-120	04-FEB-20
Antimony (Sb)			112.9		%		80-120	04-FEB-20
Arsenic (As)			102.4		%		80-120	04-FEB-20
Barium (Ba)			99.9		%		80-120	04-FEB-20
Beryllium (Be)			97.5		%		80-120	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 10 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R4988988							
WG3268520-3	LCS							
Bismuth (Bi)			103.9		%		80-120	04-FEB-20
Boron (B)			98.0		%		80-120	04-FEB-20
Cadmium (Cd)			100.4		%		80-120	04-FEB-20
Calcium (Ca)			100.1		%		80-120	04-FEB-20
Chromium (Cr)			100.4		%		80-120	04-FEB-20
Cobalt (Co)			97.9		%		80-120	04-FEB-20
Copper (Cu)			98.6		%		80-120	04-FEB-20
Iron (Fe)			99.6		%		80-120	04-FEB-20
Lead (Pb)			101.7		%		80-120	04-FEB-20
Lithium (Li)			96.8		%		80-120	04-FEB-20
Magnesium (Mg)			105.6		%		80-120	04-FEB-20
Manganese (Mn)			101.5		%		80-120	04-FEB-20
Molybdenum (Mo)			103.2		%		80-120	04-FEB-20
Nickel (Ni)			100.6		%		80-120	04-FEB-20
Phosphorus (P)			97.1		%		80-120	04-FEB-20
Potassium (K)			104.0		%		80-120	04-FEB-20
Selenium (Se)			100.7		%		80-120	04-FEB-20
Silver (Ag)			95.5		%		80-120	04-FEB-20
Sodium (Na)			110.8		%		80-120	04-FEB-20
Strontium (Sr)			110.3		%		80-120	04-FEB-20
Sulfur (S)			101.6		%		80-120	04-FEB-20
Thallium (Tl)			101.4		%		80-120	04-FEB-20
Tin (Sn)			100.8		%		80-120	04-FEB-20
Titanium (Ti)			101.8		%		80-120	04-FEB-20
Tungsten (W)			99.3		%		80-120	04-FEB-20
Uranium (U)			100.9		%		80-120	04-FEB-20
Vanadium (V)			103.9		%		80-120	04-FEB-20
Zinc (Zn)			101.2		%		80-120	04-FEB-20
Zirconium (Zr)			93.6		%		70-130	04-FEB-20
WG3268520-1	MB							
Aluminum (Al)			<50		mg/kg		50	04-FEB-20
Antimony (Sb)			<0.10		mg/kg		0.1	04-FEB-20
Arsenic (As)			<0.10		mg/kg		0.1	04-FEB-20
Barium (Ba)			<0.50		mg/kg		0.5	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 11 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R4988988							
WG3268520-1	MB							
Beryllium (Be)			<0.10		mg/kg		0.1	04-FEB-20
Bismuth (Bi)			<0.20		mg/kg		0.2	04-FEB-20
Boron (B)			<5.0		mg/kg		5	04-FEB-20
Cadmium (Cd)			<0.020		mg/kg		0.02	04-FEB-20
Calcium (Ca)			<50		mg/kg		50	04-FEB-20
Chromium (Cr)			<0.50		mg/kg		0.5	04-FEB-20
Cobalt (Co)			<0.10		mg/kg		0.1	04-FEB-20
Copper (Cu)			<0.50		mg/kg		0.5	04-FEB-20
Iron (Fe)			<50		mg/kg		50	04-FEB-20
Lead (Pb)			<0.50		mg/kg		0.5	04-FEB-20
Lithium (Li)			<2.0		mg/kg		2	04-FEB-20
Magnesium (Mg)			<20		mg/kg		20	04-FEB-20
Manganese (Mn)			<1.0		mg/kg		1	04-FEB-20
Molybdenum (Mo)			<0.10		mg/kg		0.1	04-FEB-20
Nickel (Ni)			<0.50		mg/kg		0.5	04-FEB-20
Phosphorus (P)			<50		mg/kg		50	04-FEB-20
Potassium (K)			<100		mg/kg		100	04-FEB-20
Selenium (Se)			<0.20		mg/kg		0.2	04-FEB-20
Silver (Ag)			<0.10		mg/kg		0.1	04-FEB-20
Sodium (Na)			<50		mg/kg		50	04-FEB-20
Strontium (Sr)			<0.50		mg/kg		0.5	04-FEB-20
Sulfur (S)			<1000		mg/kg		1000	04-FEB-20
Thallium (Tl)			<0.050		mg/kg		0.05	04-FEB-20
Tin (Sn)			<2.0		mg/kg		2	04-FEB-20
Titanium (Ti)			<1.0		mg/kg		1	04-FEB-20
Tungsten (W)			<0.50		mg/kg		0.5	04-FEB-20
Uranium (U)			<0.050		mg/kg		0.05	04-FEB-20
Vanadium (V)			<0.20		mg/kg		0.2	04-FEB-20
Zinc (Zn)			<2.0		mg/kg		2	04-FEB-20
Zirconium (Zr)			<1.0		mg/kg		1	04-FEB-20
Batch	R4995450							
WG3272817-4	CRM	VA-CANMET-TILL2						
Aluminum (Al)			99.6		%		70-130	12-FEB-20
Antimony (Sb)			93.5		%		70-130	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 12 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R4995450							
WG3272817-4	CRM	VA-CANMET-TILL2						
Arsenic (As)			99.4		%		70-130	12-FEB-20
Barium (Ba)			87.9		%		70-130	12-FEB-20
Beryllium (Be)			89.1		%		70-130	12-FEB-20
Bismuth (Bi)			94.9		%		70-130	12-FEB-20
Cadmium (Cd)			96.0		%		70-130	12-FEB-20
Calcium (Ca)			91.9		%		70-130	12-FEB-20
Chromium (Cr)			98.3		%		70-130	12-FEB-20
Cobalt (Co)			98.7		%		70-130	12-FEB-20
Copper (Cu)			100.0		%		70-130	12-FEB-20
Iron (Fe)			97.7		%		70-130	12-FEB-20
Lead (Pb)			92.0		%		70-130	12-FEB-20
Lithium (Li)			92.5		%		70-130	12-FEB-20
Magnesium (Mg)			100.2		%		70-130	12-FEB-20
Manganese (Mn)			97.4		%		70-130	12-FEB-20
Molybdenum (Mo)			91.6		%		70-130	12-FEB-20
Nickel (Ni)			100.7		%		70-130	12-FEB-20
Phosphorus (P)			95.9		%		70-130	12-FEB-20
Potassium (K)			94.6		%		70-130	12-FEB-20
Selenium (Se)			0.38		mg/kg		0.15-0.55	12-FEB-20
Silver (Ag)			0.25		mg/kg		0.16-0.36	12-FEB-20
Sodium (Na)			88.3		%		70-130	12-FEB-20
Strontium (Sr)			89.5		%		70-130	12-FEB-20
Thallium (Tl)			88.8		%		70-130	12-FEB-20
Tin (Sn)			2.1		mg/kg		0.2-4.2	12-FEB-20
Titanium (Ti)			98.1		%		70-130	12-FEB-20
Tungsten (W)			1.44		mg/kg		1-2	12-FEB-20
Uranium (U)			92.4		%		70-130	12-FEB-20
Vanadium (V)			97.8		%		70-130	12-FEB-20
Zinc (Zn)			96.0		%		70-130	12-FEB-20
Zirconium (Zr)			84.1		%		70-130	12-FEB-20
WG3272817-2	DUP	L2387288-7						
Aluminum (Al)		26200	27500		mg/kg	4.5	40	12-FEB-20
Antimony (Sb)		0.33	0.32		mg/kg	4.3	30	12-FEB-20
Arsenic (As)		4.94	5.05		mg/kg	2.2	30	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 13 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R4995450							
WG3272817-2	DUP	L2387288-7						
Barium (Ba)		120	124		mg/kg	3.0	40	12-FEB-20
Beryllium (Be)		1.16	1.18		mg/kg	1.8	30	12-FEB-20
Bismuth (Bi)		0.23	0.24		mg/kg	1.5	30	12-FEB-20
Boron (B)		15.6	18.7		mg/kg	18	30	12-FEB-20
Cadmium (Cd)		0.473	0.501		mg/kg	5.7	30	12-FEB-20
Calcium (Ca)		5550	5740		mg/kg	3.5	30	12-FEB-20
Chromium (Cr)		38.2	39.2		mg/kg	2.7	30	12-FEB-20
Cobalt (Co)		11.2	11.3		mg/kg	1.2	30	12-FEB-20
Copper (Cu)		31.3	32.1		mg/kg	2.7	30	12-FEB-20
Iron (Fe)		25000	25100		mg/kg	0.4	30	12-FEB-20
Lead (Pb)		15.4	15.8		mg/kg	2.6	40	12-FEB-20
Lithium (Li)		35.6	36.5		mg/kg	2.3	30	12-FEB-20
Magnesium (Mg)		7320	7440		mg/kg	1.6	30	12-FEB-20
Manganese (Mn)		339	351		mg/kg	3.5	30	12-FEB-20
Molybdenum (Mo)		1.35	1.32		mg/kg	2.0	40	12-FEB-20
Nickel (Ni)		36.1	36.5		mg/kg	1.1	30	12-FEB-20
Phosphorus (P)		959	963		mg/kg	0.4	30	12-FEB-20
Potassium (K)		4010	4460		mg/kg	11	40	12-FEB-20
Selenium (Se)		0.60	0.58		mg/kg	2.6	30	12-FEB-20
Silver (Ag)		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	12-FEB-20
Sodium (Na)		64	70		mg/kg	7.9	40	12-FEB-20
Strontium (Sr)		21.8	22.2		mg/kg	1.6	40	12-FEB-20
Sulfur (S)		<1000	<1000	RPD-NA	mg/kg	N/A	30	12-FEB-20
Thallium (Tl)		0.228	0.246		mg/kg	7.5	30	12-FEB-20
Tin (Sn)		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	12-FEB-20
Titanium (Ti)		128	164		mg/kg	25	40	12-FEB-20
Tungsten (W)		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	12-FEB-20
Uranium (U)		1.87	1.96		mg/kg	5.0	30	12-FEB-20
Vanadium (V)		44.3	46.5		mg/kg	4.8	30	12-FEB-20
Zinc (Zn)		82.9	82.2		mg/kg	0.8	30	12-FEB-20
Zirconium (Zr)		6.4	6.1		mg/kg	4.8	30	12-FEB-20
WG3272817-3	LCS							
Aluminum (Al)			103.1		%		80-120	12-FEB-20
Antimony (Sb)			105.3		%		80-120	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 14 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R4995450							
WG3272817-3	LCS							
Arsenic (As)			98.7		%		80-120	12-FEB-20
Barium (Ba)			98.3		%		80-120	12-FEB-20
Beryllium (Be)			91.9		%		80-120	12-FEB-20
Bismuth (Bi)			95.5		%		80-120	12-FEB-20
Boron (B)			93.9		%		80-120	12-FEB-20
Cadmium (Cd)			94.9		%		80-120	12-FEB-20
Calcium (Ca)			98.1		%		80-120	12-FEB-20
Chromium (Cr)			98.9		%		80-120	12-FEB-20
Cobalt (Co)			99.2		%		80-120	12-FEB-20
Copper (Cu)			98.3		%		80-120	12-FEB-20
Iron (Fe)			99.6		%		80-120	12-FEB-20
Lead (Pb)			98.1		%		80-120	12-FEB-20
Lithium (Li)			91.4		%		80-120	12-FEB-20
Magnesium (Mg)			106.8		%		80-120	12-FEB-20
Manganese (Mn)			101.4		%		80-120	12-FEB-20
Molybdenum (Mo)			98.5		%		80-120	12-FEB-20
Nickel (Ni)			100.0		%		80-120	12-FEB-20
Phosphorus (P)			101.3		%		80-120	12-FEB-20
Potassium (K)			104.2		%		80-120	12-FEB-20
Selenium (Se)			97.3		%		80-120	12-FEB-20
Silver (Ag)			98.5		%		80-120	12-FEB-20
Sodium (Na)			101.1		%		80-120	12-FEB-20
Strontium (Sr)			99.3		%		80-120	12-FEB-20
Sulfur (S)			99.3		%		80-120	12-FEB-20
Thallium (Tl)			98.2		%		80-120	12-FEB-20
Tin (Sn)			96.8		%		80-120	12-FEB-20
Titanium (Ti)			99.4		%		80-120	12-FEB-20
Tungsten (W)			98.4		%		80-120	12-FEB-20
Uranium (U)			97.7		%		80-120	12-FEB-20
Vanadium (V)			102.2		%		80-120	12-FEB-20
Zinc (Zn)			97.6		%		80-120	12-FEB-20
Zirconium (Zr)			97.4		%		70-130	12-FEB-20
WG3272817-1	MB							
Aluminum (Al)			<50		mg/kg		50	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 15 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	Soil							
Batch	R4995450							
WG3272817-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	12-FEB-20
Arsenic (As)			<0.10		mg/kg		0.1	12-FEB-20
Barium (Ba)			<0.50		mg/kg		0.5	12-FEB-20
Beryllium (Be)			<0.10		mg/kg		0.1	12-FEB-20
Bismuth (Bi)			<0.20		mg/kg		0.2	12-FEB-20
Boron (B)			<5.0		mg/kg		5	12-FEB-20
Cadmium (Cd)			<0.020		mg/kg		0.02	12-FEB-20
Calcium (Ca)			<50		mg/kg		50	12-FEB-20
Chromium (Cr)			<0.50		mg/kg		0.5	12-FEB-20
Cobalt (Co)			<0.10		mg/kg		0.1	12-FEB-20
Copper (Cu)			<0.50		mg/kg		0.5	12-FEB-20
Iron (Fe)			<50		mg/kg		50	12-FEB-20
Lead (Pb)			<0.50		mg/kg		0.5	12-FEB-20
Lithium (Li)			<2.0		mg/kg		2	12-FEB-20
Magnesium (Mg)			<20		mg/kg		20	12-FEB-20
Manganese (Mn)			<1.0		mg/kg		1	12-FEB-20
Molybdenum (Mo)			<0.10		mg/kg		0.1	12-FEB-20
Nickel (Ni)			<0.50		mg/kg		0.5	12-FEB-20
Phosphorus (P)			<50		mg/kg		50	12-FEB-20
Potassium (K)			<100		mg/kg		100	12-FEB-20
Selenium (Se)			<0.20		mg/kg		0.2	12-FEB-20
Silver (Ag)			<0.10		mg/kg		0.1	12-FEB-20
Sodium (Na)			<50		mg/kg		50	12-FEB-20
Strontium (Sr)			<0.50		mg/kg		0.5	12-FEB-20
Sulfur (S)			<1000		mg/kg		1000	12-FEB-20
Thallium (Tl)			<0.050		mg/kg		0.05	12-FEB-20
Tin (Sn)			<2.0		mg/kg		2	12-FEB-20
Titanium (Ti)			<1.0		mg/kg		1	12-FEB-20
Tungsten (W)			<0.50		mg/kg		0.5	12-FEB-20
Uranium (U)			<0.050		mg/kg		0.05	12-FEB-20
Vanadium (V)			<0.20		mg/kg		0.2	12-FEB-20
Zinc (Zn)			<2.0		mg/kg		2	12-FEB-20
Zirconium (Zr)			<1.0		mg/kg		1	12-FEB-20
MOISTURE-BU	Soil							



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 16 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-BU		Soil						
Batch	R4974811							
WG3253380-3	DUP	L2387288-1						
% Moisture		17.1	16.5		%	3.2	20	22-JAN-20
WG3253380-2	LCS							
% Moisture			93.1		%		90-110	22-JAN-20
WG3253380-1	MB							
% Moisture			<0.10		%		0.3	22-JAN-20
Batch	R4976673							
WG3253401-2	LCS							
% Moisture			96.0		%		90-110	23-JAN-20
WG3253401-1	MB							
% Moisture			<0.10		%		0.3	23-JAN-20
MOISTURE-VA		Soil						
Batch	R4987031							
WG3268534-2	LCS							
Moisture			100.2		%		90-110	03-FEB-20
WG3268534-1	MB							
Moisture			<0.25		%		0.25	03-FEB-20
Batch	R4992895							
WG3272824-2	LCS							
Moisture			100.4		%		90-110	10-FEB-20
WG3272824-1	MB							
Moisture			<0.25		%		0.25	10-FEB-20
Batch	R4994469							
WG3273551-3	DUP	L2387288-4						
Moisture		22.5	22.1		%	2.1	20	11-FEB-20
WG3273551-2	LCS							
Moisture			100.4		%		90-110	11-FEB-20
WG3273551-1	MB							
Moisture			<0.25		%		0.25	11-FEB-20
AG-DRY-CCMS-N-VA		Tissue						
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Silver (Ag)-Total			106.0		%		70-130	10-FEB-20
WG3270945-2	DUP	L2387288-49						
Silver (Ag)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	10-FEB-20
WG3270945-4	LCS							
Silver (Ag)-Total			93.3		%		80-120	10-FEB-20
WG3270945-1	MB							



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 17 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
AG-DRY-CCMS-N-VA		Tissue						
Batch	R4992782							
WG3270945-1	MB							
Silver (Ag)-Total			<0.0050		mg/kg		0.005	10-FEB-20
Batch	R4995951							
WG3272564-3	CRM	VA-NRC-DORM4						
Silver (Ag)-Total			103.9		%		70-130	12-FEB-20
WG3272564-2	DUP	L2387288-9						
Silver (Ag)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	12-FEB-20
WG3272564-4	LCS							
Silver (Ag)-Total			91.1		%		80-120	12-FEB-20
WG3272564-1	MB							
Silver (Ag)-Total			<0.0050		mg/kg		0.005	12-FEB-20
CL-DRY-SOL-L-IC-ED		Tissue						
Batch	R4995904							
WG3273428-4	DUP	L2387288-3						
Chloride (Cl)		44	45		mg/kg	2.2	35	12-FEB-20
WG3273887-2	DUP	L2387288-48						
Chloride (Cl)		51	51		mg/kg	0.3	35	12-FEB-20
WG3273428-3	LCS							
Chloride (Cl)			106.0		%		70-130	12-FEB-20
WG3273887-3	LCS							
Chloride (Cl)			104.2		%		70-130	12-FEB-20
WG3273428-1	MB							
Chloride (Cl)			<10		mg/kg		10	12-FEB-20
WG3273887-1	MB							
Chloride (Cl)			<10		mg/kg		10	12-FEB-20
WG3273428-5	MS	L2387288-6						
Chloride (Cl)			102.4		%		70-130	12-FEB-20
WG3273887-4	MS	L2387288-31						
Chloride (Cl)			106.0		%		70-130	12-FEB-20
HG-DRY-CVAFS-N-VA		Tissue						
Batch	R4994346							
WG3270945-3	CRM	VA-NRC-DORM4						
Mercury (Hg)-Total			105.4		%		70-130	11-FEB-20
WG3270945-2	DUP	L2387288-49						
Mercury (Hg)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	11-FEB-20
WG3270945-4	LCS							
Mercury (Hg)-Total			96.2		%		80-120	11-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 18 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-DRY-CVAFS-N-VA		Tissue						
Batch	R4994346							
WG3270945-1	MB							
Mercury (Hg)-Total			<0.0050		mg/kg		0.005	11-FEB-20
Batch		R4995704						
WG3272564-3	CRM	VA-NRC-DORM4						
Mercury (Hg)-Total			109.2		%		70-130	13-FEB-20
WG3272564-2	DUP	L2387288-9						
Mercury (Hg)-Total		0.0154	0.0131		mg/kg	16	40	13-FEB-20
WG3272564-4	LCS							
Mercury (Hg)-Total			100.1		%		80-120	13-FEB-20
WG3272564-1	MB							
Mercury (Hg)-Total			<0.0050		mg/kg		0.005	13-FEB-20
MET-DRY-CCMS-N-VA		Tissue						
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Aluminum (Al)-Total			108.1		%		70-130	10-FEB-20
Arsenic (As)-Total			99.7		%		70-130	10-FEB-20
Barium (Ba)-Total			109.1		%		70-130	10-FEB-20
Beryllium (Be)-Total			0.015		mg/kg		0.005-0.025	10-FEB-20
Bismuth (Bi)-Total			0.010		mg/kg		0.002-0.022	10-FEB-20
Boron (B)-Total			90.0		%		70-130	10-FEB-20
Cadmium (Cd)-Total			98.3		%		70-130	10-FEB-20
Calcium (Ca)-Total			99.1		%		70-130	10-FEB-20
Cesium (Cs)-Total			95.3		%		70-130	10-FEB-20
Chromium (Cr)-Total			106.7		%		70-130	10-FEB-20
Cobalt (Co)-Total			103.6		%		70-130	10-FEB-20
Copper (Cu)-Total			98.9		%		70-130	10-FEB-20
Iron (Fe)-Total			111.7		%		70-130	10-FEB-20
Lead (Pb)-Total			100.0		%		70-130	10-FEB-20
Lithium (Li)-Total			1.12		mg/kg		0.71-1.71	10-FEB-20
Magnesium (Mg)-Total			104.5		%		70-130	10-FEB-20
Manganese (Mn)-Total			96.0		%		70-130	10-FEB-20
Molybdenum (Mo)-Total			91.0		%		70-130	10-FEB-20
Nickel (Ni)-Total			99.8		%		70-130	10-FEB-20
Phosphorus (P)-Total			104.3		%		70-130	10-FEB-20
Potassium (K)-Total			107.5		%		70-130	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 19 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA								
	Tissue							
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Rubidium (Rb)-Total			104.5		%		70-130	10-FEB-20
Selenium (Se)-Total			108.4		%		70-130	10-FEB-20
Sodium (Na)-Total			110.5		%		70-130	10-FEB-20
Strontium (Sr)-Total			94.2		%		70-130	10-FEB-20
Thallium (Tl)-Total			79.6		%		70-130	10-FEB-20
Uranium (U)-Total			96.5		%		70-130	10-FEB-20
Vanadium (V)-Total			101.2		%		70-130	10-FEB-20
Zinc (Zn)-Total			109.8		%		70-130	10-FEB-20
Zirconium (Zr)-Total			0.26		mg/kg		0.05-0.45	10-FEB-20
WG3270945-2	DUP	L2387288-49						
Aluminum (Al)-Total		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	10-FEB-20
Antimony (Sb)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	10-FEB-20
Arsenic (As)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Barium (Ba)-Total		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	10-FEB-20
Beryllium (Be)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	10-FEB-20
Bismuth (Bi)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	10-FEB-20
Boron (B)-Total		3.6	2.5		mg/kg	37	40	10-FEB-20
Cadmium (Cd)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	10-FEB-20
Calcium (Ca)-Total		53	45		mg/kg	16	60	10-FEB-20
Cesium (Cs)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	10-FEB-20
Chromium (Cr)-Total		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	10-FEB-20
Cobalt (Co)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Copper (Cu)-Total		1.26	1.03		mg/kg	20	40	10-FEB-20
Iron (Fe)-Total		19.3	15.9		mg/kg	19	40	10-FEB-20
Lead (Pb)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Lithium (Li)-Total		<0.50	<0.50	RPD-NA	mg/kg	N/A	40	10-FEB-20
Magnesium (Mg)-Total		1240	1110		mg/kg	11	40	10-FEB-20
Manganese (Mn)-Total		4.25	3.49		mg/kg	20	40	10-FEB-20
Molybdenum (Mo)-Total		0.394	0.306		mg/kg	25	40	10-FEB-20
Nickel (Ni)-Total		0.29	0.22		mg/kg	24	40	10-FEB-20
Phosphorus (P)-Total		3860	3310		mg/kg	15	40	10-FEB-20
Potassium (K)-Total		4960	3980		mg/kg	22	40	10-FEB-20
Rubidium (Rb)-Total		1.03	0.853		mg/kg	19	40	10-FEB-20
Selenium (Se)-Total		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 20 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA								
	Tissue							
Batch	R4992782							
WG3270945-2	DUP	L2387288-49						
Sodium (Na)-Total		<20	<20	RPD-NA	mg/kg	N/A	40	10-FEB-20
Strontium (Sr)-Total		0.097	0.077		mg/kg	23	60	10-FEB-20
Tellurium (Te)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Thallium (Tl)-Total		<0.0020	<0.0020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Tin (Sn)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	10-FEB-20
Uranium (U)-Total		<0.0020	<0.0020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Vanadium (V)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	10-FEB-20
Zinc (Zn)-Total		21.4	18.3		mg/kg	15	40	10-FEB-20
Zirconium (Zr)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	10-FEB-20
WG3270945-4	LCS							
Aluminum (Al)-Total			109.8		%		80-120	10-FEB-20
Antimony (Sb)-Total			105.0		%		80-120	10-FEB-20
Arsenic (As)-Total			107.5		%		80-120	10-FEB-20
Barium (Ba)-Total			114.1		%		80-120	10-FEB-20
Beryllium (Be)-Total			98.0		%		80-120	10-FEB-20
Bismuth (Bi)-Total			102.7		%		80-120	10-FEB-20
Boron (B)-Total			99.1		%		80-120	10-FEB-20
Cadmium (Cd)-Total			102.7		%		80-120	10-FEB-20
Calcium (Ca)-Total			105.7		%		80-120	10-FEB-20
Cesium (Cs)-Total			106.1		%		80-120	10-FEB-20
Chromium (Cr)-Total			108.4		%		80-120	10-FEB-20
Cobalt (Co)-Total			105.9		%		80-120	10-FEB-20
Copper (Cu)-Total			105.3		%		80-120	10-FEB-20
Iron (Fe)-Total			111.3		%		80-120	10-FEB-20
Lead (Pb)-Total			103.8		%		80-120	10-FEB-20
Lithium (Li)-Total			107.7		%		80-120	10-FEB-20
Magnesium (Mg)-Total			110.9		%		80-120	10-FEB-20
Manganese (Mn)-Total			107.5		%		80-120	10-FEB-20
Molybdenum (Mo)-Total			105.4		%		80-120	10-FEB-20
Nickel (Ni)-Total			106.2		%		80-120	10-FEB-20
Phosphorus (P)-Total			115.3		%		80-120	10-FEB-20
Potassium (K)-Total			110.6		%		80-120	10-FEB-20
Rubidium (Rb)-Total			107.0		%		80-120	10-FEB-20
Selenium (Se)-Total			109.2		%		80-120	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 21 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch	R4992782							
WG3270945-4	LCS							
Sodium (Na)-Total			112.1		%		80-120	10-FEB-20
Strontium (Sr)-Total			109.6		%		80-120	10-FEB-20
Tellurium (Te)-Total			104.3		%		80-120	10-FEB-20
Thallium (Tl)-Total			99.3		%		80-120	10-FEB-20
Tin (Sn)-Total			102.7		%		80-120	10-FEB-20
Uranium (U)-Total			104.4		%		80-120	10-FEB-20
Vanadium (V)-Total			109.8		%		80-120	10-FEB-20
Zinc (Zn)-Total			103.2		%		80-120	10-FEB-20
Zirconium (Zr)-Total			102.6		%		80-120	10-FEB-20
WG3270945-1	MB							
Aluminum (Al)-Total			<2.0		mg/kg		2	10-FEB-20
Antimony (Sb)-Total			<0.010		mg/kg		0.01	10-FEB-20
Arsenic (As)-Total			<0.020		mg/kg		0.02	10-FEB-20
Barium (Ba)-Total			<0.050		mg/kg		0.05	10-FEB-20
Beryllium (Be)-Total			<0.010		mg/kg		0.01	10-FEB-20
Bismuth (Bi)-Total			<0.010		mg/kg		0.01	10-FEB-20
Boron (B)-Total			<1.0		mg/kg		1	10-FEB-20
Cadmium (Cd)-Total			<0.0050		mg/kg		0.005	10-FEB-20
Calcium (Ca)-Total			<20		mg/kg		20	10-FEB-20
Cesium (Cs)-Total			<0.0050		mg/kg		0.005	10-FEB-20
Chromium (Cr)-Total			<0.050		mg/kg		0.05	10-FEB-20
Cobalt (Co)-Total			<0.020		mg/kg		0.02	10-FEB-20
Copper (Cu)-Total			<0.10		mg/kg		0.1	10-FEB-20
Iron (Fe)-Total			<3.0		mg/kg		3	10-FEB-20
Lead (Pb)-Total			<0.020		mg/kg		0.02	10-FEB-20
Lithium (Li)-Total			<0.50		mg/kg		0.5	10-FEB-20
Magnesium (Mg)-Total			<2.0		mg/kg		2	10-FEB-20
Manganese (Mn)-Total			<0.050		mg/kg		0.05	10-FEB-20
Molybdenum (Mo)-Total			<0.020		mg/kg		0.02	10-FEB-20
Nickel (Ni)-Total			<0.20		mg/kg		0.2	10-FEB-20
Phosphorus (P)-Total			<10		mg/kg		10	10-FEB-20
Potassium (K)-Total			<20		mg/kg		20	10-FEB-20
Rubidium (Rb)-Total			<0.050		mg/kg		0.05	10-FEB-20
Selenium (Se)-Total			<0.050		mg/kg		0.05	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 22 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch	R4992782							
WG3270945-1 MB								
Sodium (Na)-Total			<20		mg/kg		20	10-FEB-20
Strontium (Sr)-Total			<0.050		mg/kg		0.05	10-FEB-20
Tellurium (Te)-Total			<0.020		mg/kg		0.02	10-FEB-20
Thallium (Tl)-Total			<0.0020		mg/kg		0.002	10-FEB-20
Tin (Sn)-Total			<0.10		mg/kg		0.1	10-FEB-20
Uranium (U)-Total			<0.0020		mg/kg		0.002	10-FEB-20
Vanadium (V)-Total			<0.10		mg/kg		0.1	10-FEB-20
Zinc (Zn)-Total			<0.50		mg/kg		0.5	10-FEB-20
Zirconium (Zr)-Total			<0.20		mg/kg		0.2	10-FEB-20
Batch	R4995951							
WG3272564-3 CRM		VA-NRC-DORM4						
Aluminum (Al)-Total			95.9		%		70-130	12-FEB-20
Arsenic (As)-Total			92.8		%		70-130	12-FEB-20
Barium (Ba)-Total			102.1		%		70-130	12-FEB-20
Beryllium (Be)-Total			0.014		mg/kg		0.005-0.025	12-FEB-20
Bismuth (Bi)-Total			0.010		mg/kg		0.002-0.022	12-FEB-20
Boron (B)-Total			90.2		%		70-130	12-FEB-20
Cadmium (Cd)-Total			92.3		%		70-130	12-FEB-20
Calcium (Ca)-Total			95.0		%		70-130	12-FEB-20
Cesium (Cs)-Total			95.5		%		70-130	12-FEB-20
Chromium (Cr)-Total			99.9		%		70-130	12-FEB-20
Cobalt (Co)-Total			94.9		%		70-130	12-FEB-20
Copper (Cu)-Total			93.2		%		70-130	12-FEB-20
Iron (Fe)-Total			102.2		%		70-130	12-FEB-20
Lead (Pb)-Total			99.8		%		70-130	12-FEB-20
Lithium (Li)-Total			1.05		mg/kg		0.71-1.71	12-FEB-20
Magnesium (Mg)-Total			94.4		%		70-130	12-FEB-20
Manganese (Mn)-Total			107.6		%		70-130	12-FEB-20
Molybdenum (Mo)-Total			91.6		%		70-130	12-FEB-20
Nickel (Ni)-Total			92.7		%		70-130	12-FEB-20
Phosphorus (P)-Total			93.4		%		70-130	12-FEB-20
Potassium (K)-Total			96.6		%		70-130	12-FEB-20
Rubidium (Rb)-Total			99.3		%		70-130	12-FEB-20
Selenium (Se)-Total			103.3		%		70-130	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 23 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch	R4995951							
WG3272564-3 CRM		VA-NRC-DORM4						
Sodium (Na)-Total			98.6		%		70-130	12-FEB-20
Strontium (Sr)-Total			89.7		%		70-130	12-FEB-20
Thallium (Tl)-Total			89.1		%		70-130	12-FEB-20
Uranium (U)-Total			94.5		%		70-130	12-FEB-20
Vanadium (V)-Total			95.4		%		70-130	12-FEB-20
Zinc (Zn)-Total			103.7		%		70-130	12-FEB-20
Zirconium (Zr)-Total			0.24		mg/kg		0.05-0.45	12-FEB-20
WG3272564-2 DUP		L2387288-9						
Aluminum (Al)-Total		62.8	50.5		mg/kg	22	40	12-FEB-20
Antimony (Sb)-Total		0.011	0.011		mg/kg	2.4	40	12-FEB-20
Arsenic (As)-Total		0.044	0.038		mg/kg	15	40	12-FEB-20
Barium (Ba)-Total		8.75	8.65		mg/kg	1.1	40	12-FEB-20
Beryllium (Be)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	12-FEB-20
Bismuth (Bi)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	12-FEB-20
Boron (B)-Total		6.7	6.3		mg/kg	7.3	40	12-FEB-20
Cadmium (Cd)-Total		0.0416	0.0411		mg/kg	1.2	40	12-FEB-20
Calcium (Ca)-Total		4640	4260		mg/kg	8.7	60	12-FEB-20
Cesium (Cs)-Total		0.0132	0.0107		mg/kg	21	40	12-FEB-20
Chromium (Cr)-Total		0.246	0.225		mg/kg	9.0	40	12-FEB-20
Cobalt (Co)-Total		0.055	0.054		mg/kg	2.7	40	12-FEB-20
Copper (Cu)-Total		5.46	5.67		mg/kg	3.8	40	12-FEB-20
Iron (Fe)-Total		113	98.2		mg/kg	14	40	12-FEB-20
Lead (Pb)-Total		0.279	0.231		mg/kg	19	40	12-FEB-20
Lithium (Li)-Total		<0.50	<0.50	RPD-NA	mg/kg	N/A	40	12-FEB-20
Magnesium (Mg)-Total		2090	2110		mg/kg	1.0	40	12-FEB-20
Manganese (Mn)-Total		86.4	84.8		mg/kg	1.8	40	12-FEB-20
Molybdenum (Mo)-Total		4.08	3.80		mg/kg	7.0	40	12-FEB-20
Nickel (Ni)-Total		0.72	0.70		mg/kg	2.3	40	12-FEB-20
Phosphorus (P)-Total		2570	2540		mg/kg	1.2	40	12-FEB-20
Potassium (K)-Total		12400	12300		mg/kg	0.6	40	12-FEB-20
Rubidium (Rb)-Total		6.79	6.83		mg/kg	0.6	40	12-FEB-20
Selenium (Se)-Total		1.40	1.42		mg/kg	1.7	40	12-FEB-20
Sodium (Na)-Total		<20	<20	RPD-NA	mg/kg	N/A	40	12-FEB-20
Strontium (Sr)-Total		13.5	12.6		mg/kg	6.8	60	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 24 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA								
	Tissue							
Batch	R4995951							
WG3272564-2	DUP	L2387288-9						
Tellurium (Te)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	12-FEB-20
Thallium (Tl)-Total		0.0026	0.0023		mg/kg	13	40	12-FEB-20
Tin (Sn)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	12-FEB-20
Uranium (U)-Total		0.0091	0.0068		mg/kg	28	40	12-FEB-20
Vanadium (V)-Total		0.15	0.12		mg/kg	21	40	12-FEB-20
Zinc (Zn)-Total		38.7	43.2		mg/kg	11	40	12-FEB-20
Zirconium (Zr)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	12-FEB-20
WG3272564-4								
	LCS							
Aluminum (Al)-Total			103.7		%		80-120	12-FEB-20
Antimony (Sb)-Total			95.6		%		80-120	12-FEB-20
Arsenic (As)-Total			107.2		%		80-120	12-FEB-20
Barium (Ba)-Total			111.1		%		80-120	12-FEB-20
Beryllium (Be)-Total			88.4		%		80-120	12-FEB-20
Bismuth (Bi)-Total			88.4		%		80-120	12-FEB-20
Boron (B)-Total			88.0		%		80-120	12-FEB-20
Cadmium (Cd)-Total			102.8		%		80-120	12-FEB-20
Calcium (Ca)-Total			89.2		%		80-120	12-FEB-20
Cesium (Cs)-Total			96.8		%		80-120	12-FEB-20
Chromium (Cr)-Total			106.4		%		80-120	12-FEB-20
Cobalt (Co)-Total			105.1		%		80-120	12-FEB-20
Copper (Cu)-Total			105.0		%		80-120	12-FEB-20
Iron (Fe)-Total			111.8		%		80-120	12-FEB-20
Lead (Pb)-Total			89.7		%		80-120	12-FEB-20
Lithium (Li)-Total			90.6		%		80-120	12-FEB-20
Magnesium (Mg)-Total			105.7		%		80-120	12-FEB-20
Manganese (Mn)-Total			107.5		%		80-120	12-FEB-20
Molybdenum (Mo)-Total			95.9		%		80-120	12-FEB-20
Nickel (Ni)-Total			104.0		%		80-120	12-FEB-20
Phosphorus (P)-Total			113.2		%		80-120	12-FEB-20
Potassium (K)-Total			110.7		%		80-120	12-FEB-20
Rubidium (Rb)-Total			106.4		%		80-120	12-FEB-20
Selenium (Se)-Total			108.5		%		80-120	12-FEB-20
Sodium (Na)-Total			107.9		%		80-120	12-FEB-20
Strontium (Sr)-Total			94.4		%		80-120	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 25 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch	R4995951							
WG3272564-4	LCS							
Tellurium (Te)-Total			98.1		%		80-120	12-FEB-20
Thallium (Tl)-Total			88.7		%		80-120	12-FEB-20
Tin (Sn)-Total			90.5		%		80-120	12-FEB-20
Uranium (U)-Total			91.1		%		80-120	12-FEB-20
Vanadium (V)-Total			107.8		%		80-120	12-FEB-20
Zinc (Zn)-Total			103.3		%		80-120	12-FEB-20
Zirconium (Zr)-Total			92.6		%		80-120	12-FEB-20
WG3272564-1	MB							
Aluminum (Al)-Total			<2.0		mg/kg		2	12-FEB-20
Antimony (Sb)-Total			<0.010		mg/kg		0.01	12-FEB-20
Arsenic (As)-Total			<0.020		mg/kg		0.02	12-FEB-20
Barium (Ba)-Total			<0.050		mg/kg		0.05	12-FEB-20
Beryllium (Be)-Total			<0.010		mg/kg		0.01	12-FEB-20
Bismuth (Bi)-Total			<0.010		mg/kg		0.01	12-FEB-20
Boron (B)-Total			<1.0		mg/kg		1	12-FEB-20
Cadmium (Cd)-Total			<0.0050		mg/kg		0.005	12-FEB-20
Calcium (Ca)-Total			<20		mg/kg		20	12-FEB-20
Cesium (Cs)-Total			<0.0050		mg/kg		0.005	12-FEB-20
Chromium (Cr)-Total			<0.050		mg/kg		0.05	12-FEB-20
Cobalt (Co)-Total			<0.020		mg/kg		0.02	12-FEB-20
Copper (Cu)-Total			<0.10		mg/kg		0.1	12-FEB-20
Iron (Fe)-Total			<3.0		mg/kg		3	12-FEB-20
Lead (Pb)-Total			<0.020		mg/kg		0.02	12-FEB-20
Lithium (Li)-Total			<0.50		mg/kg		0.5	12-FEB-20
Magnesium (Mg)-Total			<2.0		mg/kg		2	12-FEB-20
Manganese (Mn)-Total			<0.050		mg/kg		0.05	12-FEB-20
Molybdenum (Mo)-Total			<0.020		mg/kg		0.02	12-FEB-20
Nickel (Ni)-Total			<0.20		mg/kg		0.2	12-FEB-20
Phosphorus (P)-Total			<10		mg/kg		10	12-FEB-20
Potassium (K)-Total			<20		mg/kg		20	12-FEB-20
Rubidium (Rb)-Total			<0.050		mg/kg		0.05	12-FEB-20
Selenium (Se)-Total			<0.050		mg/kg		0.05	12-FEB-20
Sodium (Na)-Total			<20		mg/kg		20	12-FEB-20
Strontium (Sr)-Total			<0.050		mg/kg		0.05	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 26 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA								
	Tissue							
Batch	R4995951							
WG3272564-1	MB							
Tellurium (Te)-Total			<0.020		mg/kg		0.02	12-FEB-20
Thallium (Tl)-Total			<0.0020		mg/kg		0.002	12-FEB-20
Tin (Sn)-Total			<0.10		mg/kg		0.1	12-FEB-20
Uranium (U)-Total			<0.0020		mg/kg		0.002	12-FEB-20
Vanadium (V)-Total			<0.10		mg/kg		0.1	12-FEB-20
Zinc (Zn)-Total			<0.50		mg/kg		0.5	12-FEB-20
Zirconium (Zr)-Total			<0.20		mg/kg		0.2	12-FEB-20
MOISTURE-BU								
	Tissue							
Batch	R4976647							
WG3254533-2	LCS							
% Moisture			94.7		%		50-150	23-JAN-20
WG3254533-1	MB							
% Moisture			<0.10		%		0.1	23-JAN-20
Batch	R4980115							
WG3254677-2	LCS							
% Moisture			96.6		%		50-150	27-JAN-20
WG3254677-1	MB							
% Moisture			<0.10		%		0.1	27-JAN-20
MOISTURE-TISS-VA								
	Tissue							
Batch	R4992446							
WG3270879-3	DUP	L2387288-19						
% Moisture		58.0	58.1		%	0.3	20	07-FEB-20
WG3270879-6	DUP	L2387288-23						
% Moisture		35.3	35.1		%	0.5	20	07-FEB-20
WG3270879-2	LCS							
% Moisture			93.7		%		90-110	07-FEB-20
WG3270879-5	LCS							
% Moisture			90.9		%		90-110	07-FEB-20
WG3270879-1	MB							
% Moisture			<0.50		%		0.5	07-FEB-20
WG3270879-4	MB							
% Moisture			<0.50		%		0.5	07-FEB-20
Batch	R4993331							
WG3272631-3	DUP	L2387288-35						
% Moisture		19.8	20.2		%	2.1	20	10-FEB-20
WG3272631-2	LCS							



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 27 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-TISS-VA		Tissue						
Batch	R4993331							
WG3272631-2	LCS							
% Moisture			100.0		%		90-110	10-FEB-20
WG3272631-1	MB							
% Moisture			<0.50		%		0.5	10-FEB-20
PCB-C428-LRMS-BU		Tissue						
Batch	R4988567							
WG3254521-2	LCS							
Total PCB			109.0		%		50-150	28-JAN-20
WG3254521-4	LCS							
Total PCB			106.8		%		50-150	28-JAN-20
WG3254521-1	MB							
Total PCB			<0.010		ng/g		0.01	28-JAN-20
Surrogate: 13C12 PCB 1			24.1		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 3			32.7		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 4			24.2		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 15			47.6		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 19			22.7		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 37			58.8		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 54			23.2		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 81			62.9		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 104			37.3		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 123			58.8		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 118			61.1		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 114			61.6		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 105			65.1		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 126			81.9		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 155			52.0		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 167			65.7		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 156			72.3		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 157			62.9		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 169			67.7		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 188			60.8		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 202			65.7		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 205			64.9		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 208			64.1		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 206			67.2		%		10-145	28-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 28 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-C428-LRMS-BU Tissue								
Batch	R4988567							
WG3254521-1	MB							
Surrogate: 13C12 PCB 209			61.9		%		10-145	28-JAN-20
S-DRY-CCMS-N-VA Tissue								
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Sulfur (S)-Total			113.0		%		70-130	10-FEB-20
WG3270945-2	DUP	L2387288-49						
Sulfur (S)-Total			1080	850	mg/kg	24	40	10-FEB-20
WG3270945-4	LCS							
Sulfur (S)-Total			107.6		%		70-130	10-FEB-20
WG3270945-1	MB							
Sulfur (S)-Total			<100		mg/kg		100	10-FEB-20
Batch	R4995951							
WG3272564-3	CRM	VA-NRC-DORM4						
Sulfur (S)-Total			106.5		%		70-130	12-FEB-20
WG3272564-2	DUP	L2387288-9						
Sulfur (S)-Total			3460	3420	mg/kg	1.2	40	12-FEB-20
WG3272564-4	LCS							
Sulfur (S)-Total			107.1		%		70-130	12-FEB-20
WG3272564-1	MB							
Sulfur (S)-Total			<100		mg/kg		100	12-FEB-20
TI-DRY-CCMS-N-VA Tissue								
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Titanium (Ti)-Total			118.0		%		70-130	10-FEB-20
WG3270945-2	DUP	L2387288-49						
Titanium (Ti)-Total			<0.25	<0.25	mg/kg	RPD-NA	40	10-FEB-20
WG3270945-4	LCS							
Titanium (Ti)-Total			107.2		%		80-120	10-FEB-20
WG3270945-1	MB							
Titanium (Ti)-Total			<0.25		mg/kg		0.25	10-FEB-20
Batch	R4995951							
WG3272564-3	CRM	VA-NRC-DORM4						
Titanium (Ti)-Total			105.0		%		70-130	12-FEB-20
WG3272564-2	DUP	L2387288-9						
Titanium (Ti)-Total			1.34	1.04	mg/kg	25	40	12-FEB-20
WG3272564-4	LCS							



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 29 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TI-DRY-CCMS-N-VA		Tissue						
Batch R4995951								
WG3272564-4 LCS								
Titanium (Ti)-Total			103.0		%		80-120	12-FEB-20
WG3272564-1 MB								
Titanium (Ti)-Total			<0.25		mg/kg		0.25	12-FEB-20
CP-CUSTOM-LRMS-BU		Solid						
Batch R5008427								
WG3255028-2 LCS								
Pentachlorophenol			110.0		%		50-150	11-FEB-20
COMMENTS: 13C6-Pentachlorophenol has low recovery.								
WG3255028-4 LCS								
Pentachlorophenol			127.0		%		50-150	11-FEB-20
COMMENTS: 13C6-Pentachlorophenol has low recovery.								
WG3255028-1 MB								
Pentachlorophenol			<0.25	[U]	ng/g		0.25	11-FEB-20
Surrogate: 13C6-Pentachlorophenol			43.0	G	%		50-150	11-FEB-20
COMMENTS: 13C6-Pentachlorophenol has low recovery.								
OCPEST-1699-HRMS-BU		Solid						
Batch R5007833								
WG3253398-4 DUP		L2387288-7						
alpha-BHC		<0.0068	<0.0092	RPD-NA	ng/g	N/A	50	10-FEB-20
beta-BHC		<0.0087	<0.013	RPD-NA	ng/g	N/A	50	10-FEB-20
delta-BHC		<0.0089	<0.013	RPD-NA	ng/g	N/A	50	10-FEB-20
gamma-BHC		<0.0088	<0.011	RPD-NA	ng/g	N/A	50	10-FEB-20
Heptachlor		0.00210	0.00150		ng/g	33	50	10-FEB-20
Aldrin		<0.00097	<0.00084	RPD-NA	ng/g	N/A	50	10-FEB-20
Heptachlor Epoxide		0.0102	0.0089		ng/g	14	50	10-FEB-20
trans-Chlordane		<0.0084	<0.0030	RPD-NA	ng/g	N/A	50	10-FEB-20
cis-Chlordane		<0.0080	0.0108	G	ng/g	N/A	50	10-FEB-20
Dieldrin		0.0240	0.0170		ng/g	34	50	10-FEB-20
Endrin		<0.013	<0.0062	RPD-NA	ng/g	N/A	50	10-FEB-20
Endrin Aldehyde		0.0084	<0.0031	G	ng/g	N/A	50	10-FEB-20
Endosulfan I		<0.0060	<0.0064	RPD-NA	ng/g	N/A	50	10-FEB-20
Endosulfan II		<0.020	<0.012	RPD-NA	ng/g	N/A	50	10-FEB-20
Endosulfan Sulfate		<0.0025	<0.0027	RPD-NA	ng/g	N/A	50	10-FEB-20
4,4-DDE		0.102	0.0825		ng/g	21	50	10-FEB-20
4,4-DDD		0.013	0.0052	J	ng/g	0.0078	0.02	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 30 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU Solid								
Batch	R5007833							
WG3253398-4 DUP		L2387288-7						
4,4-DDT		0.114	0.0914		ng/g	22	50	10-FEB-20
Methoxychlor		<0.0032	<0.0041	RPD-NA	ng/g	N/A	50	10-FEB-20
Mirex		0.00920	<0.00032	G	ng/g	N/A	50	10-FEB-20
Heptachlor Epoxide A		<0.0077	<0.0080	RPD-NA	ng/g	N/A	50	10-FEB-20
COMMENTS: Sample and duplicate RPD criteria outside method limits due to presence of low level hits.								
WG3253398-2 LCS								
alpha-BHC			115.0		%		50-120	10-FEB-20
beta-BHC			112.0		%		50-120	10-FEB-20
delta-BHC			109.0		%		50-120	10-FEB-20
gamma-BHC			111.0		%		50-120	10-FEB-20
Heptachlor			108.0		%		50-120	10-FEB-20
Aldrin			95.0		%		50-120	10-FEB-20
Heptachlor Epoxide			115.0		%		20-200	10-FEB-20
trans-Chlordane			105.0		%		50-120	10-FEB-20
cis-Chlordane			109.0		%		50-120	10-FEB-20
Dieldrin			105.0		%		50-120	10-FEB-20
Endrin			109.0		%		50-120	10-FEB-20
Endrin Aldehyde			101.0		%		20-200	10-FEB-20
Endosulfan I			88.0		%		50-120	10-FEB-20
Endosulfan II			96.0		%		5-200	10-FEB-20
Endosulfan Sulfate			106.0		%		50-200	10-FEB-20
4,4-DDE			111.0		%		50-120	10-FEB-20
4,4-DDD			109.0		%		42-120	10-FEB-20
4,4-DDT			108.0		%		50-120	10-FEB-20
Methoxychlor			110.0		%		50-120	10-FEB-20
Mirex			105.0		%		50-120	10-FEB-20
Heptachlor Epoxide A			116.0		%		50-150	10-FEB-20
COMMENTS: 13C12-Methoxychlor % recovery above the method limit; native target calculation against labelled using isotope dilution, therefore minimal impact on data quality is expected.								
WG3253398-1 MB								
alpha-BHC			<0.0077	[U]	ng/g		0.14	10-FEB-20
beta-BHC			<0.010	[U]	ng/g		0.14	10-FEB-20
delta-BHC			<0.010	[U]	ng/g		0.14	10-FEB-20
gamma-BHC			<0.0090	[U]	ng/g		0.14	10-FEB-20
Heptachlor			0.00085	M,J,R	ng/g		0.14	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 31 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU								
	Solid							
Batch	R5007833							
WG3253398-1	MB							
Aldrin			<0.00074	[U]	ng/g		0.14	10-FEB-20
Heptachlor Epoxide			0.0013	M,J,R	ng/g		0.14	10-FEB-20
trans-Chlordane			<0.0055	[U]	ng/g		0.14	10-FEB-20
cis-Chlordane			<0.0053	[U]	ng/g		0.14	10-FEB-20
Dieldrin			<0.0031	M,U	ng/g		0.14	10-FEB-20
Endrin			<0.0084	[U]	ng/g		0.14	10-FEB-20
Endrin Aldehyde			<0.011	[U]	ng/g		0.14	10-FEB-20
Endosulfan I			<0.0067	[U]	ng/g		0.14	10-FEB-20
Endosulfan II			<0.012	[U]	ng/g		0.14	10-FEB-20
Endosulfan Sulfate			<0.0029	[U]	ng/g		0.14	10-FEB-20
4,4-DDE			<0.0051	[U]	ng/g		0.14	10-FEB-20
4,4-DDD			<0.0042	[U]	ng/g		0.14	10-FEB-20
4,4-DDT			<0.010	[U]	ng/g		0.14	10-FEB-20
Methoxychlor			<0.0019	[U]	ng/g		0.14	10-FEB-20
Mirex			<0.00037	[U]	ng/g		0.14	10-FEB-20
Surrogate: alpha-BHC, 13C6-			74.0		%		16-129	10-FEB-20
Surrogate: trans-Nonachlor, 13C10-			87.0		%		14-136	10-FEB-20
Surrogate: Dieldrin, 13C12-			97.0		%		40-151	10-FEB-20
Surrogate: Endrin, 13C12-			93.0		%		35-155	10-FEB-20
Surrogate: Endosulfan II, 13C9-			94.0		%		5-122	10-FEB-20
Surrogate: 4,4'-DDE, 13C12-			91.0		%		21-125	10-FEB-20
Surrogate: 4,4'-DDT, 13C12-			87.0		%		5-120	10-FEB-20
Surrogate: Mirex, 13C10-			83.0		%		5-120	10-FEB-20
Heptachlor Epoxide A			<0.0081	[U]	ng/g		0.14	10-FEB-20
Surrogate: 4,4'-DDD, 13C12-			94.0		%		5-120	10-FEB-20
Surrogate: gamma-BHC, 13C6-			80.0		%		11-120	10-FEB-20
Surrogate: Methoxychlor, 13C12-			84.0		%		5-120	10-FEB-20
Surrogate: beta-BHC, 13C6-			89.0		%		11-120	10-FEB-20
Surrogate: delta-BHC, 13C6-			88.0		%		11-120	10-FEB-20
Batch	R5011480							
WG3254521-2	LCS							
alpha-BHC			108.0		%		50-120	11-FEB-20
beta-BHC			104.0		%		50-120	11-FEB-20
delta-BHC			113.0		%		50-120	11-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 32 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU								
	Solid							
Batch	R5011480							
WG3254521-2	LCS							
gamma-BHC			105.0		%		50-120	11-FEB-20
Heptachlor			104.0		%		50-120	11-FEB-20
Aldrin			99.0		%		50-120	11-FEB-20
Heptachlor Epoxide			120.0		%		20-200	11-FEB-20
trans-Chlordane			100.0		%		50-120	11-FEB-20
cis-Chlordane			105.0		%		50-120	11-FEB-20
Dieldrin			106.0		%		50-120	11-FEB-20
Endrin			114.0		%		50-120	11-FEB-20
Endrin Aldehyde			73.0		%		20-200	11-FEB-20
Endosulfan I			83.0		%		50-120	11-FEB-20
Endosulfan II			100.0		%		5-200	11-FEB-20
Endosulfan Sulfate			108.0		%		50-200	11-FEB-20
4,4-DDE			113.0		%		50-120	11-FEB-20
4,4-DDD			107.0		%		42-120	11-FEB-20
4,4-DDT			110.0		%		50-120	11-FEB-20
Methoxychlor			110.0		%		50-120	11-FEB-20
Mirex			109.0		%		50-120	11-FEB-20
Endrin Ketone			104.0		%		50-150	11-FEB-20
Heptachlor Epoxide A			111.0		%		50-150	11-FEB-20
<p>COMMENTS: Methoxychlor-ES recovery outside method limits. Target results are calculated against labelled isotopes using isotope dilution, therefore minimal impact on data quality is expected.</p>								
WG3254521-1	MB							
alpha-BHC			<0.034	[U]	ng/g		1.3	11-FEB-20
beta-BHC			<0.046	[U]	ng/g		1.3	11-FEB-20
delta-BHC			<0.042	[U]	ng/g		1.3	11-FEB-20
gamma-BHC			<0.042	[U]	ng/g		1.3	11-FEB-20
Heptachlor			0.0015	M,J,R	ng/g		1.3	11-FEB-20
Aldrin			<0.0050	[U]	ng/g		1.3	11-FEB-20
Heptachlor Epoxide			<0.0058	[U]	ng/g		1.3	11-FEB-20
trans-Chlordane			<0.015	[U]	ng/g		1.3	11-FEB-20
cis-Chlordane			<0.015	[U]	ng/g		1.3	11-FEB-20
Dieldrin			<0.0095	[U]	ng/g		1.3	11-FEB-20
Endrin			<0.013	[U]	ng/g		1.3	11-FEB-20
Endrin Aldehyde			<0.013	[U]	ng/g		1.3	11-FEB-20
Endosulfan I			<0.023	[U]	ng/g		1.3	11-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 33 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU								
	Solid							
Batch	R5011480							
WG3254521-1	MB							
Endosulfan II			<0.055	[U]	ng/g		1.3	11-FEB-20
Endosulfan Sulfate			<0.018	[U]	ng/g		1.3	11-FEB-20
4,4-DDE			<0.018	[U]	ng/g		1.3	11-FEB-20
4,4-DDD			<0.017	[U]	ng/g		1.3	11-FEB-20
4,4-DDT			<0.027	[U]	ng/g		1.3	11-FEB-20
Methoxychlor			<0.0043	[U]	ng/g		1.3	11-FEB-20
Mirex			<0.0010	[U]	ng/g		1.3	11-FEB-20
Surrogate: alpha-BHC, 13C6-			42.0		%		16-129	11-FEB-20
Surrogate: Heptachlor, 13C10-			41.0		%		5-120	11-FEB-20
Surrogate: trans-Nonachlor, 13C10-			64.0		%		14-136	11-FEB-20
Surrogate: Dieldrin, 13C12-			68.0		%		40-151	11-FEB-20
Surrogate: Endrin, 13C12-			67.0		%		35-155	11-FEB-20
Surrogate: Endosulfan II, 13C9-			66.0		%		5-122	11-FEB-20
Surrogate: 4,4'-DDE, 13C12-			69.0		%		21-125	11-FEB-20
Surrogate: 4,4'-DDT, 13C12-			80.0		%		5-120	11-FEB-20
Surrogate: Mirex, 13C10-			79.0		%		5-120	11-FEB-20
Endrin Ketone			<0.032	[U]	ng/g		1.3	11-FEB-20
Heptachlor Epoxide A			<0.045	[U]	ng/g		1.3	11-FEB-20
Surrogate: 4,4'-DDD, 13C12-			78.0		%		5-120	11-FEB-20
Surrogate: gamma-BHC, 13C6-			46.0		%		11-120	11-FEB-20
Surrogate: Methoxychlor, 13C12-			95.0		%		5-120	11-FEB-20
Surrogate: beta-BHC, 13C6-			51.0		%		11-120	11-FEB-20
Surrogate: delta-BHC, 13C6-			54.0		%		11-120	11-FEB-20
PCB-C428-LRMS-BU								
	Solid							
Batch	R4996239							
WG3253398-4	DUP	L2387288-7						
Total PCB		0.347	0.547		ng/g	45	50	28-JAN-20
WG3253398-2	LCS							
Total PCB			110.1		%		50-150	27-JAN-20
WG3253398-5	LCS							
Total PCB			102.2		%		50-150	27-JAN-20
WG3253398-1	MB							
Total PCB			<0.010		ng/g		0.01	28-JAN-20
Surrogate: 13C12 PCB 1			40.2		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 3			52.4		%		5-145	28-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 34 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-C428-LRMS-BU								
	Solid							
Batch	R4996239							
WG3253398-1	MB							
Surrogate: 13C12 PCB 4			36.7		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 15			70.4		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 19			33.8		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 37			80.4		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 54			32.8		%		5-145	28-JAN-20
Surrogate: 13C12 PCB 81			75.1		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 104			51.7		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 123			67.6		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 118			66.3		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 114			71.8		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 105			75.6		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 126			98.3		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 155			67.3		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 167			76.3		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 156			81.0	M	%		10-145	28-JAN-20
Surrogate: 13C12 PCB 157			73.9		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 169			83.9		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 188			73.1		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 202			76.0		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 205			71.6		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 208			70.2		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 206			68.8		%		10-145	28-JAN-20
Surrogate: 13C12 PCB 209			66.1		%		10-145	28-JAN-20
DX-1613B-HRMS-BU								
	Biota							
Batch	R4982112							
WG3254540-2	LCS							
2,3,7,8-TCDD			97.0		%		67-158	27-JAN-20
1,2,3,7,8-PeCDD			99.0		%		70-142	27-JAN-20
1,2,3,4,7,8-HxCDD			100.0		%		70-164	27-JAN-20
1,2,3,6,7,8-HxCDD			91.0		%		76-134	27-JAN-20
1,2,3,7,8,9-HxCDD			99.0		%		64-162	27-JAN-20
1,2,3,4,6,7,8-HpCDD			102.0		%		70-140	27-JAN-20
OCDD			94.0		%		78-144	27-JAN-20
2,3,7,8-TCDF			93.0		%		75-158	27-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 35 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU		Biota						
Batch	R4982112							
WG3254540-2 LCS								
1,2,3,7,8-PeCDF			99.0		%		80-134	27-JAN-20
2,3,4,7,8-PeCDF			90.0		%		68-160	27-JAN-20
1,2,3,4,7,8-HxCDF			96.0		%		72-134	27-JAN-20
1,2,3,6,7,8-HxCDF			101.0		%		84-130	27-JAN-20
2,3,4,6,7,8-HxCDF			98.0		%		70-156	27-JAN-20
1,2,3,7,8,9-HxCDF			105.0		%		78-130	27-JAN-20
1,2,3,4,6,7,8-HpCDF			103.0		%		82-122	27-JAN-20
1,2,3,4,7,8,9-HpCDF			93.0		%		78-138	27-JAN-20
OCDF			87.0		%		63-170	27-JAN-20
WG3254540-1 MB								
2,3,7,8-TCDD			<0.044	[U]	pg/g		0.044	27-JAN-20
1,2,3,7,8-PeCDD			<0.024	[U]	pg/g		0.024	27-JAN-20
1,2,3,4,7,8-HxCDD			<0.018	[U]	pg/g		0.018	27-JAN-20
1,2,3,6,7,8-HxCDD			<0.018	[U]	pg/g		0.018	27-JAN-20
1,2,3,7,8,9-HxCDD			<0.018	[U]	pg/g		0.018	27-JAN-20
1,2,3,4,6,7,8-HpCDD			0.025	M,J,R	pg/g		0.022	27-JAN-20
OCDD			0.086	M,J	pg/g		0.018	27-JAN-20
2,3,7,8-TCDF			<0.032	[U]	pg/g		0.032	27-JAN-20
1,2,3,7,8-PeCDF			0.030	M,J	pg/g		0.015	27-JAN-20
2,3,4,7,8-PeCDF			<0.013	[U]	pg/g		0.013	27-JAN-20
1,2,3,4,7,8-HxCDF			<0.015	[U]	pg/g		0.015	27-JAN-20
1,2,3,6,7,8-HxCDF			<0.015	[U]	pg/g		0.015	27-JAN-20
2,3,4,6,7,8-HxCDF			<0.015	[U]	pg/g		0.015	27-JAN-20
1,2,3,7,8,9-HxCDF			0.024	M,J,R	pg/g		0.02	27-JAN-20
1,2,3,4,6,7,8-HpCDF			0.021	M,J,R	pg/g		0.017	27-JAN-20
1,2,3,4,7,8,9-HpCDF			<0.020	[U]	pg/g		0.02	27-JAN-20
OCDF			0.049	M,J	pg/g		0.024	27-JAN-20
Total-TCDD			<0.044	[U]	pg/g		0.044	27-JAN-20
Total-PeCDD			<0.024	[U]	pg/g		0.024	27-JAN-20
Total-HxCDD			<0.018	[U]	pg/g		0.018	27-JAN-20
Total-HpCDD			<0.022	[U]	pg/g		0.022	27-JAN-20
Total-TCDF			<0.032	[U]	pg/g		0.032	27-JAN-20
Total-PeCDF			0.030	A	pg/g		0.015	27-JAN-20
Total-HxCDF			<0.020	[U]	pg/g		0.02	27-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 36 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU		Biota						
Batch R4982112								
WG3254540-1 MB								
Total-HpCDF			<0.020	[U]	pg/g		0.02	27-JAN-20
Surrogate: 13C12-2,3,7,8-TCDD			65.0		%		25-164	27-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDD			73.0		%		25-181	27-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			65.0		%		32-141	27-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			71.0		%		28-130	27-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			70.0		%		23-140	27-JAN-20
Surrogate: 13C12-OCDD			71.0		%		17-157	27-JAN-20
Surrogate: 13C12-2,3,7,8-TCDF			64.0		%		24-169	27-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDF			71.0		%		21-192	27-JAN-20
Surrogate: 13C12-2,3,4,7,8-PeCDF			71.0		%		21-178	27-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			62.0		%		26-152	27-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			70.0		%		26-123	27-JAN-20
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			66.0		%		29-147	27-JAN-20
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			59.0		%		28-136	27-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			70.0		%		28-143	27-JAN-20
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			72.0		%		26-138	27-JAN-20
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			68.0		%		31-197	27-JAN-20

COMMENTS: Blank has low levels of select targets. No impact to data quality is expected.

Batch R4985267

WG3254570-2 LCS

2,3,7,8-TCDD			101.0		%		67-158	28-JAN-20
1,2,3,7,8-PeCDD			102.0		%		70-142	28-JAN-20
1,2,3,4,7,8-HxCDD			103.0		%		70-164	28-JAN-20
1,2,3,6,7,8-HxCDD			97.0		%		76-134	28-JAN-20
1,2,3,7,8,9-HxCDD			95.0		%		64-162	28-JAN-20
1,2,3,4,6,7,8-HpCDD			103.0		%		70-140	28-JAN-20
OCDD			93.0		%		78-144	28-JAN-20
2,3,7,8-TCDF			94.0		%		75-158	28-JAN-20
1,2,3,7,8-PeCDF			100.0		%		80-134	28-JAN-20
2,3,4,7,8-PeCDF			96.0		%		68-160	28-JAN-20
1,2,3,4,7,8-HxCDF			99.0		%		72-134	28-JAN-20
1,2,3,6,7,8-HxCDF			102.0		%		84-130	28-JAN-20
2,3,4,6,7,8-HxCDF			100.0		%		70-156	28-JAN-20
1,2,3,7,8,9-HxCDF			106.0		%		78-130	28-JAN-20
1,2,3,4,6,7,8-HpCDF			103.0		%		82-122	28-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 37 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU		Biota						
Batch	R4985267							
WG3254570-2 LCS								
1,2,3,4,7,8,9-HpCDF			94.0		%		78-138	28-JAN-20
OCDF			92.0		%		63-170	28-JAN-20
WG3254570-1 MB								
2,3,7,8-TCDD			<0.029	[U]	pg/g		0.029	28-JAN-20
1,2,3,7,8-PeCDD			0.020	M,J	pg/g		0.019	28-JAN-20
1,2,3,4,7,8-HxCDD			0.021	M,J	pg/g		0.019	28-JAN-20
1,2,3,6,7,8-HxCDD			<0.020	M,U	pg/g		0.02	28-JAN-20
1,2,3,7,8,9-HxCDD			0.035	M,J,R	pg/g		0.019	28-JAN-20
1,2,3,4,6,7,8-HpCDD			0.071	M,J	pg/g		0.014	28-JAN-20
OCDD			0.260	M,J,R	pg/g		0.024	28-JAN-20
2,3,7,8-TCDF			<0.019	[U]	pg/g		0.019	28-JAN-20
1,2,3,7,8-PeCDF			<0.015	[U]	pg/g		0.015	28-JAN-20
2,3,4,7,8-PeCDF			<0.011	M,U	pg/g		0.011	28-JAN-20
1,2,3,4,7,8-HxCDF			<0.016	[U]	pg/g		0.016	28-JAN-20
1,2,3,6,7,8-HxCDF			<0.016	[U]	pg/g		0.016	28-JAN-20
2,3,4,6,7,8-HxCDF			<0.016	M,U	pg/g		0.016	28-JAN-20
1,2,3,7,8,9-HxCDF			0.042	M,J,R	pg/g		0.021	28-JAN-20
1,2,3,4,6,7,8-HpCDF			0.031	M,J,R	pg/g		0.013	28-JAN-20
1,2,3,4,7,8,9-HpCDF			<0.017	M,U	pg/g		0.017	28-JAN-20
OCDF			0.069	M,J,R	pg/g		0.021	28-JAN-20
Total-TCDD			<0.029	[U]	pg/g		0.029	28-JAN-20
Total-PeCDD			0.020	A	pg/g		0.019	28-JAN-20
Total-HxCDD			0.021	A	pg/g		0.02	28-JAN-20
Total-HpCDD			0.125	A	pg/g		0.014	28-JAN-20
Total-TCDF			<0.019	[U]	pg/g		0.019	28-JAN-20
Total-PeCDF			<0.015	[U]	pg/g		0.015	28-JAN-20
Total-HxCDF			<0.021	[U]	pg/g		0.021	28-JAN-20
Total-HpCDF			<0.017	[U]	pg/g		0.017	28-JAN-20
Surrogate: 13C12-2,3,7,8-TCDD			69.0		%		25-164	28-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDD			78.0		%		25-181	28-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			74.0		%		32-141	28-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			74.0		%		28-130	28-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			75.0		%		23-140	28-JAN-20
Surrogate: 13C12-OCDD			73.0		%		17-157	28-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 38 of 42

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	Biota							
Batch	R4985267							
WG3254570-1	MB							
Surrogate: 13C12-2,3,7,8-TCDF			70.0		%		24-169	28-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDF			74.0		%		21-192	28-JAN-20
Surrogate: 13C12-2,3,4,7,8-PeCDF			72.0		%		21-178	28-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			69.0		%		26-152	28-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			72.0		%		26-123	28-JAN-20
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			72.0		%		29-147	28-JAN-20
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			66.0		%		28-136	28-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			73.0		%		28-143	28-JAN-20
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			75.0		%		26-138	28-JAN-20
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			78.0		%		31-197	28-JAN-20

COMMENTS: Blank has low levels of select targets, no impact to data quality is expected.

Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 39 of 42

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	Duplicate results and limits are expressed in terms of absolute difference.
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.
[U]	The analyte was not detected above the EDL.

Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 40 of 42



Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 41 of 42

Quality Control Report

Workorder: L2387288

Report Date: 26-MAR-20

Page 42 of 42

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.



Chain of Custody (COC) / Analytical Request Form



COC Number: 17 -

L2387288-COFC

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)														
Company: Stantec Consulting Ltd.		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply														
Contact: Katherine Ketis		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>		EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>										
Phone: (519) 780-8198		<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>			Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>										
Company address below will appear on the final report		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				2 day [P2-50%] <input type="checkbox"/>													
Street: 70 Southgate Drive Suite 1		Email 1 or Fax Katherine.Ketis@stantec.com			Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm														
City/Province: Guelph, ON		Email 2			For tests that can not be performed according to the service level selected, you will be contacted.														
Postal Code: N1G 4P5		Email 3			Analysis Request														
Invoice To Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Invoice Distribution			NUMBER OF CONTAINERS	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below						SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)						
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				Metals (list attached) Note: Fluoride (NEW)													
Company: Clean Harbors		Email 1 or Fax carabott.eric@cleanharbors.com				Chloride													
Contact: Erica Carabott		Email 2				OCs													
Project Information		Oil and Gas Required Fields (client use)				PCBs (no arachlors)													
ALS Account # / Quote #: Q53923		AFE/Cost Center: PO#				PCP													
Job #: 122160003		Major/Minor Code: Routing Code:				PCDD/PCDF													
PO / AFE:		Requisitioner:																	
LSD:		Location:																	
ALS Lab Work Order # (lab use only):		ALS Contact:																	
Sampler:																			
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type															
1	19-W2-SS-CH-001*	10-Oct-19*	8:30*	Soil	1	R	R												
2	19-W2-NG-CH-003*	10-Oct-19*	9:00*	Plant Tissue	1	R	R												
3	19-W2-SB-CH-005*	10-Oct-19*	9:30*	Plant Tissue	1	R	R												
4	19-W4-SS-CH-007*	9-Oct-19*	16:00*	Soil	1	R	R												
5	19-W4-NG-CH-009*	9-Oct-19*	16:15*	Plant Tissue	1	R	R												
6	19-W4-SB-CH-011*	9-Oct-19*	16:30*	Plant Tissue	1	R	R												
7	19-N2-SS-CH-013*	8-Oct-19*	14:00*	Soil	1	R	R	R	R										
8	19-N2-SD-CH-015*	8-Oct-19*	14:30*	Sediment	1	R	R	R	R										
9	19-N2-NG-CH-019*	8-Oct-19*	15:00*	Plant Tissue	1	R	R	R	R										
10	19-N2-SB-CH-021*	8-Oct-19*	15:30*	Plant Tissue	1	R	R	R	R	R									
11	19-N4-SS-CH-023*	8-Oct-19*	12:30*	Soil	1	R	R												
12	19-N4-NG-CH-025*	8-Oct-19*	12:40*	Plant Tissue	1	R	R												
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)														
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO					Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>														
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
					Cooling Initiated <input checked="" type="checkbox"/>														
					INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C											
					5.8°C														
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)											
Released by: <i>Michelle Kite</i>		Date: <i>Nov 22, 2019</i>		Time: <i>9:00</i>		Received by: <i>ARRON BURTON</i>		Date: <i>25-Nov-2019</i>		Time: <i>11:15</i>		Received by:		Date:		Time:			



www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L2387288-COFC

COC Number: 17 -

Page 2 of 6

Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)													
Company: Stantec Consulting Ltd.		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply													
Contact: Katherine Ketis		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>		EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>									
Phone: (519) 780-8198		<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>			Same Day, Weekend or Statutory holiday [E2 -200%] <input type="checkbox"/>									
Company address below will appear on the final report		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				2 day [P2-50%] <input type="checkbox"/>			Same Day, Weekend or Statutory holiday [E2 -200%] (Laboratory opening fees may apply) <input type="checkbox"/>									
Street: 70 Southgate Drive Suite 1		Email 1 or Fax Katherine.Ketis@stantec.com			Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm													
City/Province: Guelph, ON		Email 2			For tests that can not be performed according to the service level selected, you will be contacted.													
Postal Code: N1G 4P5		Email 3			Analysis Request													
Invoice To Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Invoice Distribution			NUMBER OF CONTAINERS	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below										SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)	
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				Metals (list attached) Note: Fluoride (NEW)												
Company: Clean Harbors		Email 1 or Fax carabott.eric@cleanharbors.com				Chloride												
Contact: Erica Carabott		Email 2				OCs												
Project Information		Oil and Gas Required Fields (client use)				PCBs (no arachlors)												
ALS Account # / Quote #: Q53923		AFE/Cost Center: PO#				PCP												
Job #: 122160003		Major/Minor Code: Routing Code:				PCDD/PCDF												
PO / AFE:		Requisitioner:																
LSD:		Location:																
ALS Lab Work Order # (lab use only):		ALS Contact:				Sampler:												
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	1	R	R											
13	19-N4-SB-CH-027*	8-Oct-19 *	13:00 *	Plant Tissue	1	R	R											
14	19-N5-SS-CH-029*	14-Aug-19*	13:00 *	Soil	1	R	R											
15	19-N5-SD-CH-031*	14-Aug-19*	13:30 *	Sediment	1	R	R											
16	19-N5-NG-CH-035*	14-Aug-19*	10:50 18:15	Plant Tissue	1	R	R											
17	19-E1-SS-CH-037*	9-Oct-19 *	9:00 *	Soil	1	R	R											
18	19-E1-NG-CH-039 *	9-Oct-19 *	9:30 *	Plant Tissue	1	R	R											
19	19-E1-SB-CHR-042 *	9-Oct-19*	9:20 *	Plant Tissue	1	R	R											
20	19-E2-SS-CH-043 *	10-Oct-19 *	15:00 *	Soil	1	R	R	R	R									
21	19-E2-SD-CH-045 *	10-Oct-19 *	15:30 *	Sediment	1	R	R	R	R									
22	19-E2-NG-CH-049 *	10-Oct-19 *	16:00 *	Plant Tissue	1	R	R	R	R									
23	19-E2-FC-CH-051 *	10-Oct-19 *	16:30 *	Plant Tissue	2	R	R	R	R	R	R							
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)													
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>													
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO					Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>													
					Cooling Initiated <input checked="" type="checkbox"/>													
					INITIAL COOLER TEMPERATURES °C						FINAL COOLER TEMPERATURES °C							
					5.8 °C													
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)										
Released by: <i>[Signature]</i>		Date: Nov 22, 2019		Time: 9:00		Received by: <i>[Signature]</i>		Date: 25-Nov-2019		Time: 11:15		Received by:		Date:		Time:		



Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)															
Company:	Stantec Consulting Ltd.	Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply															
Contact:	Katherine Ketis	Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>		EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>											
Phone:	(519) 780-8198	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>			Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>											
Company address below will appear on the final report		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				2 day [P2-50%] <input type="checkbox"/>														
Street:	70 Southgate Drive Suite 1	Email 1 or Fax Katherine.Ketis@stantec.com			Date and Time Required for all E&P TATs:		dd-mmm-yy hh:mm													
City/Province:	Guelph, ON	Email 2			For tests that can not be performed according to the service level selected, you will be contacted.															
Postal Code:	N1G 4P5	Email 3			Analysis Request															
Invoice To		Invoice Distribution			NUMBER OF CONTAINERS	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below							SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)						
Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX																		
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Email 1 or Fax carabott.eric@cleanharbors.com																		
Company:	Clean Harbors	Email 2																		
Contact:	Erica Carabott																			
Project Information		Oil and Gas Required Fields (client use)																		
ALS Account # / Quote #: Q53923		AFE/Cost Center: PO#																		
Job #: 122160003		Major/Minor Code: Routing Code:																		
PO / AFE:		Requisitioner:																		
LSD:		Location:																		
ALS Lab Work Order # (lab use only):		ALS Contact:			Sampler:															
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type																
24	19-E5-SS-CH-053 *	9-Oct-19 *	10:00 *	Soil	1	R	R													
25	19-E5-NG-CH-055 *	9-Oct-19 *	10:30 *	Plant Tissue	1	R	R													
26	19-E5-SB-CH-057 *	9-Oct-19 *	10:15 *	Plant Tissue	1	R	R													
27	19-E6-SS-CH-059 *	14-Aug-19 *	12:30 *	Soil	1	R	R	R	R											
28	19-E6-NG-CH-061 *	14-Aug-19 *	12:45 *	Plant Tissue	1	R	R	R	R											
29	19-E7-SS-CH-303 *	9-Oct-19 *	13:00 *	Soil	1	R	R													
30	19-E7-NG-CH-305 *	9-Oct-19 *	13:30 *	Plant Tissue	1	R	R													
31	19-E7-SB-CH-300 *	1-Oct-19 *	12:30 *	Plant Tissue	1	R	R													
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)															
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO					Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>															
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>															
					Cooling Initiated <input checked="" type="checkbox"/>															
					INITIAL COOLER TEMPERATURES °C: 5.8°C															
					FINAL COOLER TEMPERATURES °C:															
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)														
Released by: <i>Kath. Ketis</i>	Date: <i>Nov 22, 2015</i>	Time: <i>9:00</i>	Received by: <i>ARRON BUCKTON</i>	Date: <i>25-Nov-2019</i>	Time: <i>11:15</i>	Received by:			Date:	Time:										



www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form



COC Number: 17 -

Canada Toll Free: 1 800 668 9878

L2387288-GOFC

Page 4 of 6

Report To Contact and company name below will appear on the final report			Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)																																																																																																																											
Company: Stantec Consulting Ltd.			Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply																																																																																																																											
Contact: Katherine Ketis			Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>			EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>																																																																																																																						
Phone: (519) 780-8198			<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>				Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>																																																																																																																						
Company address below will appear on the final report			Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				2 day [P2-50%] <input type="checkbox"/>																																																																																																																										
Street: 70 Southgate Drive Suite 1			Email 1 or Fax: Katherine.Ketis@stantec.com			Date and Time Required for all E&P TATs:			dd-mmm-yy hh:mm																																																																																																																								
City/Province: Guelph, ON			Email 2			For tests that can not be performed according to the service level selected, you will be contacted.																																																																																																																											
Postal Code: N1G 4P5			Email 3			Analysis Request																																																																																																																											
Invoice To			Invoice Distribution			<table border="1" style="width: 100%; height: 100%; text-align: center;"> <tr> <td colspan="12">Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below</td> </tr> <tr> <td rowspan="10" style="writing-mode: vertical-rl; transform: rotate(180deg);">NUMBER OF CONTAINERS</td> <td rowspan="10" style="writing-mode: vertical-rl; transform: rotate(180deg);">Metals (list attached) Note: Fluoride (NEW)</td> <td colspan="10"></td> </tr> <tr> <td>Chloride</td> <td colspan="9"></td> </tr> <tr> <td>OCPs</td> <td colspan="9"></td> </tr> <tr> <td>PCBs (no archlores)</td> <td colspan="9"></td> </tr> <tr> <td>PCP</td> <td colspan="9"></td> </tr> <tr> <td>PCDD/PCDF</td> <td colspan="9"></td> </tr> <tr> <td colspan="11" style="writing-mode: vertical-rl; transform: rotate(180deg);">SAMPLES ON HOLD</td> </tr> <tr> <td colspan="11" style="writing-mode: vertical-rl; transform: rotate(180deg);">SUSPECTED HAZARD (see Special Instructions)</td> </tr> <tr> <td colspan="11"></td> </tr> <tr> <td colspan="11"></td> </tr> </table>						Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below												NUMBER OF CONTAINERS	Metals (list attached) Note: Fluoride (NEW)											Chloride										OCPs										PCBs (no archlores)										PCP										PCDD/PCDF										SAMPLES ON HOLD											SUSPECTED HAZARD (see Special Instructions)																																
Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																																																																																																																																	
NUMBER OF CONTAINERS	Metals (list attached) Note: Fluoride (NEW)																																																																																																																																
		Chloride																																																																																																																															
		OCPs																																																																																																																															
		PCBs (no archlores)																																																																																																																															
		PCP																																																																																																																															
		PCDD/PCDF																																																																																																																															
		SAMPLES ON HOLD																																																																																																																															
		SUSPECTED HAZARD (see Special Instructions)																																																																																																																															
Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX																																																																																																																														
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			Email 1 or Fax: carabott.eric@cleanharbors.com																																																																																																																														
Company: Clean Harbors			Email 2																																																																																																																														
Contact: Erica Carabott																																																																																																																																	
Project Information			Oil and Gas Required Fields (client use)																																																																																																																														
ALS Account # / Quote #: Q53923			AFE/Cost Center: PO#																																																																																																																														
Job #: 122160003			Major/Minor Code: Routing Code:																																																																																																																														
PO / AFE:			Requisitioner:																																																																																																																														
LSD:			Location:																																																																																																																														
ALS Lab Work Order # (lab use only):			ALS Contact:		Sampler:																																																																																																																												
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)				Date (dd-mmm-yy)	Time (hh:mm)	Sample Type																																																																																																																										
32	19-S1-SS-CH-063*				10-Oct-19*	11:00*	Soil	1	R	R																																																																																																																							
33	19-S1-SD-CH-065*				10-Oct-19*	11:15*	Sediment	1	R	R																																																																																																																							
34	19-S1-NG-CH-069*				10-Oct-19*	11:30*	Plant Tissue	1	R	R																																																																																																																							
35	19-S1-SB-CH-071*				10-Oct-19*	11:45*	Plant Tissue	1	R	R																																																																																																																							
36	19-S2-SS-CH-073*				10-Oct-19*	10:00*	Soil	1	R	R																																																																																																																							
37	19-S2-NG-CH-075*				10-Oct-19*	10:30*	Plant Tissue	1	R	R																																																																																																																							
38	19-S2-SB-CH-077*				10-Oct-19*	11:00*	Plant Tissue	1	R	R																																																																																																																							
39	19-S4-SS-CH-087*				9-Oct-19*	14:00*	Soil	1	R	R																																																																																																																							
40	19-S4-SD-CH-089*				9-Oct-19*	14:45*	Sediment	1	R	R																																																																																																																							
41	19-S4-NG-CH-093*				9-Oct-19*	14:30*	Plant Tissue	1	R	R																																																																																																																							
42	19-S4-SB-CH-095*				1-Oct-19*	13:30*	Plant Tissue	1	R	R																																																																																																																							
Drinking Water (DW) Samples¹ (client use)			Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)																																																																																																																											
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO						Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																																																																																																																											
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO			Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																																																																																																											
						Cooling Initiated <input checked="" type="checkbox"/>																																																																																																																											
						INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C																																																																																																																								
						5.8°C																																																																																																																											
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)																																																																																																																											
Released by: <i>[Signature]</i>		Date: Nov 22, 2019	Time: 9:00	Received by: <i>[Signature]</i>		Date: 25-Nov-2019	Time: 11:15	Received by:		Date:	Time:																																																																																																																						



Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level below - Contact your AM to confirm all E&P TATs (surcharges may apply)																																																																																																																															
Company:	Stantec Consulting Ltd.	Select Report Format:	<input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)		Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply																																																																																																																															
Contact:	Katherine Ketis	Quality Control (QC) Report with Report	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>			EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>																																																																																																																										
Phone:	(519) 780-8198	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked		3 day [P3-25%] <input type="checkbox"/>			Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>																																																																																																																													
Company address below will appear on the final report		Select Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX		Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm																																																																																																																															
Street:	70 Southgate Drive Suite 1	Email 1 or Fax	Katherine.Ketis@stantec.com		For tests that can not be performed according to the service level selected, you will be contacted.																																																																																																																															
City/Province:	Guelph, ON	Email 2			Analysis Request																																																																																																																															
Postal Code:	N1G 4P5	Email 3			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																																																																																																																															
Invoice To	Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Invoice Distribution			NUMBER OF CONTAINERS	<table border="1"> <tr> <td>Metals (list attached) Note: Fluoride (NEW)</td> <td>Chloride</td> <td>OCPs</td> <td>PCBs (no arachnids)</td> <td>PCP</td> <td>PCDD/PCDF</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>							Metals (list attached) Note: Fluoride (NEW)	Chloride	OCPs	PCBs (no arachnids)	PCP	PCDD/PCDF																																																																																																																		
Metals (list attached) Note: Fluoride (NEW)	Chloride	OCPs	PCBs (no arachnids)	PCP									PCDD/PCDF																																																																																																																							
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Select Invoice Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX		SAMPLES ON HOLD SUSPECTED HAZARD (see Special Instructions)																																																																																																																															
Company:	Clean Harbors	Email 1 or Fax	carabott.eric@cleanharbors.com																																																																																																																																	
Contact:	Erica Carabott	Email 2																																																																																																																																		
Project Information		Oil and Gas Required Fields (client use)																																																																																																																																		
ALS Account # / Quote #:	Q53923	AFE/Cost Center:	PO#																																																																																																																																	
Job #:	122160003	Major/Minor Code:	Routing Code:																																																																																																																																	
PO / AFE:		Requisitioner:																																																																																																																																		
LSD:		Location:																																																																																																																																		
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler:																																																																																																																																	
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type																																																																																																																																
43	19-D1-SS-CH-200*	8-Oct-19*	14:10*	Soil								1	R	R	R	R																																																																																																																				
44	19-D2-SS-CH-201*	10-Oct-19*	15:40*	Soil								1	R	R	R	R																																																																																																																				
45	19-D3-NG-CH-203*	8-Oct-19*	15:10*	Plant Tissue	1	R	R	R	R																																																																																																																											
46	19-D8-NG-CH-208*	10-Oct-19*	16:10*	Plant Tissue	1	R	R	R	R																																																																																																																											
47	19-D4-SD-CH-204*	8-Oct-19*	14:40*	Sediment	1	R	R	R	R																																																																																																																											
48	19-D5-SB-CH-206*	8-Oct-19*	15:40*	Plant Tissue	1	R	R	R	R	R																																																																																																																										
49	19-D6-FC-CH-207*	10-Oct-19*	16:40*	Plant Tissue	2	R	R	R	R	R																																																																																																																										
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)																																																																																																																															
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO					Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																																																																																																																															
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																																																																																																															
					Cooling Initiated <input checked="" type="checkbox"/>																																																																																																																															
					INITIAL COOLER TEMPERATURES °C: 5.8 °C																																																																																																																															
					FINAL COOLER TEMPERATURES °C																																																																																																																															
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)																																																																																																																															
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:																																																																																																																						
<i>[Signature]</i>	Nov 22 2019	9:00	ARRAN METZ	25-Nov-2019	11:15																																																																																																																															



www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form



COC Number: 17 -

Canada Toll Free: 1 800 668 9878

L2387288-COFC

Report To Contact and company name below will appear on the final report			Report Format / Distribution			SELECT SERVICE LEVEL BELOW - Contact your AM to confirm all E&P TATs (surcharges may apply)																																																																												
Company:	Stantec Consulting Ltd.		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply																																																																												
Contact:	Katherine Ketis		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>			EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>																																																																							
Phone:	(519) 780-8198		<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>				Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>																																																																							
Company address below will appear on the final report			Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				2 day [P2-50%] <input type="checkbox"/>																																																																											
Street:	70 Southgate Drive Suite 1		Email 1 or Fax Katherine.Ketis@stantec.com			Date and Time Required for all E&P TATs:			dd-mmm-yy hh:mm																																																																									
City/Province:	Guelph, ON		Email 2			For tests that can not be performed according to the service level selected, you will be contacted.																																																																												
Postal Code:	N1G 4P5		Email 3			Analysis Request																																																																												
Invoice To			Invoice Distribution			<table border="1"> <tr> <td colspan="12">Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below</td> </tr> <tr> <td rowspan="10">NUMBER OF CONTAINERS</td> <td rowspan="10">Metals (list attached) Note: Fluoride (NEW)</td> <td rowspan="10">Chloride</td> <td rowspan="10">OCPs</td> <td rowspan="10">PCBs (no arachnids)</td> <td rowspan="10">PCP</td> <td rowspan="10">PCDD/PCDF</td> <td colspan="5"></td> <td rowspan="10">SAMPLES ON HOLD</td> <td rowspan="10">SUSPECTED HAZARD (see Special Instructions)</td> </tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> <tr><td colspan="5"></td></tr> </table>						Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below												NUMBER OF CONTAINERS	Metals (list attached) Note: Fluoride (NEW)	Chloride	OCPs	PCBs (no arachnids)	PCP	PCDD/PCDF						SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)																																													
Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																																																																																		
NUMBER OF CONTAINERS	Metals (list attached) Note: Fluoride (NEW)	Chloride	OCPs	PCBs (no arachnids)	PCP							PCDD/PCDF						SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)																																																															
Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX																																																																															
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			Email 1 or Fax carabott.eric@cleanharbors.com																																																																															
Company: Clean Harbors			Email 2																																																																															
Contact: Erica Carabott																																																																																		
Project Information			Oil and Gas Required Fields (client use)																																																																															
ALS Account # / Quote #: Q53923			AFE/Cost Center: PO#																																																																															
Job #: 122160003			Major/Minor Code: Routing Code:																																																																															
PO / AFE:			Requisitioner:																																																																															
LSD:			Location:																																																																															
ALS Lab Work Order # (lab use only):			ALS Contact:		Sampler:																																																																													
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type																																																																													
50	19-E6-FB-CH-211*		14-Aug-19*	12:05*	Water	2	R	R																																																																										
51	19-E1-FB-CH-213*		9-Oct-19*	8:30*	Water	2	R	R																																																																										
52	19-E6-RB-CH-215*		14-Aug-19*	12:00*	Water	2	R	R																																																																										
53	19-E1-RB-CH-216*		9-Oct-19*	8:35*	Water	2	R	R																																																																										
54	19-E6-TB-CH-220*		14-Aug-19*	not applicable	Water	2	R	R																																																																										
55	19-E1-TB-CH-221*		9-Oct-19*	not applicable	Water	2	R	R																																																																										
Drinking Water (DW) Samples¹ (client use)			Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)																																																																												
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO			Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																																																																												
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO						Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																																																												
						Cooling Initiated <input checked="" type="checkbox"/>																																																																												
						INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C																																																																									
						5.8°C																																																																												
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)																																																																												
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:																																																																							
<i>Kath. Ketis</i>	Nov 22 2019	9:00	<i>ARON BRETAN</i>	25-Nov-2019	11:15																																																																													

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NOV 2018 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.



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

Date Received: 25-NOV-19
Report Date: 12-MAY-20 13:24 (MT)
Version: FINAL REV. 3

Client Phone: 519-836-6050

Certificate of Analysis


Lab Work Order #: L2387288
Project P.O. #: NOT SUBMITTED
Job Reference: 122160003 CLEAN HARBORS
C of C Numbers:
Legal Site Desc:

Comments: Report Revisions:

For the pentachlorophenol and PCB results for the plant tissues, the data have now been calculated on a dry weight basis. Prior data had been calculated on a wet weight basis.

For the Laboratory Control Sample (LCS) for the PCB data for the solid samples, there have been minor revisions to selected peak integrations resulting in a slight change to the reported total PCB recovery. Sample data have not changed.

12-MAY-2020 Metals target list has been amended.



Lynne Wrona, M.Sc.
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 1435 Norjohn Court, Unit 1, Burlington, ON, L7L 0E6 Canada | Phone: +1 905 331 3111 | Fax: +1 905 331 4567
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2387288-1 19-W2-SS-CH-001							
Sampled By: Client on 10-OCT-19 @ 08:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	17.1		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.49		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0471		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	16.7		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	14800		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.91		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	59.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.59		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	7.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.447		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	3680		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	20.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	7.11		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	12.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	17700		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	3710		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	416		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.87		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	17.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	484		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	1480		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	52		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	11.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.202		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	139		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	35.1		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	50.5		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	1.8		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.226	M,J	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.244	M,J	0.041	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.258	M,J	0.071	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.386	M,J	0.070	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.400	M,J,R	0.070	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	6.75		0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	37.4		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.295	M,J	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.252	M,J	0.063	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.720	[J]	0.050	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.476	M,J	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.310	M,J,R	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.565	M,J	0.082	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.16	M,J,R	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	2.30	[J]	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.160	M,J,R	0.074	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.91	[J]	0.059	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-1 19-W2-SS-CH-001							
Sampled By: Client on 10-OCT-19 @ 08:30							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total-TCDD	0.226		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	1				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	1.87		0.041	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	4.99		0.071	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	4				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	13.0		0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	7.06		0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	11.2		0.063	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	5.48		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	3.68		0.074	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	73.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	76.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	71.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	70.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	45.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	70.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	68.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	72.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	64.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.994			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-2 19-W2-NG-CH-003							
Sampled By: Client on 10-OCT-19 @ 09:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	74.7		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	70.7		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	2300	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0292		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	0.0055		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2350		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.44		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	47.5		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.046		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	9.67		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-2 19-W2-NG-CH-003							
Sampled By: Client on 10-OCT-19 @ 09:00							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	11.7		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0937		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	8190		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.644		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.029		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	9.28		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	111		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.835		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2270		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	28.3		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.58		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.61		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2440		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	11900		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	27		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	13.6		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.17		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	26.7		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.088	[U]	0.088	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.093	M,J	0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.072	M,U	0.072	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.126	M,J	0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.110	M,J,R	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.54	[J]	0.062	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	4.85	[J]	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	0.106	M,J	0.078	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.059	[U]	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	0.100	M,J	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.096	M,J	0.067	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.110	M,J,R	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.087	M,U	0.087	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	<0.088	[U]	0.088	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.440	M,J,R	0.067	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.090	M,U	0.090	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.21	[J]	0.060	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.482		0.088	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	2.03		0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	1.70		0.072	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	4				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	4.25		0.062	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.998		0.078	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.569		0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	3				22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-2 19-W2-NG-CH-003 Sampled By: Client on 10-OCT-19 @ 09:00 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HxCDF	0.232		0.088	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.090	[U]	0.090	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	60.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	69.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	56.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	63.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	61.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	57.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	61.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	68.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	68.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	58.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	61.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	51.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	56.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	61.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	64.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	66.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.173			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.257			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.314			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-3 19-W2-SB-CH-005 Sampled By: Client on 10-OCT-19 @ 09:30 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	34.7		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	33.1		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	44	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4210		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.05		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	32.4		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0380		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2810		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.121		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	12.4		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	72.2		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3240		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	28.7		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	10.6		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-3 19-W2-SB-CH-005							
Sampled By: Client on 10-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Nickel (Ni)-Total	1.49		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7370		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	23900		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	2.35		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	34.9		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.036	[U]	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.019	[U]	0.019	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.019	[U]	0.019	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.018	[U]	0.018	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.028	M,J,R	0.018	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.052	M,J,R	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	0.344	J,B	0.018	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.015	[U]	0.015	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.012	[U]	0.012	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.011	[U]	0.011	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.011	[U]	0.011	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.016	M,J,R	0.011	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.016	M,J,R	0.014	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	<0.010	[U]	0.010	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.012	[U]	0.012	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.165	M,J,B	0.017	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.036	[U]	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.019	[U]	0.019	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.019	[U]	0.019	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	0.039		0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.015	[U]	0.015	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	<0.014	[U]	0.014	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.012	[U]	0.012	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	48.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	56.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	50.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	48.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	48.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	50.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	47.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	55.0		21-192	%	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-3 19-W2-SB-CH-005 Sampled By: Client on 10-OCT-19 @ 09:30 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,4,7,8-PeCDF	53.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	49.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	50.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	48.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	46.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	50.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	52.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	58.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.000153			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.0406			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.0745			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-4 19-W4-SS-CH-007 Sampled By: Client on 09-OCT-19 @ 16:00 Matrix: Soil							
Miscellaneous Parameters							
% Moisture	22.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	1.45		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0482		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	22.5		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	23300		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.22		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	94.3		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.98		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	16.3		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.472		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	4530		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	32.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	8.66		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	23.3		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	24000		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	15.4		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	6370		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	268		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	1.50		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	29.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	989		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	4070		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	64		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	18.2		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.277		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	112		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	42.7		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	87.6		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.3		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.600	M,J	0.091	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.411	M,J	0.040	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-4 19-W4-SS-CH-007							
Sampled By: Client on 09-OCT-19 @ 16:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8-HxCDD	0.397	[J]	0.097	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	1.28	[J]	0.096	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.891	M,J	0.095	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	25.6		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	116		0.20	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.530	M,J	0.085	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.339	M,J	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.687	[J]	0.068	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.588	M,J	0.088	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.476	M,J	0.088	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.794	[J]	0.095	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.15	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	8.93		0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.386	[J]	0.090	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	16.1		0.090	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	2.42		0.091	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	4.06		0.040	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	9.57		0.097	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	40.3		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	10.9		0.085	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	15				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	10.3		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	10.1		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	8				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	20.4		0.090	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	69.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	67.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	69.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	45.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	70.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	73.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	69.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	69.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	65.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	63.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	72.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	72.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	2.13			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	2.13			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	2.13			pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-5 19-W4-NG-CH-009							
Sampled By: Client on 09-OCT-19 @ 16:15							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	70.8		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	68.1		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	8500	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0115		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	0.0052		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3110		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.32		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	62.0		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.138		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	10.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.3		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.180		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4410		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.290		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.096		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	8.25		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	122		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.234		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2520		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	90.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.94		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	1.29		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3760		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	24400		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	68		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	7.42		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0026		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.17		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	29.3		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.068	[U]	0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.071	M,J,R	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	0.058	M,J,R	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.150	M,J	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.160	M,J,R	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.32	[J]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	3.55	[J]	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	0.160	M,J	0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.096	M,J,R	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	0.085	M,J	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.072	M,J	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.067	M,J	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.064	M,J,R	0.047	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.075	M,J	0.043	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.344	[J]	0.024	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.029	[U]	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.653	[J]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.550		0.068	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-5 19-W4-NG-CH-009							
Sampled By: Client on 09-OCT-19 @ 16:15							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total TCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.45		0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	2.93		0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	4				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	3.66		0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.755		0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	4				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.683		0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.521		0.047	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	6				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.479		0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	76.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	89.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	80.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	78.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	61.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	83.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	84.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	81.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	79.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	60.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	75.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	79.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	82.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	74.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0958			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.232			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.266			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-6 19-W4-SB-CH-011							
Sampled By: Client on 09-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	54.3		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	52.4		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	38	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4820		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.10		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-6 19-W4-SB-CH-011							
Sampled By: Client on 09-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Boron (B)-Total	34.0		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.282		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2610		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.101		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	16.7		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	78.9		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3200		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	24.0		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	8.82		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	3.50		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7990		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	23400		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	2.28		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	51.7		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.081	[U]	0.081	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.041	[U]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.028	[U]	0.028	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.057	M,J,R	0.021	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	0.301	J,B	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.045	[U]	0.045	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.026	[U]	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.021	[U]	0.021	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.016	[U]	0.016	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.017	[U]	0.017	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.017	[U]	0.017	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.027	M,J,R	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	<0.022	[U]	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.206	M,J,B	0.028	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.081	[U]	0.081	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.041	[U]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.028	[U]	0.028	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	0.036		0.021	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.045	[U]	0.045	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.026	[U]	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	<0.022	[U]	0.022	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-6 19-W4-SB-CH-011 Sampled By: Client on 09-OCT-19 @ 16:30 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total HxCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.027	[U]	0.027	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	76.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	90.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	80.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	90.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	91.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	71.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	86.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	87.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	77.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	76.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	74.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	72.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	85.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	93.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	76.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.000152			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.0771			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.151			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-7 19-N2-SS-CH-013 Sampled By: Client on 08-OCT-19 @ 14:00 Matrix: Soil							
Miscellaneous Parameters							
% Moisture	23.7		0.10	%	21-JAN-20	22-JAN-20	R4974811
Total PCB	0.347		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.43		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0635		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	23.7		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	26200		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	4.94		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	120		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	1.16		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	15.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.473		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	5550		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	38.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	11.2		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	31.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	25000		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	15.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	7320		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	339		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.35		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	36.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	959		50	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-7 19-N2-SS-CH-013							
Sampled By: Client on 08-OCT-19 @ 14:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Potassium (K)	4010		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	64		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	21.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.228		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	128		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	44.3		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	82.9		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	6.4		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
OC Pesticides by Method 1699							
alpha-BHC	<0.0068	[U]	0.0068	ng/g	22-JAN-20	10-FEB-20	R5007833
beta-BHC	<0.0087	[U]	0.0087	ng/g	22-JAN-20	10-FEB-20	R5007833
delta-BHC	<0.0089	[U]	0.0089	ng/g	22-JAN-20	10-FEB-20	R5007833
gamma-BHC	<0.0088	[U]	0.0088	ng/g	22-JAN-20	10-FEB-20	R5007833
Heptachlor	0.00210	M,J,R	0.00033	ng/g	22-JAN-20	10-FEB-20	R5007833
Aldrin	<0.00097	[U]	0.00097	ng/g	22-JAN-20	10-FEB-20	R5007833
Heptachlor Epoxide	0.0102	M,J	0.0010	ng/g	22-JAN-20	10-FEB-20	R5007833
trans-Chlordane	<0.0084	[U]	0.0084	ng/g	22-JAN-20	10-FEB-20	R5007833
cis-Chlordane	<0.0080	[U]	0.0080	ng/g	22-JAN-20	10-FEB-20	R5007833
Dieldrin	0.0240	M,J,R	0.0049	ng/g	22-JAN-20	10-FEB-20	R5007833
Endrin	<0.013	M,U	0.013	ng/g	22-JAN-20	10-FEB-20	R5007833
Endrin Aldehyde	0.0084	M,J	0.0079	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan I	<0.0060	[U]	0.0060	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan II	<0.020	M,U	0.020	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan Sulfate	<0.0025	[U]	0.0025	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDE	0.102	[J]	0.0043	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDD	0.013	M,J,R	0.010	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDT	0.114	M,J	0.0064	ng/g	22-JAN-20	10-FEB-20	R5007833
Methoxychlor	<0.0032	U	0.0032	ng/g	22-JAN-20	10-FEB-20	R5007833
Mirex	0.00920	J,R	0.00025	ng/g	22-JAN-20	10-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	59.0		16-129	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	70.0		14-136	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	77.0		40-151	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Endrin, 13C12-	75.0		35-155	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	77.0		5-122	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	81.0		21-125	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	82.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Mirex, 13C10-	85.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Heptachlor Epoxide A	<0.0077	[U]	0.0077	ng/g	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	87.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	62.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	88.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	72.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	73.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.302	M,J	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.207	[J]	0.046	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.22	M,J,R	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.43	M,J	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.38	M,J	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-7 19-N2-SS-CH-013							
Sampled By: Client on 08-OCT-19 @ 14:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,6,7,8-HpCDD	5.55		0.16	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	27.8		0.25	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.523	M,J	0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.290	M,,J,R	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.580	[J]	0.073	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.402	M,,J,B	0.036	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.316	M,J	0.036	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.450	M,J	0.038	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.120	M,J	0.050	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	2.00	M,,J,R	0.079	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.162	M,J	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.93	[J]	0.18	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	2.08		0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	3.81		0.046	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	6.15		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	10.6		0.16	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	7.87		0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	7.62		0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	3.61		0.050	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	1.85		0.079	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	76.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	77.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	66.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	59.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	23.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	74.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	77.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	72.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	64.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	66.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	62.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	48.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	66.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.01			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.06			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.06			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-8 19-N2-SD-CH-015							
Sampled By: Client on 08-OCT-19 @ 14:30							
Matrix: Sediment							
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
L2387288-8 19-N2-SD-CH-015							
Sampled By: Client on 08-OCT-19 @ 14:30							
Matrix: Sediment							
% Moisture	21.1		0.10	%	22-JAN-20	23-JAN-20	R4976673
Total PCB	0.363		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Chloride (Cl)	36.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.82		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0231		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	21.2		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	13300		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	6.22		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	63.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.62		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	17.4		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.214		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	94900		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	24.3		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	9.04		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	17.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	20400		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	8.21		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	33300		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	362		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	3.14		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	26.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	455		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	2850		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	169		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	86.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.258		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	212		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	32.2		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	52.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	6.1		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	10-FEB-20	R5007833
beta-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	10-FEB-20	R5007833
delta-BHC	<0.015	[U]	0.015	ng/g	22-JAN-20	10-FEB-20	R5007833
gamma-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	10-FEB-20	R5007833
Heptachlor	0.00180	M,J,R	0.00086	ng/g	22-JAN-20	10-FEB-20	R5007833
Aldrin	<0.0015	[U]	0.0015	ng/g	22-JAN-20	10-FEB-20	R5007833
Heptachlor Epoxide	<0.0032	M,U	0.0032	ng/g	22-JAN-20	10-FEB-20	R5007833
trans-Chlordane	<0.016	[U]	0.016	ng/g	22-JAN-20	10-FEB-20	R5007833
cis-Chlordane	<0.015	[U]	0.015	ng/g	22-JAN-20	10-FEB-20	R5007833
Dieldrin	0.0084	M,J,R	0.0066	ng/g	22-JAN-20	10-FEB-20	R5007833
Endrin	<0.019	M,U	0.019	ng/g	22-JAN-20	10-FEB-20	R5007833
Endrin Aldehyde	<0.011	[U]	0.011	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan I	<0.0082	[U]	0.0082	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan II	<0.020	M,U	0.020	ng/g	22-JAN-20	10-FEB-20	R5007833
Endosulfan Sulfate	<0.0053	[U]	0.0053	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDE	0.0404	M,J	0.0076	ng/g	22-JAN-20	10-FEB-20	R5007833
4,4-DDD	0.0210	M,J,R	0.0088	ng/g	22-JAN-20	10-FEB-20	R5007833

* 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
L2387288-8 19-N2-SD-CH-015 Sampled By: Client on 08-OCT-19 @ 14:30 Matrix: Sediment							
OC Pesticides by Method 1699							
4,4-DDT	0.012	M,J,R	0.011	ng/g	22-JAN-20	10-FEB-20	R5007833
Methoxychlor	<0.013	[U]	0.013	ng/g	22-JAN-20	10-FEB-20	R5007833
Mirex	<0.00069	[U]	0.00069	ng/g	22-JAN-20	10-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	44.0		16-129	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	45.0		14-136	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	52.0		40-151	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Endrin, 13C12-	50.0		35-155	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	51.0		5-122	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	57.0		21-125	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	49.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Mirex, 13C10-	49.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Heptachlor Epoxide A	<0.024	[U]	0.024	ng/g	22-JAN-20	10-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	56.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	47.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	48.0		5-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	56.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	54.0		11-120	%	22-JAN-20	10-FEB-20	R5007833
L2387288-9 19-N2-NG-CH-019 Sampled By: Client on 08-OCT-19 @ 15:00 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	62.4		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	54.3		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	6930	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0154		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Total PCB	0.595		0.045	ng/g	21-JAN-20	28-JAN-20	R4988567
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3460		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.34		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	62.8		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.044		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	8.75		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.7		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0416		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4640		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.246		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.055		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	5.46		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	113		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.279		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2090		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	86.4		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	4.08		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.72		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2570		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	12400		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	13.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-9 19-N2-NG-CH-019							
Sampled By: Client on 08-OCT-19 @ 15:00							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Thallium (Tl)-Total	0.0026		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.15		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	38.7		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
OC Pesticides by Method 1699							
alpha-BHC	<0.35	[U]	0.35	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.50	[U]	0.50	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.48	[U]	0.48	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.43	[U]	0.43	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.038	[U]	0.038	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.043	[U]	0.043	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.14	M,U	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.28	[U]	0.28	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.27	[U]	0.27	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.42	M,J	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.42	M,U	0.42	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.23	[U]	0.23	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.35	[U]	0.35	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.55	[U]	0.55	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.23	[U]	0.23	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	0.33	M,J,R	0.28	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.31	[U]	0.31	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.80	[U]	0.80	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.23	[U]	0.23	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	0.074	M,J	0.021	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	47.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	41.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	70.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	68.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	67.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	63.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	74.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	47.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	46.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	54.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.63	[U]	0.63	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<1.1	[U]	1.1	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	51.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	34.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	54.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	56.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.079	[U]	0.079	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.057	M,J	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.082	[U]	0.082	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.081	[U]	0.081	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	<0.081	[U]	0.081	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.06	[J]	0.046	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	3.12	[J]	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	0.169	M,J	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.065	M,J,R	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-9 19-N2-NG-CH-019							
Sampled By: Client on 08-OCT-19 @ 15:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,4,7,8-PeCDF	0.071	M,J,R	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.053	M,J,R	0.046	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.076	M,J,R	0.047	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.099	M,J	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.068	M,J,R	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.312	[J]	0.024	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.063	M,J,R	0.030	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.830	M,J,R	0.037	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.402		0.079	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.30		0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	4				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	2.30		0.082	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	2.74		0.046	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	1.04		0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.522		0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.199		0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.312		0.030	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	71.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	83.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	71.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	72.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	76.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	66.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	71.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	80.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	80.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	73.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	72.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	62.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	68.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	73.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	78.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	75.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0980			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.194			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.245			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-10 19-N2-SB-CH-021							
Sampled By: Client on 08-OCT-19 @ 15:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	53.4		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	53.8		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	49	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346

* 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
L2387288-10 19-N2-SB-CH-021							
Sampled By: Client on 08-OCT-19 @ 15:30							
Matrix: Plant Tissue							
Total PCB	<0.021		0.021	ng/g	21-JAN-20	28-JAN-20	R4988567
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4730		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.19		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	36.0		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0810		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2400		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.084		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	15.6		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	81.8		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3130		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	26.8		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	7.30		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	3.30		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	8290		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	24500		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	1.84		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	45.3		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<1.1	[U]	1.1	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	31.0	G	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: 13C6-Pentachlorophenol has low recovery.							
OC Pesticides by Method 1699							
alpha-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
beta-BHC	<0.019	[U]	0.019	ng/g	21-JAN-20	11-FEB-20	R5011480
delta-BHC	<0.018	[U]	0.018	ng/g	21-JAN-20	11-FEB-20	R5011480
gamma-BHC	<0.018	[U]	0.018	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor	0.0030	M,J,R	0.0011	ng/g	21-JAN-20	11-FEB-20	R5011480
Aldrin	<0.0018	[U]	0.0018	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide	0.0145	M,J	0.0047	ng/g	21-JAN-20	11-FEB-20	R5011480
trans-Chlordane	<0.015	[U]	0.015	ng/g	21-JAN-20	11-FEB-20	R5011480
cis-Chlordane	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
Dieldrin	0.033	M,J	0.011	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin	<0.015	[U]	0.015	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin Aldehyde	<0.013	[U]	0.013	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan I	<0.018	[U]	0.018	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan II	<0.025	[U]	0.025	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan Sulfate	<0.0064	[U]	0.0064	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDE	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDD	<0.0098	[U]	0.0098	ng/g	21-JAN-20	11-FEB-20	R5011480

* 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
L2387288-10 19-N2-SB-CH-021							
Sampled By: Client on 08-OCT-19 @ 15:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
4,4-DDT	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
Methoxychlor	<0.0027	[U]	0.0027	ng/g	21-JAN-20	11-FEB-20	R5011480
Mirex	0.00230	M,J,R	0.00074	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	66.0		16-129	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	63.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	92.0		14-136	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	88.0		40-151	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endrin, 13C12-	93.0		35-155	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	86.0		5-122	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	99.0		21-125	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	111.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Mirex, 13C10-	106.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	103.0		5-150	%	21-JAN-20	11-FEB-20	R5011480
Endrin ketone	<0.019	[U]	0.019	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide A	<0.036	[U]	0.036	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	72.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	139.0	G	5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	82.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	86.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Note: Methoxychlor-ES recovery outside method limits. Target results are calculated against labelled isotopes using isotope dilution, therefore minimal impact on data quality is expected.							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.15	[U]	0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.061	[U]	0.061	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.049	[U]	0.049	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.070	M,J,R	0.051	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.066	M,J,R	0.049	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.334	M,J	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	2.42	[J]	0.044	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.083	[U]	0.083	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.040	[U]	0.040	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.040	[U]	0.040	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.042	[U]	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.041	[U]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.072	M,J,R	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.120	M,J,R	0.032	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.110	M,J,R	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.03	[J]	0.045	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.15	[U]	0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.061	[U]	0.061	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.051	[U]	0.051	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	0.522		0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.083	[U]	0.083	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-10 19-N2-SB-CH-021							
Sampled By: Client on 08-OCT-19 @ 15:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-PeCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	<0.055	[U]	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.036	[U]	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	58.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	76.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	63.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	63.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	77.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	86.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	57.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	67.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	72.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	59.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	60.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	60.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	56.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	70.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	80.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	60.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.00438			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.152			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.277			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-11 19-N4-SS-CH-023							
Sampled By: Client on 08-OCT-19 @ 12:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	19.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.97		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0572		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	18.9		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	15800		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.78		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	77.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.68		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	7.5		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.499		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	5020		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	22.7		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	8.31		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	15.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	18400		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	4920		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	409		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.83		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	20.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-11 19-N4-SS-CH-023							
Sampled By: Client on 08-OCT-19 @ 12:30							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Phosphorus (P)	590		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	1730		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	<50		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	15.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.194		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	84.3		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	33.3		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	59.8		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.9		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.188	M,J	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.190	M,J,R	0.064	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.183	M,J	0.071	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.336	M,J	0.063	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.371	M,J	0.066	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	4.67		0.075	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	25.9		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.403	M,J	0.081	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.269	M,J	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.533	[J]	0.053	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.353	M,J,B	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.289	M,J	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.381	[J]	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.103	M,J	0.098	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.90	M,J	0.034	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.130	M,J,R	0.040	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.49	[J]	0.082	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.55		0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	1.05		0.064	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	4				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	3.94		0.071	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	9.40		0.075	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	5.99		0.081	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	6.99		0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	4.01		0.098	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	2.86		0.040	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	77.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	77.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	70.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	79.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	70.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	40.0		17-157	%	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-11 19-N4-SS-CH-023 Sampled By: Client on 08-OCT-19 @ 12:30 Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	78.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	74.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	70.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	75.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	73.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	69.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	64.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	73.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.672			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.863			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.863			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-12 19-N4-NG-CH-025 Sampled By: Client on 08-OCT-19 @ 12:40 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	56.7		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	52.0		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	7650	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0168		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3190		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.67		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	17.9		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.033		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	7.49		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.5		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0522		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4170		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.158		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.039		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	7.01		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	75.8		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.257		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1960		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	86.0		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	3.39		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.71		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2890		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	11700		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	12.6		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	<0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	57.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
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
L2387288-12 19-N4-NG-CH-025							
Sampled By: Client on 08-OCT-19 @ 12:40							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.057	[U]	0.057	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.052	M,J,R	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	0.060	M,J,R	0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.070	M,J,R	0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.076	M,J,R	0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.823	[J]	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	3.11	[J]	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.053	M,U	0.053	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.053	M,J,R	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	0.038	M,J,R	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.046	M,J,R	0.040	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.053	M,J,R	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.055	M,U	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.066	[J]	0.048	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.356	[J]	0.023	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.044	M,J,R	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.04	[J]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.678		0.057	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.10		0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	2.13		0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	2.39		0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.794		0.053	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.361		0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.370		0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.435		0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	83.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	73.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	75.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	66.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	72.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	81.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	79.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	75.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	70.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	50.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	69.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	72.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	79.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	77.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0196			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.149			pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-12 19-N4-NG-CH-025 Sampled By: Client on 08-OCT-19 @ 12:40 Matrix: Plant Tissue Dioxins and Furans HR 1613B Upper Bound PCDD/F TEQ (WHO 2005)	0.183			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-13 19-N4-SB-CH-027 Sampled By: Client on 08-OCT-19 @ 13:00 Matrix: Plant Tissue Miscellaneous Parameters							
% Moisture	46.9		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	46.9		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	46	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4700		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.530		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	33.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0642		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	1990		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.081		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	14.8		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	74.7		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3180		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	25.0		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	18.7		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	2.03		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	8500		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	23000		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	1.62		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	42.6		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.086	[U]	0.086	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.056	[U]	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.034	[U]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.034	[U]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	<0.033	[U]	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.088	M,J,R	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	0.646	J,B	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.053	[U]	0.053	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.029	[U]	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.025	[U]	0.025	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.057	M,J	0.038	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.037	[U]	0.037	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-13 19-N4-SB-CH-027 Sampled By: Client on 08-OCT-19 @ 13:00 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,4,6,7,8-HxCDF	<0.038	[U]	0.038	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	<0.049	[U]	0.049	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.046	M,J,R	0.026	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.030	M,U	0.030	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.444	J,B	0.032	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.086	[U]	0.086	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.056	[U]	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.034	[U]	0.034	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	<0.033	[U]	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.053	[U]	0.053	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.029	[U]	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.057		0.049	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.030	[U]	0.030	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	66.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	69.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	75.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	93.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	103.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	65.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	74.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	68.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	88.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	100.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	75.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.00605			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.0966			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.186			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-14 19-N5-SS-CH-029 Sampled By: Client on 14-AUG-19 @ 13:00 Matrix: Soil							
Miscellaneous Parameters							
% Moisture	19.1		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.70		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0761		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	19.2		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	14200		50	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-14 19-N5-SS-CH-029							
Sampled By: Client on 14-AUG-19 @ 13:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Arsenic (As)	5.75		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	65.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.59		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	11.8		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.560		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	19800		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	22.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	7.55		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	14.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	17800		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	22.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	9700		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	287		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	1.71		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	18.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	394		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	1940		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	88		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	40.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.231		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	109		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	32.2		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	74.6		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	1.6		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.277	M,J	0.057	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.409	[J]	0.039	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	1.01	[J]	0.082	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	4.05		0.080	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	1.85	M,J	0.080	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	218		0.36	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	2130		0.30	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.422	[J]	0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.403	M,J	0.041	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.650	[J]	0.035	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	1.45	[J]	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	1.06	[J]	0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	2.74	[J]	0.093	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.27	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	36.1		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	1.67	[J]	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	108		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	2.72		0.057	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	5.76		0.039	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	8				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	26.2		0.082	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	388		0.36	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-14 19-N5-SS-CH-029							
Sampled By: Client on 14-AUG-19 @ 13:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	6.69		0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	15				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	9.65		0.041	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	28.6		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	96.2		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	76.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	81.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	67.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	76.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	71.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	54.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	80.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	69.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	66.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	63.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	76.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	79.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	5.41			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	5.41			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	5.41			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-15 19-N5-SD-CH-031							
Sampled By: Client on 14-AUG-19 @ 13:30							
Matrix: Sediment							
Miscellaneous Parameters							
Chloride (Cl)	167		5.0	mg/kg	18-FEB-20	18-FEB-20	R4998419
Fluoride (F)	2.53		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.178		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	65.4		0.25	%		03-FEB-20	R4987031
Metals in Soil by CRC ICPMS							
Aluminum (Al)	34300		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	8.20		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	182		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	1.37		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	22.4		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	1.18		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	21800		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	47.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	11.7		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	33.5		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	34200		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	27.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	15500		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	365		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-15 19-N5-SD-CH-031 Sampled By: Client on 14-AUG-19 @ 13:30 Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Molybdenum (Mo)	5.98		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	42.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	1010		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	5050		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	0.20		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	293		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	50.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	1900		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.485		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	78.9		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	60.3		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	189		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	4.9		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
L2387288-16 19-N5-NG-CH-035 Sampled By: Client on 14-AUG-19 @ 15:15 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	57.3		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	52.6		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	6440	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0202		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3380		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.10		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	31.0		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.055		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	11.7		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	9.0		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.164		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5970		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.299		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.036		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	3.16		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	76.9		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.719		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1940		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	13.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	2.73		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.26		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	1160		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	13900		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	46		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	24.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0041		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	15.7		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
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
L2387288-16 19-N5-NG-CH-035							
Sampled By: Client on 14-AUG-19 @ 15:15							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.14	[U]	0.14	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	0.102	M,J	0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.10	[U]	0.10	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.13	M,J,R	0.10	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.13	M,J,R	0.10	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.23	[J]	0.064	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	4.87	[J]	0.070	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.11	[U]	0.11	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.087	[U]	0.087	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.069	[U]	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.078	M,J,R	0.062	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.092	M,J,R	0.064	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.083	M,J	0.061	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.140	M,J,R	0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.448	[J]	0.069	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.099	M,J,R	0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.93	[J]	0.066	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.14	[U]	0.14	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	0.708		0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	0.17		0.10	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	1.23		0.064	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.45		0.11	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.264		0.087	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.170		0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.448		0.075	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	67.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	79.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	69.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	67.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	73.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	71.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	67.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	77.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	64.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	64.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	69.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	78.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	74.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.129			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.279			pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-16 19-N5-NG-CH-035 Sampled By: Client on 14-AUG-19 @ 15:15 Matrix: Plant Tissue Dioxins and Furans HR 1613B Upper Bound PCDD/F TEQ (WHO 2005)	0.371			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-17 19-E1-SS-CH-037 Sampled By: Client on 09-OCT-19 @ 09:00 Matrix: Soil Miscellaneous Parameters							
% Moisture	15.3		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	1.61		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0431		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	15.2		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	12100		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	4.39		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	55.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.53		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	7.5		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.339		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	3140		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	18.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	5.67		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	13.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	13400		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	10.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	3280		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	284		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.03		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	15.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	668		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	1610		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	<50		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	10.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.160		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	92.7		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	28.4		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	48.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.6		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.220	M,J	0.093	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.176	M,J	0.052	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.150	J,R	0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.270	J,R	0.088	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.300	M,J,R	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	5.08		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	33.7		0.17	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.31	M,J,R	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.304	M,J	0.079	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.421	[J]	0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.630	M,J	0.093	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.350	M,J,R	0.096	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-17 19-E1-SS-CH-037							
Sampled By: Client on 09-OCT-19 @ 09:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
2,3,4,6,7,8-HxCDF	0.499	M,J	0.094	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	<0.14	M,U	0.14	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	3.69		0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.170	J,R	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	6.17		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.69		0.093	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	1.60		0.052	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	4				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	4.11		0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	10.4		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	3.06		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	5.06		0.079	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	3.98		0.14	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	4.18		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	67.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	68.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	60.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	62.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	37.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	65.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	66.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	67.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	59.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	67.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	65.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	58.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	56.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	65.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	66.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.744			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.891			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.898			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-18 19-E1-NG-CH-039							
Sampled By: Client on 09-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	75.7		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	76.7		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	3290	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0157		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3590		100	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-18 19-E1-NG-CH-039							
Sampled By: Client on 09-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Titanium (Ti)-Total	1.02		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	29.4		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.035		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	37.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	5.3		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0921		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5890		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.307		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.023		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	6.78		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	77.5		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.519		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2120		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	20.3		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.33		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.35		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3810		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	20100		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	29		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	19.4		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	23.5		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.085	[U]	0.085	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.052	M,U	0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	0.074	M,J	0.054	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.102	M,J	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.127	M,J	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	1.05	[J]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	3.52	[J]	0.043	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.056	[U]	0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.070	J,R	0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	0.062	M,J	0.033	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	0.054	M,J	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.054	M,J	0.029	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.080	M,J	0.031	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.068	M,J	0.035	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.356	[J]	0.021	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	0.035	M,J,R	0.023	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.19	[J]	0.036	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.317		0.085	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.46		0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	1.87		0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	2.85		0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-18 19-E1-NG-CH-039							
Sampled By: Client on 09-OCT-19 @ 09:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-TCDF	1.09		0.056	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	7				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	1.02		0.039	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	6				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.532		0.035	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	5				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	0.516		0.023	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	75.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	84.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	76.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	74.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	80.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	76.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	80.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	77.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	77.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	73.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	68.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	75.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	76.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	87.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	78.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0902			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.164			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.235			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-19 19-E1-SB-CH-042							
Sampled By: Client on 09-OCT-19 @ 09:20							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	57.8		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	58.0		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	35	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	3710		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.967		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	40.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0806		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2460		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.058		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	13.0		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	62.8		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-19 19-E1-SB-CH-042							
Sampled By: Client on 09-OCT-19 @ 09:20							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	2980		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	30.6		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	5.86		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	4.15		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	6360		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	18600		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	1.97		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	0.0023		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	39.9		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.16	[U]	0.16	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.067	[U]	0.067	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.059	[U]	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.058	[U]	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	<0.058	[U]	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.148	M,J	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	0.593	M,J,B	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.11	[U]	0.11	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.066	[U]	0.066	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.052	[U]	0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.041	[U]	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.042	[U]	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	0.073	M,J	0.043	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	<0.055	[U]	0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.094	M,J,R	0.046	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	0.160	M,J,R	0.057	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	<0.16	[U]	0.16	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	<0.067	[U]	0.067	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	<0.059	[U]	0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	0.148		0.059	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	<0.11	[U]	0.11	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	<0.066	[U]	0.066	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	0.073		0.055	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	61.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	79.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	60.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	66.0		28-130	%	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-19 19-E1-SB-CH-042							
Sampled By: Client on 09-OCT-19 @ 09:20							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	84.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	94.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	59.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	70.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	61.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	63.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	60.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	61.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	77.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	85.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.00898			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.154			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.297			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-20 19-E2-SS-CH-043							
Sampled By: Client on 10-OCT-19 @ 15:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	20.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Total PCB	0.686		0.012	ng/g	22-JAN-20	28-JAN-20	R4996239
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.57		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0670		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	20.4		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	15700		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.20		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	79.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.58		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	8.4		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.387		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	5790		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	21.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	8.66		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	17.1		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	19100		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	22.7		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	4910		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	400		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	1.70		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	19.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	748		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	2440		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	54		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	19.3		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.196		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	76.0		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-20 19-E2-SS-CH-043							
Sampled By: Client on 10-OCT-19 @ 15:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Vanadium (V)	32.2		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	66.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	1.9		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.013	[U]	0.013	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00100	M,J,R	0.00062	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.0011	[U]	0.0011	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0136	M,J	0.0010	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	<0.0065	M,U	0.0065	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	0.0099	M,J	0.0062	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0159	M,J	0.0038	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.011	M,U	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0061	[U]	0.0061	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0026	[U]	0.0026	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.142		0.0055	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0058	M,J,R	0.0035	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.066	M,J,R	0.010	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0040	M,U	0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00035	[U]	0.00035	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	60.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	68.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	72.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	68.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	73.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	81.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	79.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	86.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0079	[U]	0.0079	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	83.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	66.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	80.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	78.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	75.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.235	M,J	0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.23	M,J	0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.19	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.34	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.45	M,J	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	6.42		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	32.4		0.18	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.32	M,J,R	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.253	M,J	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.415	[J]	0.054	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.393	M,J,B	0.084	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.333	M,J	0.078	pg/g	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-20 19-E2-SS-CH-043							
Sampled By: Client on 10-OCT-19 @ 15:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
2,3,4,6,7,8-HxCDF	0.433	[J]	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	<0.12	M,U	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.89	M,J	0.047	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.143	M,J	0.061	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.01	[J]	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.69		0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	2.47		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	5.68		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	12.7		0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	4.80		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	8				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	5.92		0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	12				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	3.28		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	2.85		0.061	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	63.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	78.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	68.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	41.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	78.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	73.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	71.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	68.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	70.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	80.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.906			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.944			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.950			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-21 19-E2-SD-CH-045							
Sampled By: Client on 10-OCT-19 @ 15:30							
Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	24.0		0.10	%	22-JAN-20	23-JAN-20	R4976673
Total PCB	<0.013		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Chloride (Cl)	148		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	6.48		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0228		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	24.2		0.25	%		11-FEB-20	R4994469
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
L2387288-21 19-E2-SD-CH-045							
Sampled By: Client on 10-OCT-19 @ 15:30							
Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Aluminum (Al)	17300		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.34		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	84.5		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.74		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	20.8		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.176		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	95400		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	27.4		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	9.37		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	18.4		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	21400		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	8.26		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	30400		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	379		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	2.81		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	28.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	398		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	3480		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	221		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	99.0		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.227		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	217		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	34.0		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	52.8		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.7		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.017	[U]	0.017	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00470	M,J,R	0.00071	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.0023	[U]	0.0023	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0045	M,J,R	0.0021	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	<0.010	[U]	0.010	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0100	M,J,R	0.0065	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.020	M,U	0.020	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.037	M,U	0.037	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0043	[U]	0.0043	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.0187	M,J	0.0089	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	<0.013	[U]	0.013	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	<0.017	[U]	0.017	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0095	[U]	0.0095	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00057	[U]	0.00057	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	50.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	48.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	57.0		40-151	%	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-21 19-E2-SD-CH-045 Sampled By: Client on 10-OCT-19 @ 15:30 Matrix: Sediment							
OC Pesticides by Method 1699							
Surrogate: Endrin, 13C12-	50.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	50.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	57.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	45.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	47.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.016	[U]	0.016	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	53.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	52.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	45.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	57.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	54.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
L2387288-22 19-E2-NG-CH-049 Sampled By: Client on 10-OCT-19 @ 16:00 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	43.3		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	44.8		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	2250	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0133		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Total PCB	0.699		0.037	ng/g	21-JAN-20	28-JAN-20	R4988567
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	1880		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.88		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	33.3		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.024		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	32.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	7.1		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0256		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	6050		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.193		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.025		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	3.72		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	61.1		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.152		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1800		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	26.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.18		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2400		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	11400		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	20.9		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	14.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
OC Pesticides by Method 1699							
alpha-BHC	<0.56	[U]	0.56	ng/g	21-JAN-20	12-FEB-20	R5011480

* 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
L2387288-22 19-E2-NG-CH-049							
Sampled By: Client on 10-OCT-19 @ 16:00							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
beta-BHC	<0.76	[U]	0.76	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.77	[U]	0.77	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.66	[U]	0.66	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.053	[U]	0.053	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.063	[U]	0.063	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.30	M,U	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.45	[U]	0.45	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.43	M,U	0.43	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.88	M,J	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.19	[U]	0.19	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.26	[U]	0.26	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.80	[U]	0.80	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<1.2	[U]	1.2	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.33	[U]	0.33	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	0.74	M,J,R	0.42	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.49	[U]	0.49	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.72	[U]	0.72	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.29	[U]	0.29	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	<0.027	[U]	0.027	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	42.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	36.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	61.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	57.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	59.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	55.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	68.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	47.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	48.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	53.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.79	[U]	0.79	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<2.3	[U]	2.3	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	46.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	44.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	48.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	50.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.15	[U]	0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.12	M,U	0.12	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	0.140	M,J,R	0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	0.143	M,J	0.077	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.150	M,J,R	0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.967	M,J	0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDD	2.94	[J]	0.077	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,7,8-TCDF	<0.15	[U]	0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8-PeCDF	0.086	M,J,B	0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.042	[U]	0.042	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.068	[U]	0.068	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	0.082	M,J,R	0.073	pg/g	22-JAN-20	27-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.099	[U]	0.099	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.130	M,J,R	0.091	pg/g	22-JAN-20	27-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.370	M,J,R	0.041	pg/g	22-JAN-20	27-JAN-20	R4982112

* 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
L2387288-22 19-E2-NG-CH-049							
Sampled By: Client on 10-OCT-19 @ 16:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,4,7,8,9-HpCDF	0.065	M,J,R	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
OCDF	1.31	[J]	0.076	pg/g	22-JAN-20	27-JAN-20	R4982112
Total-TCDD	0.39		0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDD # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-PeCDD	1.09		0.12	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HxCDD	1.77		0.077	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDD # Homologues	3				22-JAN-20	27-JAN-20	R4982112
Total-HpCDD	2.42		0.058	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-TCDF	0.25		0.15	pg/g	22-JAN-20	27-JAN-20	R4982112
Total TCDF # Homologues	1				22-JAN-20	27-JAN-20	R4982112
Total-PeCDF	0.213		0.052	pg/g	22-JAN-20	27-JAN-20	R4982112
Total PeCDF # Homologues	2				22-JAN-20	27-JAN-20	R4982112
Total-HxCDF	<0.099	[U]	0.099	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HxCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Total-HpCDF	<0.050	[U]	0.050	pg/g	22-JAN-20	27-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	74.0		25-164	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	89.0		25-181	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	78.0		32-141	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	79.0		23-140	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-OCDD	70.0		17-157	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	74.0		24-169	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	83.0		21-192	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	85.0		21-178	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	77.0		26-152	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	75.0		26-123	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	59.0		29-147	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	70.0		28-136	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	77.0		28-143	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	78.0		26-138	%	22-JAN-20	27-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	78.0		31-197	%	22-JAN-20	27-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.0278			pg/g	22-JAN-20	27-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.240			pg/g	22-JAN-20	27-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.397			pg/g	22-JAN-20	27-JAN-20	R4982112
L2387288-23 19-E2-FC-CH-051							
Sampled By: Client on 10-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	37.9		0.10	%	22-JAN-20	23-JAN-20	R4976647
% Moisture	35.3		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	436	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Total PCB	<0.016		0.016	ng/g	21-JAN-20	28-JAN-20	R4988567
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	1030		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							

* 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
L2387288-23 19-E2-FC-CH-051							
Sampled By: Client on 10-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	3.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	43		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	1.24		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	18.5		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	1260		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	3.82		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	0.472		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	0.24		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	3830		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	4860		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	0.095		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	19.1		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<0.80	[U]	0.80	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	32.0	G	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: 13C6-Pentachlorophenol has low recovery.							
OC Pesticides by Method 1699							
alpha-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
beta-BHC	<0.017	[U]	0.017	ng/g	21-JAN-20	11-FEB-20	R5011480
delta-BHC	<0.017	[U]	0.017	ng/g	21-JAN-20	11-FEB-20	R5011480
gamma-BHC	<0.017	[U]	0.017	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor	0.00130	M,J,R	0.00053	ng/g	21-JAN-20	11-FEB-20	R5011480
Aldrin	<0.0021	[U]	0.0021	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide	<0.0024	[U]	0.0024	ng/g	21-JAN-20	11-FEB-20	R5011480
trans-Chlordane	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
cis-Chlordane	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
Dieldrin	<0.0046	M,U	0.0046	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin	0.0071	M,J,R	0.0058	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin Aldehyde	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan I	<0.015	[U]	0.015	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan II	<0.029	[U]	0.029	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan Sulfate	<0.0035	[U]	0.0035	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDE	<0.0088	[U]	0.0088	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDD	<0.0041	[U]	0.0041	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDT	<0.013	[U]	0.013	ng/g	21-JAN-20	11-FEB-20	R5011480
Methoxychlor	<0.0039	[U]	0.0039	ng/g	21-JAN-20	11-FEB-20	R5011480
Mirex	0.00110	M,J,R	0.00029	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	72.0		16-129	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	71.0		5-120	%	21-JAN-20	11-FEB-20	R5011480

* 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
L2387288-23 19-E2-FC-CH-051							
Sampled By: Client on 10-OCT-19 @ 16:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: trans-Nonachlor, 13C10-	93.0		14-136	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	97.0		40-151	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endrin, 13C12-	104.0		35-155	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	89.0		5-122	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	110.0		21-125	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	115.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Mirex, 13C10-	99.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	111.0		5-150	%	21-JAN-20	11-FEB-20	R5011480
Endrin ketone	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide A	<0.018	[U]	0.018	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	78.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	118.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	89.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	93.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.023	[U]	0.023	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,7,8-PeCDD	<0.010	[U]	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,7,8-HxCDD	<0.0098	[U]	0.0098	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,6,7,8-HxCDD	<0.010	[U]	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,7,8,9-HxCDD	0.0110	M,J,R	0.0099	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDD	0.053	[J]	0.011	pg/g	22-JAN-20	28-JAN-20	R4982112
OCDD	0.239	M,J,B	0.011	pg/g	22-JAN-20	28-JAN-20	R4982112
2,3,7,8-TCDF	<0.017	M,U	0.017	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,7,8-PeCDF	<0.0095	[U]	0.0095	pg/g	22-JAN-20	28-JAN-20	R4982112
2,3,4,7,8-PeCDF	<0.0073	[U]	0.0073	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,7,8-HxCDF	<0.0082	[U]	0.0082	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,6,7,8-HxCDF	<0.0079	M,U	0.0079	pg/g	22-JAN-20	28-JAN-20	R4982112
2,3,4,6,7,8-HxCDF	<0.0078	M,U	0.0078	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,7,8,9-HxCDF	0.028	M,J,R	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,6,7,8-HpCDF	0.0390	J,R	0.0074	pg/g	22-JAN-20	28-JAN-20	R4982112
1,2,3,4,7,8,9-HpCDF	<0.0088	[U]	0.0088	pg/g	22-JAN-20	28-JAN-20	R4982112
OCDF	0.209	M,J,B	0.012	pg/g	22-JAN-20	28-JAN-20	R4982112
Total-TCDD	<0.023	[U]	0.023	pg/g	22-JAN-20	28-JAN-20	R4982112
Total TCDD # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-PeCDD	<0.010	[U]	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
Total PeCDD # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-HxCDD	<0.010	[U]	0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
Total HxCDD # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-HpCDD	0.077		0.011	pg/g	22-JAN-20	28-JAN-20	R4982112
Total HpCDD # Homologues	2				22-JAN-20	28-JAN-20	R4982112
Total-TCDF	<0.017	[U]	0.017	pg/g	22-JAN-20	28-JAN-20	R4982112
Total TCDF # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-PeCDF	<0.0095	[U]	0.0095	pg/g	22-JAN-20	28-JAN-20	R4982112
Total PeCDF # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Total-HxCDF	0.013		0.010	pg/g	22-JAN-20	28-JAN-20	R4982112
Total HxCDF # Homologues	1				22-JAN-20	28-JAN-20	R4982112
Total-HpCDF	<0.0088	[U]	0.0088	pg/g	22-JAN-20	28-JAN-20	R4982112
Total HpCDF # Homologues	0				22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDD	75.0		25-164	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDD	86.0		25-181	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	83.0		32-141	%	22-JAN-20	28-JAN-20	R4982112

* 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
L2387288-23 19-E2-FC-CH-051							
Sampled By: Client on 10-OCT-19 @ 16:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	78.0		28-130	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	82.0		23-140	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-OCDD	89.0		17-157	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-2,3,7,8-TCDF	74.0		24-169	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8-PeCDF	79.0		21-192	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-2,3,4,7,8-PeCDF	83.0		21-178	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	79.0		26-152	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	77.0		26-123	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	78.0		29-147	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	73.0		28-136	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	80.0		28-143	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	86.0		26-138	%	22-JAN-20	28-JAN-20	R4982112
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	80.0		31-197	%	22-JAN-20	28-JAN-20	R4982112
Lower Bound PCDD/F TEQ (WHO 2005)	0.000659			pg/g	22-JAN-20	28-JAN-20	R4982112
Mid Point PCDD/F TEQ (WHO 2005)	0.0258			pg/g	22-JAN-20	28-JAN-20	R4982112
Upper Bound PCDD/F TEQ (WHO 2005)	0.0466			pg/g	22-JAN-20	28-JAN-20	R4982112
L2387288-24 19-E5-SS-CH-053							
Sampled By: Client on 09-OCT-19 @ 10:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	15.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.17		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0295		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	14.6		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	13700		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.09		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	58.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.50		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	7.0		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.317		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	6970		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	20.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	7.02		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	9.73		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	17000		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	12.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	5410		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	316		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.51		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	17.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	332		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	1500		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	53		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	14.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.172		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	128		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	32.6		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-24 19-E5-SS-CH-053							
Sampled By: Client on 09-OCT-19 @ 10:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Zinc (Zn)	48.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	1.2		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.246	M,J	0.074	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.150	M,J	0.056	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.18	M,J	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.25	M,J,R	0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.34	M,J,R	0.10	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	4.32		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	21.1		0.21	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.228	M,J	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.187	M,J	0.070	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.313	M,J	0.060	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.300	M,J,B	0.084	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.201	M,J	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.270	J,R	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.14	M,J	0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.58	[J]	0.058	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.110	M,J,R	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	2.00	[J]	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.18		0.074	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	2.14		0.056	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	2.11		0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	3				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	8.62		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	2.90		0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	4.70		0.070	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	1.46		0.13	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	2.17		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	73.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	69.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	69.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	78.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	66.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	40.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	71.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	72.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	68.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	68.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	77.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	72.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	65.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	68.0		26-138	%	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-24 19-E5-SS-CH-053 Sampled By: Client on 09-OCT-19 @ 10:00 Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	77.0		35-197	%	21-JAN-20	24-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.666			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.753			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.753			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-25 19-E5-NG-CH-055 Sampled By: Client on 09-OCT-19 @ 10:30 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	69.2		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	58.4		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	3480	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0250		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	0.0069		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2810		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.72		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	59.8		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.079		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	21.7		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	10.1		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.275		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	8070		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.436		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.074		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	5.93		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	106		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	1.57		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2440		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	176		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	8.00		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.34		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	1540		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	9030		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	27		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	12.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0027		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.20		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	29.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.056	[U]	0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.071	M,J,B	0.038	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.061	M,J,R	0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.120	M,J,R	0.051	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.081	M,J,R	0.052	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.46	[J]	0.037	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	4.73	[J]	0.052	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	0.118	M,J	0.058	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.139	[J]	0.037	pg/g	23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-25 19-E5-NG-CH-055 Sampled By: Client on 09-OCT-19 @ 10:30 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
2,3,4,7,8-PeCDF	0.110	J,R	0.027	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.102	M,J	0.039	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.089	M,J	0.042	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.128	[J]	0.037	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.094	M,J,R	0.052	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.513	[J]	0.028	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.043	M,J,R	0.032	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	0.807	[J]	0.039	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	1.08		0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	1.23		0.038	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	3				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	1.18		0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-HpCDD	3.53		0.037	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	2.53		0.058	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	11				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	1.69		0.037	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.930		0.052	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	0.678		0.032	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	68.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	67.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	68.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	69.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	67.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	69.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	72.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	69.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	62.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	76.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.140			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.237			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.265			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-26 19-E5-SB-CH-057 Sampled By: Client on 09-OCT-19 @ 10:15 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	57.8		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	55.7		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	62	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346

* 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
L2387288-26 19-E5-SB-CH-057							
Sampled By: Client on 09-OCT-19 @ 10:15							
Matrix: Plant Tissue							
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4220		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.469		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	39.4		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0361		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2790		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.103		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	14.9		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	66.9		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3270		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	24.9		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	20.8		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.23		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7090		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	20500		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	2.12		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	0.0036		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	43.8		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.25	[U]	0.25	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.14	[U]	0.14	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.13	[U]	0.13	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.12	[U]	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.12	[U]	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.190	M,J,R	0.097	pg/g	23-JAN-20	30-JAN-20	R4985267
OCDD	0.28	M,J,R	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,7,8-TCDF	0.19	M,J	0.15	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.25	M,J	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.18	M,J,R	0.10	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.20	M,J	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	<0.16	[U]	0.16	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.471	M,J	0.081	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.097	[U]	0.097	pg/g	23-JAN-20	30-JAN-20	R4985267
OCDF	0.62	M,J	0.13	pg/g	23-JAN-20	30-JAN-20	R4985267
Total-TCDD	<0.25	[U]	0.25	pg/g	23-JAN-20	30-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Total-PeCDD	<0.14	[U]	0.14	pg/g	23-JAN-20	30-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Total-HxCDD	<0.13	[U]	0.13	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	30-JAN-20	R4985267

* 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
L2387288-26 19-E5-SB-CH-057							
Sampled By: Client on 09-OCT-19 @ 10:15							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HpCDD	0.156		0.097	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HpCDD # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-TCDF	0.40		0.15	pg/g	23-JAN-20	30-JAN-20	R4985267
Total TCDF # Homologues	2				23-JAN-20	30-JAN-20	R4985267
Total-PeCDF	0.94		0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
Total PeCDF # Homologues	3				23-JAN-20	30-JAN-20	R4985267
Total-HxCDF	0.20		0.16	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-HpCDF	0.471		0.097	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HpCDF # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	56.0		25-164	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	60.0		25-181	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	64.0		32-141	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	60.0		28-130	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	61.0		23-140	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-OCDD	54.0		17-157	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	64.0		24-169	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	65.0		21-192	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	61.0		21-178	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	70.0		26-152	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	64.0		29-147	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	57.0		28-136	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	67.0		26-138	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	73.0		31-197	%	23-JAN-20	30-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0517			pg/g	23-JAN-20	30-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.341			pg/g	23-JAN-20	30-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.574			pg/g	23-JAN-20	30-JAN-20	R4985267
L2387288-27 19-E6-SS-CH-059							
Sampled By: Client on 14-AUG-19 @ 12:30							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	16.3		0.10	%	21-JAN-20	22-JAN-20	R4974811
Total PCB	2.01		0.012	ng/g	22-JAN-20	28-JAN-20	R4996239
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.58		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0548		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	15.5		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	16000		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.90		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	73.7		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.65		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	11.7		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.449		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	20200		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	25.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	7.88		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	15.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-27 19-E6-SS-CH-059							
Sampled By: Client on 14-AUG-19 @ 12:30							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Iron (Fe)	19500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	10200		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	378		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	2.33		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	23.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	438		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	2290		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	80		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	36.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.221		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	143		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	35.6		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	63.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.1		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
OC Pesticides by Method 1699							
alpha-BHC	<0.0055	[U]	0.0055	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.0074	[U]	0.0074	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.0075	M,U	0.0075	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	0.0400	J,R	0.0071	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00240	M,J,R	0.00031	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.00076	[U]	0.00076	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0167	[J]	0.00074	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	0.0097	M,J	0.0074	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	0.0120	M,J,R	0.0071	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0230	M,J	0.0025	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.0064	M,U	0.0064	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.0049	[U]	0.0049	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0051	[U]	0.0051	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.0091	[U]	0.0091	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0011	[U]	0.0011	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.306		0.0030	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0300	[J]	0.0025	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.265		0.0075	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	0.0096	M,J,R	0.0029	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	0.00859	[J]	0.00031	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	82.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	81.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	91.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	89.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	93.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	98.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	99.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	96.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0057	[U]	0.0057	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	109.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	84.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	105.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	98.0		11-120	%	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-27 19-E6-SS-CH-059 Sampled By: Client on 14-AUG-19 @ 12:30 Matrix: Soil							
OC Pesticides by Method 1699							
Surrogate: delta-BHC, 13C6-	99.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.417	[J]	0.091	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.263	[J]	0.086	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.246	[J]	0.096	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.507	M,J	0.089	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.516	M,J	0.092	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	8.46		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	57.8		0.26	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.295	M,J	0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.386	M,J	0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.484	[J]	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.66	M,J	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.42	M,J,R	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.51	[J]	0.11	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.16	M,J	0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	3.22		0.081	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.213	[J]	0.094	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	5.15	[J]	0.090	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	3.63		0.091	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	9				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	3.73		0.086	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	7.89		0.096	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	17.3		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	6.17		0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	12				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	6.59		0.077	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	11				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	4.46		0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	5.32		0.094	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	4				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	73.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	65.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	75.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	68.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	43.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	71.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	71.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	75.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	71.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	64.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	64.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	72.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	73.0		35-197	%	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-27 19-E6-SS-CH-059 Sampled By: Client on 14-AUG-19 @ 12:30 Matrix: Soil							
Dioxins and Furans HR 1613B							
Lower Bound PCDD/F TEQ (WHO 2005)	1.26			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.31			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.31			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-28 19-E6-NG-CH-061 Sampled By: Client on 14-AUG-19 @ 12:45 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	50.6		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	51.7		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	8770	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0998		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Total PCB	0.860		0.036	ng/g	21-JAN-20	28-JAN-20	R4988567
Silver (Ag)-Total	0.0261		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2270		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.35		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	40.8		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.202		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	6.33		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	15.9		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.981		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5730		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.457		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.099		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	3.82		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	84.9		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	6.94		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1720		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	64.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	9.90		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.64		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	625		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	12200		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	79		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	33.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0178		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.15		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	29.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
OC Pesticides by Method 1699							
alpha-BHC	<0.34	[U]	0.34	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.49	[U]	0.49	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.47	[U]	0.47	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.45	[U]	0.45	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.028	[U]	0.028	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.079	[U]	0.079	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.11	[U]	0.11	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.32	[U]	0.32	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.30	[U]	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480

* 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
L2387288-28 19-E6-NG-CH-061							
Sampled By: Client on 14-AUG-19 @ 12:45							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Dieldrin	<0.31	M,U	0.31	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.43	[U]	0.43	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.19	[U]	0.19	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.46	[U]	0.46	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<1.1	[U]	1.1	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.25	[U]	0.25	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	0.35	M,J,R	0.32	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.34	[U]	0.34	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.37	[U]	0.37	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.26	[U]	0.26	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	<0.017	[U]	0.017	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	49.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	38.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	63.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	61.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	59.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	55.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	72.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	52.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	51.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	58.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.59	[U]	0.59	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.81	[U]	0.81	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	51.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	48.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	52.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	57.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.090	[U]	0.090	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.089	M,J,B	0.050	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.069	M,J,R	0.061	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.084	M,J,R	0.062	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.095	M,J	0.061	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.40	[J]	0.051	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	7.24	[J]	0.046	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	<0.078	M,U	0.078	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.074	M,J	0.040	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.031	[U]	0.031	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.058	[U]	0.058	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.058	[U]	0.058	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.078	M,U	0.078	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	<0.076	[U]	0.076	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.673	[J]	0.031	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.036	[U]	0.036	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	1.92	[J]	0.049	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	<0.090	[U]	0.090	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	0.323		0.050	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	2.18		0.062	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	3				23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-28 19-E6-NG-CH-061							
Sampled By: Client on 14-AUG-19 @ 12:45							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HpCDD	3.62		0.051	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	0.092		0.078	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	0.074		0.040	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.097		0.078	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	1.34		0.036	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	90.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	77.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	82.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	75.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	77.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	82.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	87.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	80.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	76.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	76.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	80.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	88.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	84.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.124			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.206			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.274			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-29 19-E7-SS-CH-303							
Sampled By: Client on 09-OCT-19 @ 13:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	17.9		0.10	%	21-JAN-20	22-JAN-20	R4974811
Total PCB	0.529		0.012	ng/g	22-JAN-20	28-JAN-20	R4996239
Chloride (Cl)	14.1		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.85		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0355		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	17.7		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	19400		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	6.35		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	89.7		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.77		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	10.7		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.332		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	5770		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	26.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	9.88		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	14.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-29 19-E7-SS-CH-303							
Sampled By: Client on 09-OCT-19 @ 13:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Iron (Fe)	21800		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	6300		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	365		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.68		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	25.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	537		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	2500		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	60		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	18.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.231		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	142		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	40.1		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	55.5		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	1.9		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
OC Pesticides by Method 1699							
alpha-BHC	<0.0081	[U]	0.0081	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.010	[U]	0.010	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00120	M,J,R	0.00046	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	0.223		0.00071	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0144	[J]	0.00093	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	<0.0052	[U]	0.0052	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	<0.0050	[U]	0.0050	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	2.13		0.0063	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.019	M,U	0.019	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0068	[U]	0.0068	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.010	M,U	0.010	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0020	[U]	0.0020	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.198		0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0058	M,J	0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.210		0.0075	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	0.0077	M,J,R	0.0031	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00045	[U]	0.00045	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	64.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	72.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	79.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	71.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	79.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	85.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	77.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	85.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0071	[U]	0.0071	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	86.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	67.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	81.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	75.0		11-120	%	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-29 19-E7-SS-CH-303 Sampled By: Client on 09-OCT-19 @ 13:00 Matrix: Soil							
OC Pesticides by Method 1699							
Surrogate: delta-BHC, 13C6-	75.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.211	M,J	0.075	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.213	[J]	0.061	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.227	[J]	0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.493	M,J	0.076	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.451	M,J	0.080	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	10.4		0.18	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDD	73.2		0.30	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,7,8-TCDF	0.478	[J]	0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.21	M,J,R	0.14	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.60	[J]	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.382	M,J,B	0.067	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.309	M,J	0.065	pg/g	21-JAN-20	24-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.588	[J]	0.069	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.130	M,J,R	0.098	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	3.22		0.094	pg/g	21-JAN-20	24-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.18	M,J,R	0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
OCDF	6.12	M	0.15	pg/g	21-JAN-20	24-JAN-20	R4981388
Total-TCDD	1.80		0.075	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-PeCDD	1.98		0.061	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	24-JAN-20	R4981388
Total-HxCDD	6.65		0.087	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDD # Homologues	6				21-JAN-20	24-JAN-20	R4981388
Total-HpCDD	19.8		0.18	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Total-TCDF	5.86		0.083	pg/g	21-JAN-20	24-JAN-20	R4981388
Total TCDF # Homologues	8				21-JAN-20	24-JAN-20	R4981388
Total-PeCDF	7.50		0.14	pg/g	21-JAN-20	24-JAN-20	R4981388
Total PeCDF # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HxCDF	5.54		0.098	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	24-JAN-20	R4981388
Total-HpCDF	6.34		0.12	pg/g	21-JAN-20	24-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	68.0		25-164	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	67.0		25-181	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	60.0		32-141	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	72.0		28-130	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	62.0		23-140	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-OCDD	33.0		17-157	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	66.0		24-169	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	68.0		24-185	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	64.0		21-178	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	61.0		26-152	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	69.0		26-123	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	65.0		29-147	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	59.0		28-136	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	58.0		28-143	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	63.0		26-138	%	21-JAN-20	24-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	73.0		35-197	%	21-JAN-20	24-JAN-20	R4981388

* 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
L2387288-29 19-E7-SS-CH-303 Sampled By: Client on 09-OCT-19 @ 13:00 Matrix: Soil							
Dioxins and Furans HR 1613B							
Lower Bound PCDD/F TEQ (WHO 2005)	1.06			pg/g	21-JAN-20	24-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	24-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	24-JAN-20	R4981388
L2387288-30 19-E7-NG-CH-305 Sampled By: Client on 09-OCT-19 @ 13:30 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	69.3		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	72.0		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	11500	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0157		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Total PCB	<0.060		0.060	ng/g	21-JAN-20	28-JAN-20	R4988567
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	3800		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.32		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	50.4		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.036		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	10.8		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	9.1		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0661		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5260		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.391		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.038		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	6.13		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	79.9		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.247		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	3080		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	17.4		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	3.76		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.56		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3220		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	23000		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	24		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	13.8		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0022		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.14		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	19.9		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
OC Pesticides by Method 1699							
alpha-BHC	<0.37	[U]	0.37	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.51	[U]	0.51	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.46	[U]	0.46	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.42	[U]	0.42	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.037	[U]	0.037	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.054	[U]	0.054	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.046	[U]	0.046	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.29	[U]	0.29	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.28	[U]	0.28	ng/g	21-JAN-20	12-FEB-20	R5011480

* 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
L2387288-30 19-E7-NG-CH-305							
Sampled By: Client on 09-OCT-19 @ 13:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Dieldrin	0.21	M,J	0.11	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.19	[U]	0.19	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.30	[U]	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.23	[U]	0.23	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.65	[U]	0.65	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.18	[U]	0.18	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	<0.24	M,U	0.24	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.17	[U]	0.17	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.48	[U]	0.48	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.20	[U]	0.20	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	0.027	M,J,R	0.016	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	40.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	32.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	60.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	61.0	M	40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	52.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	56.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	69.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	47.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	46.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Endrin Ketone	<0.55	[U]	0.55	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.35	[U]	0.35	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	54.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	44.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	44.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	46.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	50.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.068	[U]	0.068	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.063	M,J,B	0.040	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.049	M,J,R	0.044	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.116	M,J	0.044	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.102	M,J	0.044	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.964	[J]	0.033	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	3.78	[J]	0.045	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	0.151	M,J	0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.088	M,J	0.030	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.056	M,J	0.023	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.052	M,J,R	0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.062	M,J,R	0.036	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.065	M,J	0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.062	M,J,R	0.046	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.353	[J]	0.023	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.041	M,J,R	0.026	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	0.713	[J]	0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	1.02		0.068	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	1.32		0.040	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	1.58		0.044	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	4				23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-30 19-E7-NG-CH-305							
Sampled By: Client on 09-OCT-19 @ 13:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HpCDD	2.51		0.033	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	1.36		0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	9				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	0.662		0.030	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	4				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.595		0.046	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	3				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	0.502		0.026	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	83.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	73.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	73.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	79.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	77.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	80.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	74.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	75.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	71.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	75.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	85.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	77.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.140			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.197			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.231			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-31 19-E7-SB-CH-300							
Sampled By: Client on 01-OCT-19 @ 12:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	16.0		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	14.6		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	66	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Total PCB	0.330		0.010	ng/g	21-JAN-20	28-JAN-20	R4988567
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	3520		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.901		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	33.2		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0587		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2630		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-31 19-E7-SB-CH-300							
Sampled By: Client on 01-OCT-19 @ 12:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Cobalt (Co)-Total	0.138		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	10.1		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	57.1		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3070		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	25.9		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	16.6		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.05		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	6640		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	20100		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	3.93		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	30.7		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<2.9	[U]	2.9	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	5.0	G	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: 13C6-Pentachlorophenol has low recovery.							
OC Pesticides by Method 1699							
alpha-BHC	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
beta-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
delta-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	11-FEB-20	R5011480
gamma-BHC	<0.013	[U]	0.013	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor	0.00200	M,J,R	0.00090	ng/g	21-JAN-20	11-FEB-20	R5011480
Aldrin	<0.0013	[U]	0.0013	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide	0.0195	M,J	0.0021	ng/g	21-JAN-20	11-FEB-20	R5011480
trans-Chlordane	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
cis-Chlordane	<0.011	[U]	0.011	ng/g	21-JAN-20	11-FEB-20	R5011480
Dieldrin	0.0853	M,J	0.0076	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin	<0.0095	[U]	0.0095	ng/g	21-JAN-20	11-FEB-20	R5011480
Endrin Aldehyde	<0.0037	[U]	0.0037	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan I	<0.0077	[U]	0.0077	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan II	<0.015	[U]	0.015	ng/g	21-JAN-20	11-FEB-20	R5011480
Endosulfan Sulfate	<0.0049	[U]	0.0049	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDE	<0.0083	[U]	0.0083	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDD	<0.0068	[U]	0.0068	ng/g	21-JAN-20	11-FEB-20	R5011480
4,4-DDT	<0.012	[U]	0.012	ng/g	21-JAN-20	11-FEB-20	R5011480
Methoxychlor	<0.0059	[U]	0.0059	ng/g	21-JAN-20	11-FEB-20	R5011480
Mirex	0.00140	M,J,R	0.00064	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	55.0		16-129	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	53.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	67.0		14-136	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	70.0		40-151	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endrin, 13C12-	74.0		35-155	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	65.0		5-122	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	82.0		21-125	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	74.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Mirex, 13C10-	53.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	74.0		5-150	%	21-JAN-20	11-FEB-20	R5011480

* 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
L2387288-31 19-E7-SB-CH-300							
Sampled By: Client on 01-OCT-19 @ 12:30							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Endrin ketone	<0.013	[U]	0.013	ng/g	21-JAN-20	11-FEB-20	R5011480
Heptachlor Epoxide A	<0.016	[U]	0.016	ng/g	21-JAN-20	11-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	61.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	61.0		5-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	69.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	71.0		11-120	%	21-JAN-20	11-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.020	[U]	0.020	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.0080	[U]	0.0080	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.0077	[U]	0.0077	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.0146	M,J	0.0078	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.023	M,J,B	0.011	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	0.091	[J]	0.015	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.0140	M,J	0.0092	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0068	[U]	0.0068	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.0076	M,U	0.0076	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.0079	[U]	0.0079	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.0084	[U]	0.0084	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.018	M,J	0.011	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.0140	M,J,R	0.0083	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	0.099	[J]	0.012	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	<0.020	[U]	0.020	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	0.0146		0.0080	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HpCDD	0.040		0.011	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	0.0140		0.0092	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.018		0.011	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	63.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	70.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	69.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	62.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	63.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	67.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	71.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	69.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	70.0		26-123	%	23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-31 19-E7-SB-CH-300							
Sampled By: Client on 01-OCT-19 @ 12:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	63.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	69.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	69.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	64.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00392			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0246			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0452			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-32 19-S1-SS-CH-063							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	18.0		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	5.3		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.43		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0411		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	17.9		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	22300		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	7.70		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	115		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.95		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	16.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.464		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	15500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	32.2		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	13.0		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	16.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	24900		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	14.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	11000		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	766		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.34		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	33.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	619		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	3280		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	88		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	24.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.255		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	193		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	48.0		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	63.7		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.8		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.525	M,J	0.062	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.254	M,J	0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.185	M,J	0.084	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.290	M,J,R	0.080	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.345	M,J	0.081	pg/g	21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-32 19-S1-SS-CH-063							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
1,2,3,4,6,7,8-HpCDD	6.62		0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	36.7		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.366	[J]	0.098	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.230	M,J	0.063	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.421	M,J	0.052	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.336	M,J,B	0.042	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.207	M,J	0.041	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.386	[J]	0.043	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.089	M,J	0.061	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.64	[J]	0.067	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.153	M,J	0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	2.13	[J]	0.072	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	2.90		0.062	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	8				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	1.94		0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	5.58		0.084	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	11.6		0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	5.14		0.098	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	10				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	5.13		0.063	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	8				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	2.89		0.061	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	2.83		0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	76.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	67.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	77.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	71.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	45.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	70.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	76.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	64.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	63.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	69.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	82.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.20			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.23			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.23			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-33 19-S1-SD-CH-065							
Sampled By: Client on 10-OCT-19 @ 11:15							
Matrix: Sediment							
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
L2387288-33 19-S1-SD-CH-065							
Sampled By: Client on 10-OCT-19 @ 11:15							
Matrix: Sediment							
Chloride (Cl)	16.9		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.97		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0411		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	29.4		0.25	%		03-FEB-20	R4987031
Metals in Soil by CRC ICPMS							
Aluminum (Al)	15100		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	4.03		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	70.4		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.68		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	20.3		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.373		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	77000		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	28.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	8.45		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	17.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	19200		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	12.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	25800		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	247		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	2.76		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	26.2		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	569		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	3050		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	152		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	64.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.251		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	180		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	33.8		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	56.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.7		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
L2387288-34 19-S1-NG-CH-069							
Sampled By: Client on 10-OCT-19 @ 11:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	52.2		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	52.5		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	5500	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0164		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	1950		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	1.98		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	158		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.062		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	11.0		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	9.2		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.127		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5100		20	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-34 19-S1-NG-CH-069							
Sampled By: Client on 10-OCT-19 @ 11:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Chromium (Cr)-Total	0.431		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.082		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	4.42		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	186		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.393		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2170		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	20.4		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	3.17		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.68		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2700		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	12100		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	29		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	8.24		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0031		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.38		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	20.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.070	[U]	0.070	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.132	M,J,B	0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.088	M,J,R	0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.188	[J]	0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.166	M,J	0.056	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.66	[J]	0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDD	4.15	[J]	0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,7,8-TCDF	0.140	M,J	0.059	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.112	M,J	0.038	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.056	M,J	0.028	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.087	M,J	0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.061	M,J,R	0.055	pg/g	23-JAN-20	28-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.065	M,J,R	0.053	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.069	J,R	0.068	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.334	[J]	0.026	pg/g	23-JAN-20	28-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.050	M,J,R	0.031	pg/g	23-JAN-20	28-JAN-20	R4985267
OCDF	0.704	[J]	0.046	pg/g	23-JAN-20	28-JAN-20	R4985267
Total-TCDD	0.449		0.070	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDD # Homologues	3				23-JAN-20	28-JAN-20	R4985267
Total-PeCDD	0.833		0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-HxCDD	4.22		0.057	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDD # Homologues	5				23-JAN-20	28-JAN-20	R4985267
Total-HpCDD	4.60		0.035	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	28-JAN-20	R4985267
Total-TCDF	1.10		0.059	pg/g	23-JAN-20	28-JAN-20	R4985267
Total TCDF # Homologues	6				23-JAN-20	28-JAN-20	R4985267
Total-PeCDF	0.923		0.038	pg/g	23-JAN-20	28-JAN-20	R4985267
Total PeCDF # Homologues	6				23-JAN-20	28-JAN-20	R4985267
Total-HxCDF	0.564		0.068	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HxCDF # Homologues	4				23-JAN-20	28-JAN-20	R4985267
Total-HpCDF	0.368		0.031	pg/g	23-JAN-20	28-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	28-JAN-20	R4985267

* 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
L2387288-34 19-S1-NG-CH-069							
Sampled By: Client on 10-OCT-19 @ 11:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,7,8-TCDD	94.0		25-164	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	110.0		25-181	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	100.0		32-141	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	90.0		28-130	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	100.0		23-140	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-OCDD	83.0		17-157	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	93.0		24-169	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	101.0		21-192	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	105.0		21-178	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	97.0		26-152	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	94.0		26-123	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	94.0		29-147	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	93.0		28-136	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	91.0		28-143	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	100.0		26-138	%	23-JAN-20	28-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	101.0		31-197	%	23-JAN-20	28-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.232			pg/g	23-JAN-20	28-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.295			pg/g	23-JAN-20	28-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.330			pg/g	23-JAN-20	28-JAN-20	R4985267
L2387288-35 19-S1-SB-CH-071							
Sampled By: Client on 10-OCT-19 @ 11:45							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	19.8		0.50	%		10-FEB-20	R4993331
Chloride (Cl)	66	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	13-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	3900		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.728		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	34.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0537		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2640		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.171		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	12.3		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	68.3		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	2850		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	25.9		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	9.63		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.80		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7330		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	21000		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	2.35		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-35 19-S1-SB-CH-071							
Sampled By: Client on 10-OCT-19 @ 11:45							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	34.9		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.0090	[U]	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.0096	M,U	0.0096	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.0087	M,U	0.0087	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.0120	M,J,R	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.0427	M,J,B	0.0083	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	0.194	[J]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	<0.013	[U]	0.013	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.015	M,J,R	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0078	M,U	0.0078	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.0100	M,J,R	0.0073	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.0081	M,J,R	0.0074	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.0107	M,J	0.0070	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.0160	M,J,R	0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.0240	M,J	0.0086	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.0110	M,J,R	0.0094	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.0948	[J]	0.0087	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	<0.0090	[U]	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	<0.0096	[U]	0.0096	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	0.0427		0.0083	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	<0.013	[U]	0.013	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	0.0107		0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	0.0240		0.0094	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	67.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	79.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	68.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	70.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	70.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	66.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	74.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	64.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	63.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	67.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	63.0		28-136	%	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-35 19-S1-SB-CH-071 Sampled By: Client on 10-OCT-19 @ 11:45 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	68.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	73.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00182			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0232			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0395			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-36 19-S2-SS-CH-073 Sampled By: Client on 10-OCT-19 @ 10:00 Matrix: Soil							
Miscellaneous Parameters							
% Moisture	18.0		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.05		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0443		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	17.9		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	22900		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	7.18		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	110		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.94		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	12.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.417		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	7730		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	32.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	13.3		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	15.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	26600		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	15.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	7360		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	585		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	2.16		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	28.4		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	497		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	3000		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	68		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	22.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.259		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	155		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	45.6		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	66.4		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.6		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.39	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.192	[J]	0.055	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.21	M,J	0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.39	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.40	M,J,R	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	5.15		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	21.7		0.32	pg/g	21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-36 19-S2-SS-CH-073							
Sampled By: Client on 10-OCT-19 @ 10:00							
Matrix: Soil							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDF	0.37	M,J	0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.23	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.504	[J]	0.085	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.44	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.285	M,J	0.099	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.42	M,J	0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	<0.15	[U]	0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.94	[J]	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.22	M,J,R	0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	1.69	M,J	0.16	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	1.52		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	4				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	1.85		0.055	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	5.27		0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	9.95		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	5.89		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	10				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	6.50		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	3.49		0.15	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	2.70		0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	77.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	75.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	70.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	83.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	73.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	41.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	73.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	76.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	73.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	72.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	75.0		29-147	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	65.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	70.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	81.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.03			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.08			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-37 19-S2-NG-CH-075							
Sampled By: Client on 10-OCT-19 @ 10:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	60.7		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	56.8		0.50	%		07-FEB-20	R4992446

* 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
L2387288-37 19-S2-NG-CH-075							
Sampled By: Client on 10-OCT-19 @ 10:30							
Matrix: Plant Tissue							
Chloride (Cl)	5470	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0170		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	0.0053		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2270		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	3.40		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	154		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.076		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	40.3		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.5		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.150		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4570		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.494		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.064		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	7.17		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	189		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.739		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1770		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	17.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	1.83		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.35		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3380		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	16600		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	16.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	0.0036		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.37		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	17.2		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.054	[U]	0.054	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.055	M,J,R	0.027	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.072	J,B	0.034	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.115	[J]	0.034	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.092	M,J,R	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.14	[J]	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	4.13	[J]	0.032	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	0.091	M,J	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.061	M,J,R	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.052	M,J,R	0.026	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.054	M,J	0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	0.070	M,J	0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.073	M,J	0.035	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	<0.043	M,U	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.267	[J]	0.024	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.023	[U]	0.023	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.788	[J]	0.022	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	0.196		0.054	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	1.05		0.027	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	5				23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-37 19-S2-NG-CH-075							
Sampled By: Client on 10-OCT-19 @ 10:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total-HxCDD	2.42		0.034	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	4				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	2.97		0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	0.832		0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	7				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	0.523		0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	4				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	0.615		0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	6				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	0.420		0.024	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	80.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	71.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	74.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	72.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	69.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	74.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	69.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	70.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	65.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	78.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0631			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.174			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.203			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-38 19-S2-SB-CH-077							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	36.8		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	32.1		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	61	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	4380		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.16		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	35.5		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0369		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	3110		20	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-38 19-S2-SB-CH-077							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.161		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	12.5		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	82.8		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3320		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	31.6		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	7.98		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.53		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	8420		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	25200		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	3.39		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	38.2		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.025	[U]	0.025	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.040	M,J,R	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	0.193	[J]	0.021	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	<0.015	[U]	0.015	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.013	M,J,R	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0090	[U]	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.018	M,J	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.018	M,J,R	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.024	M,J,R	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.024	M,J,R	0.016	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.123	[J]	0.019	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	<0.025	[U]	0.025	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	<0.015	[U]	0.015	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	0.018		0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.016	[U]	0.016	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-38 19-S2-SB-CH-077							
Sampled By: Client on 10-OCT-19 @ 11:00							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-2,3,7,8-TCDD	65.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	72.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	70.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	66.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	66.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	67.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	70.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	70.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	70.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	69.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	78.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00191			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0287			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0525			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-39 19-S4-SS-CH-087							
Sampled By: Client on 09-OCT-19 @ 14:00							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	21.2		0.10	%	21-JAN-20	22-JAN-20	R4974811
Chloride (Cl)	8.8		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	3.87		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0450		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	20.9		0.25	%		11-FEB-20	R4994469
Metals in Soil by CRC ICPMS							
Aluminum (Al)	29600		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	5.19		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	122		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	1.17		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	20.1		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.280		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	10900		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	38.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	11.4		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	17.7		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	29600		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	15.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	9480		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	368		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	0.80		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	29.6		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	771		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	4430		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	81		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	33.7		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988

* 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
L2387288-39 19-S4-SS-CH-087							
Sampled By: Client on 09-OCT-19 @ 14:00							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Thallium (Tl)	0.247		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	122		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	49.7		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	77.8		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.1		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.244	M,J	0.060	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.316	M,J	0.065	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.328	M,J	0.061	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.682	M,J	0.056	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.679	M,J	0.058	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	13.7		0.17	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	73.7		0.25	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.520	M,J,R	0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.389	[J]	0.092	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.579	M,J	0.074	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.457	M,J	0.057	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.370	M,J	0.057	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.652	[J]	0.055	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.134	[J]	0.078	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	3.64		0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.29	[J]	0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	7.53		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	2.41		0.060	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	7				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	3.58		0.065	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	6				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	5.05		0.061	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	22.7		0.17	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	7.99		0.088	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	11				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	7.93		0.092	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	9				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	3.95		0.078	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	6				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	7.49		0.11	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	3				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	82.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	80.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	69.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	87.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	73.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	42.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	77.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	79.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	76.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	72.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	79.0		29-147	%	21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-39 19-S4-SS-CH-087 Sampled By: Client on 09-OCT-19 @ 14:00 Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	69.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	68.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	74.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	88.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	1.28			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	1.33			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	1.33			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-40 19-S4-SD-CH-089 Sampled By: Client on 09-OCT-19 @ 14:45 Matrix: Soil							
Miscellaneous Parameters							
Chloride (Cl)	27.1		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	4.32		0.20	mg/kg	03-FEB-20	11-FEB-20	R4994593
Mercury (Hg)	0.0366		0.0050	mg/kg	03-FEB-20	04-FEB-20	R4987948
Moisture	41.0		0.25	%		03-FEB-20	R4987031
Metals in Soil by CRC ICPMS							
Aluminum (Al)	24000		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Arsenic (As)	4.45		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Barium (Ba)	115		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Beryllium (Be)	0.95		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Boron (B)	25.7		5.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cadmium (Cd)	0.269		0.020	mg/kg	03-FEB-20	04-FEB-20	R4988988
Calcium (Ca)	73100		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Chromium (Cr)	35.9		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Cobalt (Co)	11.2		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Copper (Cu)	20.5		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Iron (Fe)	27100		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Lead (Pb)	12.2		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Magnesium (Mg)	24200		20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Manganese (Mn)	374		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Molybdenum (Mo)	1.25		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Nickel (Ni)	32.2		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Phosphorus (P)	803		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Potassium (K)	4500		100	mg/kg	03-FEB-20	04-FEB-20	R4988988
Silver (Ag)	<0.10		0.10	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sodium (Na)	173		50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Strontium (Sr)	96.8		0.50	mg/kg	03-FEB-20	04-FEB-20	R4988988
Sulfur (S)	<1000		1000	mg/kg	03-FEB-20	04-FEB-20	R4988988
Thallium (Tl)	0.250		0.050	mg/kg	03-FEB-20	04-FEB-20	R4988988
Titanium (Ti)	217		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Vanadium (V)	44.3		0.20	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zinc (Zn)	69.4		2.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
Zirconium (Zr)	3.1		1.0	mg/kg	03-FEB-20	04-FEB-20	R4988988
L2387288-41 19-S4-NG-CH-093 Sampled By: Client on 09-OCT-19 @ 14:30 Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	70.0		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	68.5		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	12500	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904

* 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
L2387288-41 19-S4-NG-CH-093							
Sampled By: Client on 09-OCT-19 @ 14:30							
Matrix: Plant Tissue							
Mercury (Hg)-Total	0.0102		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2650		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	2.12		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	101		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.032		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	5.88		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	4.9		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0674		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5350		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.290		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.059		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	5.03		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	120		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.108		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2720		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	28.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.17		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.81		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	4150		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	25100		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	9.51		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.21		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	18.4		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.19	[U]	0.19	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.18	[U]	0.18	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.11	[U]	0.11	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	1.02	[J]	0.092	pg/g	23-JAN-20	30-JAN-20	R4985267
OCDD	3.37	[J]	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,7,8-TCDF	<0.14	[U]	0.14	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.104	M,J	0.082	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.095	M,J,R	0.068	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.091	[U]	0.091	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.094	[U]	0.094	pg/g	23-JAN-20	30-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.10	[U]	0.10	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	<0.12	[U]	0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.230	M,J,R	0.074	pg/g	23-JAN-20	30-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.093	[U]	0.093	pg/g	23-JAN-20	30-JAN-20	R4985267
OCDF	0.808	M,J	0.096	pg/g	23-JAN-20	30-JAN-20	R4985267
Total-TCDD	<0.19	[U]	0.19	pg/g	23-JAN-20	30-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Total-PeCDD	0.56		0.18	pg/g	23-JAN-20	30-JAN-20	R4985267
Total PeCDD # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-HxCDD	1.53		0.11	pg/g	23-JAN-20	30-JAN-20	R4985267

* 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
L2387288-41 19-S4-NG-CH-093							
Sampled By: Client on 09-OCT-19 @ 14:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Total HxCDD # Homologues	2				23-JAN-20	30-JAN-20	R4985267
Total-HpCDD	2.54		0.092	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	30-JAN-20	R4985267
Total-TCDF	0.52		0.14	pg/g	23-JAN-20	30-JAN-20	R4985267
Total TCDF # Homologues	2				23-JAN-20	30-JAN-20	R4985267
Total-PeCDF	0.104		0.082	pg/g	23-JAN-20	30-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-HxCDF	0.33		0.12	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	30-JAN-20	R4985267
Total-HpCDF	<0.093	[U]	0.093	pg/g	23-JAN-20	30-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	69.0		25-164	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	73.0		32-141	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	69.0		28-130	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	72.0		23-140	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-OCDD	59.0		17-157	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	78.0		24-169	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	82.0		21-192	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	81.0		21-178	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	82.0		26-152	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	70.0		29-147	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	73.0		28-136	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	76.0		28-143	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	77.0		26-138	%	23-JAN-20	30-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-197	%	23-JAN-20	30-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0146			pg/g	23-JAN-20	30-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.275			pg/g	23-JAN-20	30-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.504			pg/g	23-JAN-20	30-JAN-20	R4985267
L2387288-42 19-S4-SB-CH-095							
Sampled By: Client on 01-OCT-19 @ 13:30							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	20.1		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	16.1		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	104	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	3790		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	0.761		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	33.5		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0223		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2940		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-42 19-S4-SB-CH-095							
Sampled By: Client on 01-OCT-19 @ 13:30							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Cobalt (Co)-Total	0.111		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	10.8		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	55.3		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	2660		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	24.6		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	5.30		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	1.66		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	7550		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	21200		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	3.41		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	35.3		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.061	[U]	0.061	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.028	[U]	0.028	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.023	[U]	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.023	[U]	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.023	[U]	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.038	M,J,R	0.018	pg/g	23-JAN-20	31-JAN-20	R4985267
OCDD	0.090	M,J,R	0.029	pg/g	23-JAN-20	31-JAN-20	R4985267
2,3,7,8-TCDF	<0.036	[U]	0.036	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,7,8-PeCDF	<0.021	[U]	0.021	pg/g	23-JAN-20	31-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.017	[U]	0.017	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.018	[U]	0.018	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.019	[U]	0.019	pg/g	23-JAN-20	31-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.018	[U]	0.018	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.032	M,J	0.024	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.036	M,J	0.025	pg/g	23-JAN-20	31-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.031	[U]	0.031	pg/g	23-JAN-20	31-JAN-20	R4985267
OCDF	0.055	M,J,R	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
Total-TCDD	<0.061	[U]	0.061	pg/g	23-JAN-20	31-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-PeCDD	<0.028	[U]	0.028	pg/g	23-JAN-20	31-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-HxCDD	<0.023	[U]	0.023	pg/g	23-JAN-20	31-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-HpCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	31-JAN-20	R4985267
Total HpCDD # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-TCDF	<0.036	[U]	0.036	pg/g	23-JAN-20	31-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-PeCDF	<0.021	[U]	0.021	pg/g	23-JAN-20	31-JAN-20	R4985267
Total PeCDF # Homologues	0				23-JAN-20	31-JAN-20	R4985267
Total-HxCDF	0.032		0.024	pg/g	23-JAN-20	31-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	31-JAN-20	R4985267
Total-HpCDF	0.036		0.031	pg/g	23-JAN-20	31-JAN-20	R4985267
Total HpCDF # Homologues	1				23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	78.0		25-164	%	23-JAN-20	31-JAN-20	R4985267

* 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
L2387288-42 19-S4-SB-CH-095							
Sampled By: Client on 01-OCT-19 @ 13:30							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,7,8-PeCDD	91.0		25-181	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	87.0		32-141	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	81.0		28-130	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	79.0		23-140	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-OCDD	75.0		17-157	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	88.0		24-169	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	95.0		21-192	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	94.0		21-178	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	96.0		26-152	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	88.0		26-123	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	92.0		29-147	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	83.0		28-136	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	86.0		28-143	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	85.0		26-138	%	23-JAN-20	31-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	86.0		31-197	%	23-JAN-20	31-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00351			pg/g	23-JAN-20	31-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0595			pg/g	23-JAN-20	31-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.115			pg/g	23-JAN-20	31-JAN-20	R4985267
L2387288-43 19-D1-SS-CH-200							
Sampled By: Client on 08-OCT-19 @ 14:10							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	22.9		0.10	%	21-JAN-20	22-JAN-20	R4974811
Total PCB	0.749		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.41		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0620		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	22.7		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	27500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.17		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	117		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	1.21		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	18.4		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.463		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	5610		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	42.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	11.5		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	31.6		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	26100		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	16.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	7790		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	365		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.38		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	37.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	953		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	4350		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	68		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	23.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-43 19-D1-SS-CH-200							
Sampled By: Client on 08-OCT-19 @ 14:10							
Matrix: Soil							
Metals in Soil by CRC ICPMS							
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.242		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	166		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	49.8		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	82.9		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	5.8		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
OC Pesticides by Method 1699							
alpha-BHC	<0.0095	[U]	0.0095	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00220	M,J,R	0.00050	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.00092	[U]	0.00092	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0090	M,J	0.0010	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	0.0171	M,J	0.0063	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	0.0109	M,J	0.0060	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0308	M,J	0.0020	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	0.0068	M,J	0.0057	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	0.0949	M,J	0.0067	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.0094	[U]	0.0094	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0024	[U]	0.0024	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.109	[J]	0.0035	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0073	M,J,R	0.0044	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.118	[J]	0.0072	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0038	[U]	0.0038	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	0.0130	[J]	0.00044	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	69.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	74.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	86.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	82.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	81.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	94.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	92.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	82.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0079	[U]	0.0079	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	100.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	74.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	88.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	74.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	74.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.244	M,J	0.067	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.189	M,J	0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.20	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.346	M,J	0.096	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.358	M,J	0.097	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	4.72		0.090	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	21.6		0.20	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.29	M,J	0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.243	M,J	0.095	pg/g	21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-43 19-D1-SS-CH-200							
Sampled By: Client on 08-OCT-19 @ 14:10							
Matrix: Soil							
Dioxins and Furans HR 1613B							
2,3,4,7,8-PeCDF	0.465	[J]	0.077	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.328	M,J,B	0.069	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.202	M,J	0.066	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.369	[J]	0.074	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.11	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.69	M,J	0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.136	M,J	0.058	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	1.80	M,J,R	0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	1.25		0.067	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	4				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	1.20		0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	3				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	4.45		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	9.38		0.090	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	6.84		0.12	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	13				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	5.24		0.095	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	9				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	2.80		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	1.83		0.058	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	73.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	62.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	75.0		28-130	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	61.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	34.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	69.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	71.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	69.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	69.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	66.0		29-147	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	61.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	55.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	65.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	77.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.872			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.872			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.872			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-44 19-D2-SS-CH-201							
Sampled By: Client on 10-OCT-19 @ 15:15							
Matrix: Soil							
Miscellaneous Parameters							
% Moisture	19.5		0.10	%	21-JAN-20	22-JAN-20	R4974811
Total PCB	1.63		0.012	ng/g	22-JAN-20	28-JAN-20	R4996239
Chloride (Cl)	<5.0		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	2.30		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600

* 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
L2387288-44 19-D2-SS-CH-201							
Sampled By: Client on 10-OCT-19 @ 15:15							
Matrix: Soil							
Mercury (Hg)	0.0716		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	20.5		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	15400		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.17		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	76.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.60		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	8.6		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.371		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	6280		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	22.0		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	7.94		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	16.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	18500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	23.7		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	4950		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	347		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	1.63		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	19.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	778		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	2320		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	50		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	19.9		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.198		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	100		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Vanadium (V)	31.6		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	65.8		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	2.4		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
OC Pesticides by Method 1699							
alpha-BHC	<0.0062	[U]	0.0062	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.0084	[U]	0.0084	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.0083	[U]	0.0083	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.0083	[U]	0.0083	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	0.00140	M,J,R	0.00034	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.00095	[U]	0.00095	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	0.0166	[J]	0.00086	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	0.0056	M,J	0.0042	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	0.0077	M,J,R	0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	0.0160	M,J,R	0.0019	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.0052	M,U	0.0052	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.015	[U]	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0047	[U]	0.0047	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	<0.0089	[U]	0.0089	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0019	[U]	0.0019	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	0.153		0.0038	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	0.0035	M,J	0.0028	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	0.0779	M,J	0.0048	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0031	[U]	0.0031	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00067	[U]	0.00067	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	79.0		16-129	%	22-JAN-20	11-FEB-20	R5007833

* 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
L2387288-44 19-D2-SS-CH-201							
Sampled By: Client on 10-OCT-19 @ 15:15							
Matrix: Soil							
OC Pesticides by Method 1699							
Surrogate: trans-Nonachlor, 13C10-	80.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	88.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	82.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	87.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	94.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	88.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	88.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.0066	[U]	0.0066	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	96.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	79.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	89.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	93.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	93.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	0.179	M,J	0.063	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDD	0.224	M,J	0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDD	0.221	M,J	0.076	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDD	0.382	M,J	0.070	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDD	0.409	M,J	0.072	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDD	6.32		0.095	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDD	33.2		0.19	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,7,8-TCDF	0.375	M,J	0.079	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8-PeCDF	0.190	M,J,R	0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,7,8-PeCDF	0.426	M,J	0.045	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8-HxCDF	0.366	M,J,B	0.072	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,6,7,8-HxCDF	0.307	M,J	0.070	pg/g	21-JAN-20	25-JAN-20	R4981388
2,3,4,6,7,8-HxCDF	0.407	[J]	0.074	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,7,8,9-HxCDF	0.13	M,J	0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,6,7,8-HpCDF	1.86	[J]	0.032	pg/g	21-JAN-20	25-JAN-20	R4981388
1,2,3,4,7,8,9-HpCDF	0.211	[J]	0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
OCDF	2.15	[J]	0.087	pg/g	21-JAN-20	25-JAN-20	R4981388
Total-TCDD	1.42		0.063	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDD # Homologues	4				21-JAN-20	25-JAN-20	R4981388
Total-PeCDD	3.04		0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDD # Homologues	6				21-JAN-20	25-JAN-20	R4981388
Total-HxCDD	3.47		0.076	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDD # Homologues	5				21-JAN-20	25-JAN-20	R4981388
Total-HpCDD	12.5		0.095	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDD # Homologues	2				21-JAN-20	25-JAN-20	R4981388
Total-TCDF	4.86		0.079	pg/g	21-JAN-20	25-JAN-20	R4981388
Total TCDF # Homologues	9				21-JAN-20	25-JAN-20	R4981388
Total-PeCDF	6.00		0.051	pg/g	21-JAN-20	25-JAN-20	R4981388
Total PeCDF # Homologues	10				21-JAN-20	25-JAN-20	R4981388
Total-HxCDF	3.27		0.10	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HxCDF # Homologues	7				21-JAN-20	25-JAN-20	R4981388
Total-HpCDF	3.11		0.040	pg/g	21-JAN-20	25-JAN-20	R4981388
Total HpCDF # Homologues	4				21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDD	81.0		25-164	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDD	78.0		25-181	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	72.0		32-141	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	88.0		28-130	%	21-JAN-20	25-JAN-20	R4981388

* 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
L2387288-44 19-D2-SS-CH-201							
Sampled By: Client on 10-OCT-19 @ 15:15							
Matrix: Soil							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	75.0		23-140	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-OCDD	46.0		17-157	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,7,8-TCDF	77.0		24-169	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8-PeCDF	80.0		24-185	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,7,8-PeCDF	75.0		21-178	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	75.0		26-152	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	82.0		26-123	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	78.0		29-147	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	73.0		28-136	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	70.0		28-143	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	77.0		26-138	%	21-JAN-20	25-JAN-20	R4981388
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	83.0		35-197	%	21-JAN-20	25-JAN-20	R4981388
Lower Bound PCDD/F TEQ (WHO 2005)	0.885			pg/g	21-JAN-20	25-JAN-20	R4981388
Mid Point PCDD/F TEQ (WHO 2005)	0.890			pg/g	21-JAN-20	25-JAN-20	R4981388
Upper Bound PCDD/F TEQ (WHO 2005)	0.890			pg/g	21-JAN-20	25-JAN-20	R4981388
L2387288-45 19-D3-NG-CH-203							
Sampled By: Client on 08-OCT-19 @ 15:10							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	57.9		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	55.0		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	5360	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0118		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Total PCB	0.041		0.040	ng/g	21-JAN-20	28-JAN-20	R4988567
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	4240		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.74		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	40.9		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.033		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	8.54		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.5		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0564		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	4780		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.595		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.044		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	5.20		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	91.2		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.205		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	2510		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	83.6		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	4.19		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	0.70		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	3090		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	19400		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	13.1		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.10		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951

* 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
L2387288-45 19-D3-NG-CH-203							
Sampled By: Client on 08-OCT-19 @ 15:10							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Zinc (Zn)-Total	32.7		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
OC Pesticides by Method 1699							
alpha-BHC	<0.26	[U]	0.26	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.33	[U]	0.33	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.36	[U]	0.36	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.33	[U]	0.33	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.020	[U]	0.020	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.054	[U]	0.054	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.083	[U]	0.083	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.29	[U]	0.29	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.27	[U]	0.27	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.21	M,J	0.11	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.14	[U]	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.040	[U]	0.040	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.34	[U]	0.34	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.60	[U]	0.60	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.14	[U]	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	0.27	M,J,R	0.17	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.21	[U]	0.21	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.42	[U]	0.42	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.14	[U]	0.14	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	<0.0081	[U]	0.0081	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	53.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	42.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	74.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	75.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	69.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	66.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	86.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	58.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	57.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	67.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.34	[U]	0.34	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.64	[U]	0.64	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	56.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	52.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	61.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	60.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.052	[U]	0.052	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	0.063	M,J,R	0.029	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	0.052	M,J,R	0.040	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	0.092	M,J,R	0.037	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.057	M,J,R	0.038	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.953	[J]	0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	2.66	[J]	0.044	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	0.054	M,J,R	0.045	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.079	M,J	0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	0.043	M,J,R	0.029	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	0.058	M,J,R	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-45 19-D3-NG-CH-203							
Sampled By: Client on 08-OCT-19 @ 15:10							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
1,2,3,6,7,8-HxCDF	0.061	M,J,R	0.032	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.049	M,J	0.033	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.044	M,J,R	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.270	J,R	0.038	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	0.050	M,J,R	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.609	[J]	0.039	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	0.668		0.052	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	3				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	1.35		0.029	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	3				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	1.74		0.040	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	2.57		0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	0.444		0.045	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	3				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	0.079		0.036	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	0.049		0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.043	[U]	0.043	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	72.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	82.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	71.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	70.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	73.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	65.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	70.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	78.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	78.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	71.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	71.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	68.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	67.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	70.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	75.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	75.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0178			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.165			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.191			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-46 19-D8-NG-CH-208							
Sampled By: Client on 10-OCT-19 @ 16:10							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	37.0		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	46.5		0.50	%		10-FEB-20	R4993331
Chloride (Cl)	1970	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	0.0144		0.0050	mg/kg	11-FEB-20	13-FEB-20	R4995704
Total PCB	0.683		0.030	ng/g	21-JAN-20	28-JAN-20	R4988567

* 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
L2387288-46 19-D8-NG-CH-208							
Sampled By: Client on 10-OCT-19 @ 16:10							
Matrix: Plant Tissue							
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sulfur (S)-Total	2080		100	mg/kg	11-FEB-20	12-FEB-20	R4995951
Titanium (Ti)-Total	0.70		0.25	mg/kg	11-FEB-20	12-FEB-20	R4995951
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	35.2		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Arsenic (As)-Total	0.032		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Barium (Ba)-Total	33.9		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Beryllium (Be)-Total	<0.010		0.010	mg/kg	11-FEB-20	12-FEB-20	R4995951
Boron (B)-Total	6.9		1.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cadmium (Cd)-Total	0.0411		0.0050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Calcium (Ca)-Total	5980		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Chromium (Cr)-Total	0.242		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Cobalt (Co)-Total	0.023		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Copper (Cu)-Total	3.89		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Iron (Fe)-Total	64.6		3.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Lead (Pb)-Total	0.151		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Magnesium (Mg)-Total	1980		2.0	mg/kg	11-FEB-20	12-FEB-20	R4995951
Manganese (Mn)-Total	30.5		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Molybdenum (Mo)-Total	5.45		0.020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Nickel (Ni)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Phosphorus (P)-Total	2390		10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Potassium (K)-Total	11900		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Sodium (Na)-Total	<20		20	mg/kg	11-FEB-20	12-FEB-20	R4995951
Strontium (Sr)-Total	22.2		0.050	mg/kg	11-FEB-20	12-FEB-20	R4995951
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	11-FEB-20	12-FEB-20	R4995951
Vanadium (V)-Total	0.11		0.10	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zinc (Zn)-Total	18.5		0.50	mg/kg	11-FEB-20	12-FEB-20	R4995951
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	11-FEB-20	12-FEB-20	R4995951
OC Pesticides by Method 1699							
alpha-BHC	<0.67	[U]	0.67	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<1.1	[U]	1.1	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<1.0	[U]	1.0	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.83	[U]	0.83	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	<0.059	[U]	0.059	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.093	[U]	0.093	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.30	M,U	0.30	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.55	[U]	0.55	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.53	[U]	0.53	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.73	M,J	0.60	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.86	[U]	0.86	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.27	[U]	0.27	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.66	[U]	0.66	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<1.3	[U]	1.3	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.41	[U]	0.41	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	1.1	M,J	1.0	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<1.1	[U]	1.1	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<2.1	[U]	2.1	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<1.2	[U]	1.2	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	<0.086	[U]	0.086	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	42.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	37.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	64.0		14-136	%	21-JAN-20	12-FEB-20	R5011480

* 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
L2387288-46 19-D8-NG-CH-208							
Sampled By: Client on 10-OCT-19 @ 16:10							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: Dieldrin, 13C12-	65.0	M	40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	59.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	51.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	59.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	34.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	29.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	40.0	M	5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<1.4	[U]	1.4	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<2.3	[U]	2.3	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	44.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	20.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	40.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	43.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.12	[U]	0.12	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.076	[U]	0.076	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.085	[U]	0.085	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.082	M,U	0.082	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	<0.083	M,U	0.083	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.663	M,J,B	0.048	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	1.89	[J]	0.092	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	0.098	M,J,R	0.092	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.125	M,J	0.069	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.054	[U]	0.054	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.070	[U]	0.070	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.070	[U]	0.070	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	0.069	M,J,R	0.068	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.091	M,J,R	0.089	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	0.210	M,J,R	0.058	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.064	[U]	0.064	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.561	[J]	0.068	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	0.24		0.12	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	0.283		0.076	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	0.807		0.085	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	1.72		0.048	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	0.510		0.092	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	2				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	0.125		0.069	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	<0.089	[U]	0.089	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.064	[U]	0.064	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	75.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	87.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	82.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	79.0		28-130	%	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-46 19-D8-NG-CH-208 Sampled By: Client on 10-OCT-19 @ 16:10 Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	85.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	84.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	75.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	78.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	82.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	80.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	78.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	80.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	75.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	82.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	90.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	80.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0111			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.165			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.291			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-47 19-D4-SD-CH-204 Sampled By: Client on 08-OCT-19 @ 14:40 Matrix: Sediment							
Miscellaneous Parameters							
% Moisture	26.1		0.10	%	22-JAN-20	23-JAN-20	R4976673
Total PCB	<0.013		0.013	ng/g	22-JAN-20	28-JAN-20	R4996239
Chloride (Cl)	34.2		5.0	mg/kg	10-FEB-20	11-FEB-20	R4995561
Fluoride (F)	5.45		0.20	mg/kg	10-FEB-20	11-FEB-20	R4994600
Mercury (Hg)	0.0218		0.0050	mg/kg	10-FEB-20	12-FEB-20	R4994872
Moisture	19.4		0.25	%		10-FEB-20	R4992895
Metals in Soil by CRC ICPMS							
Aluminum (Al)	14600		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Arsenic (As)	5.49		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Barium (Ba)	69.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Beryllium (Be)	0.62		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Boron (B)	17.2		5.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cadmium (Cd)	0.204		0.020	mg/kg	10-FEB-20	12-FEB-20	R4995450
Calcium (Ca)	96500		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Chromium (Cr)	25.5		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Cobalt (Co)	9.66		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Copper (Cu)	17.8		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Iron (Fe)	20600		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Lead (Pb)	8.11		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Magnesium (Mg)	33500		20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Manganese (Mn)	418		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Molybdenum (Mo)	3.66		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Nickel (Ni)	29.3		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Phosphorus (P)	435		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Potassium (K)	2940		100	mg/kg	10-FEB-20	12-FEB-20	R4995450
Silver (Ag)	<0.10		0.10	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sodium (Na)	174		50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Strontium (Sr)	85.1		0.50	mg/kg	10-FEB-20	12-FEB-20	R4995450
Sulfur (S)	<1000		1000	mg/kg	10-FEB-20	12-FEB-20	R4995450
Thallium (Tl)	0.268		0.050	mg/kg	10-FEB-20	12-FEB-20	R4995450
Titanium (Ti)	220		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450

* 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
L2387288-47 19-D4-SD-CH-204							
Sampled By: Client on 08-OCT-19 @ 14:40							
Matrix: Sediment							
Metals in Soil by CRC ICPMS							
Vanadium (V)	32.5		0.20	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zinc (Zn)	51.0		2.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
Zirconium (Zr)	8.8		1.0	mg/kg	10-FEB-20	12-FEB-20	R4995450
OC Pesticides by Method 1699							
alpha-BHC	<0.0099	[U]	0.0099	ng/g	22-JAN-20	11-FEB-20	R5007833
beta-BHC	<0.013	[U]	0.013	ng/g	22-JAN-20	11-FEB-20	R5007833
delta-BHC	<0.014	[U]	0.014	ng/g	22-JAN-20	11-FEB-20	R5007833
gamma-BHC	<0.013	[U]	0.013	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor	<0.00051	M,J,R	0.00051	ng/g	22-JAN-20	11-FEB-20	R5007833
Aldrin	<0.0012	[U]	0.0012	ng/g	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide	<0.0015	[U]	0.0015	ng/g	22-JAN-20	11-FEB-20	R5007833
trans-Chlordane	<0.0073	[U]	0.0073	ng/g	22-JAN-20	11-FEB-20	R5007833
cis-Chlordane	<0.0070	[U]	0.0070	ng/g	22-JAN-20	11-FEB-20	R5007833
Dieldrin	<0.0050	M,U	0.0050	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin	<0.015	M,U	0.015	ng/g	22-JAN-20	11-FEB-20	R5007833
Endrin Aldehyde	<0.0089	[U]	0.0089	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan I	<0.0044	[U]	0.0044	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan II	0.0085	M,J,R	0.0075	ng/g	22-JAN-20	11-FEB-20	R5007833
Endosulfan Sulfate	<0.0033	[U]	0.0033	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDE	<0.0045	[U]	0.0045	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDD	<0.0040	[U]	0.0040	ng/g	22-JAN-20	11-FEB-20	R5007833
4,4-DDT	<0.0037	[U]	0.0037	ng/g	22-JAN-20	11-FEB-20	R5007833
Methoxychlor	<0.0032	[U]	0.0032	ng/g	22-JAN-20	11-FEB-20	R5007833
Mirex	<0.00039	[U]	0.00039	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: alpha-BHC, 13C6-	54.0		16-129	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: trans-Nonachlor, 13C10-	66.0		14-136	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Dieldrin, 13C12-	74.0		40-151	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endrin, 13C12-	67.0		35-155	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Endosulfan II, 13C9-	75.0		5-122	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDE, 13C12-	82.0		21-125	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDT, 13C12-	76.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Mirex, 13C10-	85.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Heptachlor Epoxide A	<0.011	[U]	0.011	ng/g	22-JAN-20	11-FEB-20	R5007833
Surrogate: 4,4'-DDD, 13C12-	83.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: gamma-BHC, 13C6-	55.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: Methoxychlor, 13C12-	82.0		5-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: beta-BHC, 13C6-	62.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
Surrogate: delta-BHC, 13C6-	61.0		11-120	%	22-JAN-20	11-FEB-20	R5007833
L2387288-48 19-D5-SB-CH-206							
Sampled By: Client on 08-OCT-19 @ 15:40							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	46.6		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	41.2		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	51	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Total PCB	<0.020		0.020	ng/g	21-JAN-20	28-JAN-20	R4988567
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	5100		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-48 19-D5-SB-CH-206							
Sampled By: Client on 08-OCT-19 @ 15:40							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	1.12		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	36.1		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	0.0942		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	2500		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	0.084		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	17.3		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	91.9		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	3470		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	28.7		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	7.68		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	3.55		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	9240		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	28000		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	1.84		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	48.4		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<0.92	[U]	0.92	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	29.0	G	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: 13C6-Pentachlorophenol has low recovery.							
OC Pesticides by Method 1699							
alpha-BHC	<0.018	[U]	0.018	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.020	[U]	0.020	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.020	[U]	0.020	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.020	[U]	0.020	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	0.00130	M,J,R	0.00078	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.0016	[U]	0.0016	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	0.0120	M,J,R	0.0020	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.011	[U]	0.011	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.011	[U]	0.011	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	0.0420	M,J,R	0.0059	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.0073	M,U	0.0073	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.0052	[U]	0.0052	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.014	[U]	0.014	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.067	[U]	0.067	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.0056	[U]	0.0056	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	<0.012	[U]	0.012	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.0059	[U]	0.0059	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.016	[U]	0.016	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.0097	[U]	0.0097	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	0.00120	M,J,R	0.00074	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	64.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	61.0		5-120	%	21-JAN-20	12-FEB-20	R5011480

* 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
L2387288-48 19-D5-SB-CH-206							
Sampled By: Client on 08-OCT-19 @ 15:40							
Matrix: Plant Tissue							
OC Pesticides by Method 1699							
Surrogate: trans-Nonachlor, 13C10-	87.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	85.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	96.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	79.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	100.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	102.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	85.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	99.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.019	[U]	0.019	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.015	[U]	0.015	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	74.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	111.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	88.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	89.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.024	[U]	0.024	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.014	M,J	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.0370	M,J,R	0.0095	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDD	0.128	[J]	0.016	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.018	M,J	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0091	[U]	0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.016	M,J,R	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	<0.010	[U]	0.010	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.114	M,J	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	<0.024	[U]	0.024	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	0.014		0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	<0.0095	[U]	0.0095	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	0.018		0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	1				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	<0.014	[U]	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.012	[U]	0.012	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	62.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	72.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	63.0		32-141	%	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-48 19-D5-SB-CH-206							
Sampled By: Client on 08-OCT-19 @ 15:40							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	61.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	65.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	59.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	60.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	66.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	67.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	65.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	62.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	60.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	61.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	64.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	66.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	66.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.00200			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0281			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0522			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-49 19-D6-FC-CH-207							
Sampled By: Client on 10-OCT-19 @ 16:40							
Matrix: Plant Tissue							
Miscellaneous Parameters							
% Moisture	37.4		0.10	%	23-JAN-20	27-JAN-20	R4980115
% Moisture	34.3		0.50	%		07-FEB-20	R4992446
Chloride (Cl)	404	DLM	20	mg/kg	11-FEB-20	12-FEB-20	R4995904
Mercury (Hg)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	11-FEB-20	R4994346
Total PCB	0.468		0.020	ng/g	21-JAN-20	28-JAN-20	R4988567
Silver (Ag)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sulfur (S)-Total	1080		100	mg/kg	06-FEB-20	10-FEB-20	R4992782
Titanium (Ti)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Metals in Tissue by CRC ICPMS (DRY)							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Arsenic (As)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Barium (Ba)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Beryllium (Be)-Total	<0.010		0.010	mg/kg	06-FEB-20	10-FEB-20	R4992782
Boron (B)-Total	3.6		1.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Calcium (Ca)-Total	53		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chromium (Cr)-Total	<0.050		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Cobalt (Co)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Copper (Cu)-Total	1.26		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Iron (Fe)-Total	19.3		3.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Lead (Pb)-Total	<0.020		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Magnesium (Mg)-Total	1240		2.0	mg/kg	06-FEB-20	10-FEB-20	R4992782
Manganese (Mn)-Total	4.25		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Molybdenum (Mo)-Total	0.394		0.020	mg/kg	06-FEB-20	10-FEB-20	R4992782
Nickel (Ni)-Total	0.29		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Phosphorus (P)-Total	3860		10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Potassium (K)-Total	4960		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Sodium (Na)-Total	<20		20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Strontium (Sr)-Total	0.097		0.050	mg/kg	06-FEB-20	10-FEB-20	R4992782
Thallium (Tl)-Total	<0.0020		0.0020	mg/kg	06-FEB-20	10-FEB-20	R4992782

* 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
L2387288-49 19-D6-FC-CH-207							
Sampled By: Client on 10-OCT-19 @ 16:40							
Matrix: Plant Tissue							
Metals in Tissue by CRC ICPMS (DRY)							
Vanadium (V)-Total	<0.10		0.10	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zinc (Zn)-Total	21.4		0.50	mg/kg	06-FEB-20	10-FEB-20	R4992782
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	06-FEB-20	10-FEB-20	R4992782
Chlorophenols as acetate derivatives							
Pentachlorophenol	<2.0	[U]	2.0	ng/g	24-JAN-20	11-FEB-20	R5008427
Surrogate: 13C6-Pentachlorophenol	10.0	M	50-150	%	24-JAN-20	11-FEB-20	R5008427
Note: 13C6-Pentachlorophenol has low recovery.							
OC Pesticides by Method 1699							
alpha-BHC	<0.011	[U]	0.011	ng/g	21-JAN-20	12-FEB-20	R5011480
beta-BHC	<0.013	[U]	0.013	ng/g	21-JAN-20	12-FEB-20	R5011480
delta-BHC	<0.014	[U]	0.014	ng/g	21-JAN-20	12-FEB-20	R5011480
gamma-BHC	<0.013	[U]	0.013	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor	0.00110	M,J,R	0.00064	ng/g	21-JAN-20	12-FEB-20	R5011480
Aldrin	<0.0016	[U]	0.0016	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide	<0.0019	M,U	0.0019	ng/g	21-JAN-20	12-FEB-20	R5011480
trans-Chlordane	<0.015	[U]	0.015	ng/g	21-JAN-20	12-FEB-20	R5011480
cis-Chlordane	<0.015	[U]	0.015	ng/g	21-JAN-20	12-FEB-20	R5011480
Dieldrin	<0.012	[U]	0.012	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin	<0.014	[U]	0.014	ng/g	21-JAN-20	12-FEB-20	R5011480
Endrin Aldehyde	<0.0058	[U]	0.0058	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan I	<0.0082	[U]	0.0082	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan II	<0.0027	[U]	0.0027	ng/g	21-JAN-20	12-FEB-20	R5011480
Endosulfan Sulfate	<0.0045	[U]	0.0045	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDE	<0.011	[U]	0.011	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDD	<0.0086	[U]	0.0086	ng/g	21-JAN-20	12-FEB-20	R5011480
4,4-DDT	<0.014	[U]	0.014	ng/g	21-JAN-20	12-FEB-20	R5011480
Methoxychlor	<0.012	[U]	0.012	ng/g	21-JAN-20	12-FEB-20	R5011480
Mirex	0.00230	M,J,R	0.00057	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: alpha-BHC, 13C6-	74.0		16-129	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Heptachlor, 13C10-	75.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: trans-Nonachlor, 13C10-	102.0		14-136	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Dieldrin, 13C12-	97.0		40-151	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endrin, 13C12-	110.0		35-155	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Endosulfan II, 13C9-	88.0		5-122	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDE, 13C12-	111.0		21-125	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDT, 13C12-	99.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Mirex, 13C10-	78.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: 4,4'-DDD, 13C12-	106.0		5-150	%	21-JAN-20	12-FEB-20	R5011480
Endrin ketone	<0.013	[U]	0.013	ng/g	21-JAN-20	12-FEB-20	R5011480
Heptachlor Epoxide A	<0.015	[U]	0.015	ng/g	21-JAN-20	12-FEB-20	R5011480
Surrogate: gamma-BHC, 13C6-	81.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: Methoxychlor, 13C12-	97.0		5-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: beta-BHC, 13C6-	97.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Surrogate: delta-BHC, 13C6-	95.0		11-120	%	21-JAN-20	12-FEB-20	R5011480
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDD	<0.0091	[U]	0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDD	<0.0099	[U]	0.0099	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDD	<0.0097	[U]	0.0097	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDD	0.0110	M,J,R	0.0097	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDD	0.0300	M,J,R	0.0065	pg/g	23-JAN-20	29-JAN-20	R4985267

* 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
L2387288-49 19-D6-FC-CH-207							
Sampled By: Client on 10-OCT-19 @ 16:40							
Matrix: Plant Tissue							
Dioxins and Furans HR 1613B							
OCDD	0.117	[J]	0.017	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,7,8-TCDF	<0.013	[U]	0.013	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8-PeCDF	0.0098	M,J,R	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,7,8-PeCDF	<0.0072	[U]	0.0072	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8-HxCDF	<0.0085	[U]	0.0085	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,6,7,8-HxCDF	<0.0082	[U]	0.0082	pg/g	23-JAN-20	29-JAN-20	R4985267
2,3,4,6,7,8-HxCDF	<0.0082	[U]	0.0082	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,7,8,9-HxCDF	0.028	M,J,R	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,6,7,8-HpCDF	<0.0082	[U]	0.0082	pg/g	23-JAN-20	29-JAN-20	R4985267
1,2,3,4,7,8,9-HpCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
OCDF	0.097	M,J	0.014	pg/g	23-JAN-20	29-JAN-20	R4985267
Total-TCDD	<0.018	[U]	0.018	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDD	<0.0091	[U]	0.0091	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDD	<0.0099	[U]	0.0099	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDD	<0.0065	[U]	0.0065	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDD # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-TCDF	<0.013	[U]	0.013	pg/g	23-JAN-20	29-JAN-20	R4985267
Total TCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-PeCDF	<0.0090	[U]	0.0090	pg/g	23-JAN-20	29-JAN-20	R4985267
Total PeCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HxCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HxCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Total-HpCDF	<0.011	[U]	0.011	pg/g	23-JAN-20	29-JAN-20	R4985267
Total HpCDF # Homologues	0				23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDD	70.0		25-164	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDD	81.0		25-181	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	68.0		32-141	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	68.0		28-130	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	67.0		23-140	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-OCDD	56.0		17-157	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,7,8-TCDF	69.0		24-169	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8-PeCDF	75.0		21-192	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,7,8-PeCDF	77.0		21-178	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	66.0		26-152	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	66.0		26-123	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	65.0		29-147	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	62.0		28-136	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	66.0		28-143	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	63.0		26-138	%	23-JAN-20	29-JAN-20	R4985267
Surrogate: 37C14-2,3,7,8-TCDD (Cleanup)	79.0		31-197	%	23-JAN-20	29-JAN-20	R4985267
Lower Bound PCDD/F TEQ (WHO 2005)	0.0000641			pg/g	23-JAN-20	29-JAN-20	R4985267
Mid Point PCDD/F TEQ (WHO 2005)	0.0222			pg/g	23-JAN-20	29-JAN-20	R4985267
Upper Bound PCDD/F TEQ (WHO 2005)	0.0398			pg/g	23-JAN-20	29-JAN-20	R4985267
L2387288-50 19-E6-FB-CH-211							
Sampled By: Client on 14-AUG-19 @ 12:05							
Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							

* 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
L2387288-50 19-E6-FB-CH-211 Sampled By: Client on 14-AUG-19 @ 12:05 Matrix: Water							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		03-FEB-20	
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		03-FEB-20	
L2387288-51 19-E1-FB-CH-213 Sampled By: Client on 09-OCT-19 @ 08:30 Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		04-FEB-20	
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008

* 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
L2387288-51 19-E1-FB-CH-213 Sampled By: Client on 09-OCT-19 @ 08:30 Matrix: Water							
Total Metals in Water by CRC ICPMS							
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	0.0113	RRV	0.0050	mg/L		04-FEB-20	R4988192
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		04-FEB-20	
L2387288-52 19-E6-RB-CH-215 Sampled By: Client on 14-AUG-19 @ 12:00 Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		04-FEB-20	
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		04-FEB-20	R4988192
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		04-FEB-20	R4988192
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	0.0092	RRV	0.0050	mg/L		04-FEB-20	R4988192
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		04-FEB-20	

* 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
L2387288-53 19-E1-RB-CH-216 Sampled By: Client on 09-OCT-19 @ 08:35 Matrix: Water Total Metals in Water + Hg (CCME/BCWQG) Hardness Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		03-FEB-20	
Total Mercury in Water by CVAAS or CVAFS Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Miscellaneous Parameters Silicon (as SiO2)-Total	<0.21		0.21	mg/L		03-FEB-20	
L2387288-54 19-E6-TB-CH-220 Sampled By: Client on 14-AUG-19 Matrix: Water Total Metals in Water + Hg (CCME/BCWQG) Hardness Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		03-FEB-20	
Total Mercury in Water by CVAAS or CVAFS Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008

* 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
L2387288-54 19-E6-TB-CH-220 Sampled By: Client on 14-AUG-19 Matrix: Water							
Total Metals in Water by CRC ICPMS							
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		03-FEB-20	
L2387288-55 19-E1-TB-CH-221 Sampled By: Client on 09-OCT-19 Matrix: Water							
Total Metals in Water + Hg (CCME/BCWQG)							
Hardness							
Hardness (as CaCO3)	<0.50	HTC	0.50	mg/L		03-FEB-20	
Total Mercury in Water by CVAAS or CVAFS							
Mercury (Hg)-Total	<0.0000050		0.0000050	mg/L		29-JAN-20	R4982896
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Arsenic (As)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Barium (Ba)-Total	<0.020		0.020	mg/L		03-FEB-20	R4987008
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		03-FEB-20	R4987008
Boron (B)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		03-FEB-20	R4987008
Calcium (Ca)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Chromium (Cr)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Cobalt (Co)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Copper (Cu)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Iron (Fe)-Total	<0.030		0.030	mg/L		03-FEB-20	R4987008
Lead (Pb)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Magnesium (Mg)-Total	<0.10		0.10	mg/L		03-FEB-20	R4987008
Manganese (Mn)-Total	<0.00030		0.00030	mg/L		03-FEB-20	R4987008
Molybdenum (Mo)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Nickel (Ni)-Total	<0.0010		0.0010	mg/L		03-FEB-20	R4987008
Potassium (K)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Silver (Ag)-Total	<0.000020		0.000020	mg/L		03-FEB-20	R4987008
Sodium (Na)-Total	<2.0		2.0	mg/L		03-FEB-20	R4987008
Sulfur (S)-Total	<0.50		0.50	mg/L		03-FEB-20	R4987008
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		03-FEB-20	R4987008
Titanium (Ti)-Total	<0.010		0.010	mg/L		03-FEB-20	R4987008
Vanadium (V)-Total	<0.00050		0.00050	mg/L		03-FEB-20	R4987008
Zinc (Zn)-Total	<0.0050		0.0050	mg/L		03-FEB-20	R4987008
Miscellaneous Parameters							
Silicon (as SiO2)-Total	<0.21		0.21	mg/L		03-FEB-20	

* 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.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
HTC	Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).
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.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis
U	Not Detected.
[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**
AG-DRY-CCMS-N-VA	Tissue	Silver in Tissue by CRC ICPMS (DRY)	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.			
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.			
CL-LEACH-IC-VA	Soil	Chloride leach (1:10) by IC	APHA 4110 IC
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 analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.			
CP-CUSTOM-LRMS-BU	Solid	Chlorophenols as acetate derivatives	EPA 8270 (modified)
Chlorophenols as acetate derivatives by SIM GC/MS.			
DX-1613B-HRMS-BU	Biota	Dioxins and Furans HR 1613B	USEPA 1613B
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			
F-1:5-DI-SIE-VA	Soil	Fluoride leach (1:5) by SIE	BCMoe/APHA Method 4500-F Fluoride
This analysis is carried out using procedures from the Method: "Fluoride in Soils by 5:1 Aqueous Extraction", BC Ministry of Environment, 22 January 2008, and procedures adapted from APHA Method 4500-F "Fluoride". The procedure involves mixing the dried (at <60°C) and sieved (2mm) sample with deionized/distilled water at a 1:5 ratio of soil to water. Fluoride is determined using a selective ion electrode			

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HARDNESS-CALC-VA	Water	Hardness	APHA 2340B
Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.			
HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAAS	EPA 200.2/1631E (mod)
Soil samples are digested with hot nitric and hydrochloric acids, followed by CVAAS analysis. This method is fully compliant with the BC SALM strong acid leachable metals digestion method.			
HG-DRY-CVAFS-N-VA	Tissue	Mercury in Tissue by CVAAS (DRY)	EPA 200.3, EPA 245.7
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 fluorescence spectrophotometry or atomic absorption spectrophotometry, adapted from US EPA Method 245.7.			
HG-T-CVAA-VA	Water	Total Mercury in Water by CVAAS or CVAFS	EPA 1631E (mod)
Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.			
MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)
Soil/sediment is dried, disaggregated, and sieved (2 mm). Strong Acid Leachable Metals in the <2mm fraction are solubilized by heated digestion with nitric and hydrochloric acids. Instrumental analysis is by Collision / Reaction Cell ICPMS.			
Limitations: This method is intended to liberate environmentally available metals. Silicate minerals are not solubilized. Some metals may be only partially recovered (matrix dependent), including Al, Ba, Be, Cr, S, Sr, Ti, Tl, V, W, and Zr. Elemental Sulfur may be poorly recovered by this method. Volatile forms of sulfur (e.g. sulfide, H ₂ S) may be excluded if lost during sampling, storage, or digestion.			
MET-DRY-CCMS-N-VA	Tissue	Metals in Tissue by CRC ICPMS (DRY)	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-VA	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.			
MOISTURE-BU	Soil	% Moisture	CCME PHC in Soil - Tier 1 (mod)
This method is used to determine the percent moisture in a sample. Samples are homogenized, moisture is removed by heating at 105°C until constant mass is achieved. The residues are measured gravimetrically and the difference in weight between the wet sample and the dried sample is used to determine the moisture content. This percent moisture can be used, in conjunction with analytical results, to report data on a dry weight basis.			
MOISTURE-BU	Tissue	% Moisture	ASTM METHOD D2794-00
This method is used to determine the percent moisture in a sample. Samples are homogenized, moisture is removed by heating at 105°C until constant mass is achieved. The residues are measured gravimetrically and the difference in weight between the wet sample and the dried sample is used to determine the moisture content. This percent moisture can be used, in conjunction with analytical results, to report data on a dry weight basis.			
MOISTURE-TISS-VA	Tissue	% Moisture in Tissues	Puget Sound WQ Authority, Apr 1997
This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.			
MOISTURE-VA	Soil	Moisture content	CCME PHC in Soil - Tier 1 (mod)
This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of two hours.			
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-C428-LRMS-BU	Solid	CARB428 PCB TOTALS	C428 LRMS
PCB-C428-LRMS-BU	Tissue	PCB congeners by SIM GC/LRMS	SIM GC/LRMS

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
---------------	--------	------------------	--------------------

Samples are Soxhlet extracted with dichloromethane. Extracts are passed through GPC for lipid removal and cleaned by column chromatography. Extracts are analyzed via SIM GC/LRMS.

S-DRY-CCMS-N-VA Tissue Sulfur in Tissue by CRC ICPMS (DRY) 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.

SIO2-T-CALC-VA Water Total Silicon (reported as Silica) CALCULATION

Total Silicon (as SiO₂) is a calculated parameter. Total Silicon (as SiO₂ mg/L) = 2.139 x Total Silicon (mg/L).

TI-DRY-CCMS-N-VA Tissue Ti in Tissue by CRC ICPMS (DRY) 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.

** 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
ED	ALS ENVIRONMENTAL - EDMONTON, ALBERTA, 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: L2387288

Report Date: 12-MAY-20

Page 1 of 36

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-VA		Water						
Batch	R4982896							
WG3265542-2	LCS							
Mercury (Hg)-Total			94.6		%		80-120	29-JAN-20
WG3265542-1	MB							
Mercury (Hg)-Total			<0.000005C		mg/L		0.000005	29-JAN-20
MET-T-CCMS-VA		Water						
Batch	R4987008							
WG3268371-2	LCS							
Aluminum (Al)-Total			103.2		%		80-120	03-FEB-20
Arsenic (As)-Total			101.6		%		80-120	03-FEB-20
Barium (Ba)-Total			103.9		%		80-120	03-FEB-20
Beryllium (Be)-Total			104.9		%		80-120	03-FEB-20
Boron (B)-Total			98.7		%		80-120	03-FEB-20
Cadmium (Cd)-Total			101.9		%		80-120	03-FEB-20
Calcium (Ca)-Total			102.5		%		80-120	03-FEB-20
Chromium (Cr)-Total			108.1		%		80-120	03-FEB-20
Cobalt (Co)-Total			101.4		%		80-120	03-FEB-20
Copper (Cu)-Total			102.1		%		80-120	03-FEB-20
Iron (Fe)-Total			109.0		%		80-120	03-FEB-20
Lead (Pb)-Total			106.6		%		80-120	03-FEB-20
Magnesium (Mg)-Total			104.4		%		80-120	03-FEB-20
Manganese (Mn)-Total			105.7		%		80-120	03-FEB-20
Molybdenum (Mo)-Total			100.3		%		80-120	03-FEB-20
Nickel (Ni)-Total			102.1		%		80-120	03-FEB-20
Potassium (K)-Total			106.1		%		80-120	03-FEB-20
Silver (Ag)-Total			100.8		%		80-120	03-FEB-20
Sodium (Na)-Total			104.0		%		80-120	03-FEB-20
Sulfur (S)-Total			100.4		%		80-120	03-FEB-20
Thallium (Tl)-Total			100.2		%		80-120	03-FEB-20
Titanium (Ti)-Total			98.6		%		80-120	03-FEB-20
Vanadium (V)-Total			105.1		%		80-120	03-FEB-20
Zinc (Zn)-Total			98.1		%		80-120	03-FEB-20
WG3268371-1	MB							
Aluminum (Al)-Total			<0.0030		mg/L		0.003	03-FEB-20
Arsenic (As)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Barium (Ba)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	03-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 2 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-VA		Water						
Batch	R4987008							
WG3268371-1	MB							
Boron (B)-Total			<0.010		mg/L		0.01	03-FEB-20
Cadmium (Cd)-Total			<0.000005C		mg/L		0.000005	03-FEB-20
Calcium (Ca)-Total			<0.050		mg/L		0.05	03-FEB-20
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Copper (Cu)-Total			<0.00050		mg/L		0.0005	03-FEB-20
Iron (Fe)-Total			<0.010		mg/L		0.01	03-FEB-20
Lead (Pb)-Total			<0.000050		mg/L		0.00005	03-FEB-20
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	03-FEB-20
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	03-FEB-20
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	03-FEB-20
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	03-FEB-20
Potassium (K)-Total			<0.050		mg/L		0.05	03-FEB-20
Silver (Ag)-Total			<0.000010		mg/L		0.00001	03-FEB-20
Sodium (Na)-Total			<0.050		mg/L		0.05	03-FEB-20
Sulfur (S)-Total			<0.50		mg/L		0.5	03-FEB-20
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	03-FEB-20
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	03-FEB-20
Vanadium (V)-Total			<0.00050		mg/L		0.0005	03-FEB-20
Zinc (Zn)-Total			<0.0030		mg/L		0.003	03-FEB-20
Batch	R4988192							
WG3268944-2	LCS							
Aluminum (Al)-Total			108.0		%		80-120	04-FEB-20
Arsenic (As)-Total			101.7		%		80-120	04-FEB-20
Barium (Ba)-Total			106.7		%		80-120	04-FEB-20
Beryllium (Be)-Total			101.5		%		80-120	04-FEB-20
Boron (B)-Total			101.5		%		80-120	04-FEB-20
Cadmium (Cd)-Total			104.3		%		80-120	04-FEB-20
Calcium (Ca)-Total			101.8		%		80-120	04-FEB-20
Chromium (Cr)-Total			106.1		%		80-120	04-FEB-20
Cobalt (Co)-Total			104.9		%		80-120	04-FEB-20
Copper (Cu)-Total			102.8		%		80-120	04-FEB-20
Iron (Fe)-Total			104.9		%		80-120	04-FEB-20
Lead (Pb)-Total			100.4		%		80-120	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 3 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-VA		Water						
Batch	R4988192							
WG3268944-2	LCS							
Magnesium (Mg)-Total			105.6		%		80-120	04-FEB-20
Manganese (Mn)-Total			107.9		%		80-120	04-FEB-20
Molybdenum (Mo)-Total			98.0		%		80-120	04-FEB-20
Nickel (Ni)-Total			105.2		%		80-120	04-FEB-20
Potassium (K)-Total			103.8		%		80-120	04-FEB-20
Silver (Ag)-Total			107.0		%		80-120	04-FEB-20
Sodium (Na)-Total			105.7		%		80-120	04-FEB-20
Sulfur (S)-Total			101.9		%		80-120	04-FEB-20
Thallium (Tl)-Total			101.9		%		80-120	04-FEB-20
Titanium (Ti)-Total			96.9		%		80-120	04-FEB-20
Vanadium (V)-Total			108.1		%		80-120	04-FEB-20
Zinc (Zn)-Total			102.8		%		80-120	04-FEB-20
WG3268944-1	MB							
Aluminum (Al)-Total			<0.0030		mg/L		0.003	04-FEB-20
Arsenic (As)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Barium (Ba)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Boron (B)-Total			<0.010		mg/L		0.01	04-FEB-20
Cadmium (Cd)-Total			<0.0000050		mg/L		0.000005	04-FEB-20
Calcium (Ca)-Total			<0.050		mg/L		0.05	04-FEB-20
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Copper (Cu)-Total			<0.00050		mg/L		0.0005	04-FEB-20
Iron (Fe)-Total			<0.010		mg/L		0.01	04-FEB-20
Lead (Pb)-Total			<0.000050		mg/L		0.00005	04-FEB-20
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	04-FEB-20
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	04-FEB-20
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	04-FEB-20
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	04-FEB-20
Potassium (K)-Total			<0.050		mg/L		0.05	04-FEB-20
Silver (Ag)-Total			<0.000010		mg/L		0.00001	04-FEB-20
Sodium (Na)-Total			<0.050		mg/L		0.05	04-FEB-20
Sulfur (S)-Total			<0.50		mg/L		0.5	04-FEB-20
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 4 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-VA		Water						
Batch R4988192								
WG3268944-1 MB								
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	04-FEB-20
Vanadium (V)-Total			<0.00050		mg/L		0.0005	04-FEB-20
Zinc (Zn)-Total			<0.0030		mg/L		0.003	04-FEB-20
CL-LEACH-IC-VA		Soil						
Batch R4995561								
WG3272652-4 DUP		L2387288-24						
Chloride (Cl)		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	11-FEB-20
WG3272669-3 DUP		L2387288-29						
Chloride (Cl)		14.1	13.5		mg/kg	4.9	30	11-FEB-20
WG3272652-2 LCS								
Chloride (Cl)			99.7		%		70-130	11-FEB-20
WG3272669-2 LCS								
Chloride (Cl)			98.7		%		70-130	11-FEB-20
WG3272652-1 MB								
Chloride (Cl)			<5.0		mg/kg		5	11-FEB-20
WG3272669-1 MB								
Chloride (Cl)			<5.0		mg/kg		5	11-FEB-20
Batch R4998419								
WG3277018-3 DUP		L2387288-15						
Chloride (Cl)		167	164		mg/kg	2.0	30	18-FEB-20
WG3277018-2 LCS								
Chloride (Cl)			99.0		%		70-130	18-FEB-20
WG3277018-1 MB								
Chloride (Cl)			<5.0		mg/kg		5	18-FEB-20
DX-1613B-HRMS-BU		Soil						
Batch R4981388								
WG3253377-4 DUP		L2387288-1						
2,3,7,8-TCDD		0.226	0.225		pg/g	0.4	50	24-JAN-20
1,2,3,7,8-PeCDD		0.244	0.229		pg/g	6.3	50	24-JAN-20
1,2,3,4,7,8-HxCDD		0.258	0.230		pg/g	11	50	24-JAN-20
1,2,3,6,7,8-HxCDD		0.386	0.399		pg/g	3.3	50	24-JAN-20
1,2,3,7,8,9-HxCDD		0.400	0.440		pg/g	9.5	50	24-JAN-20
1,2,3,4,6,7,8-HpCDD		6.75	6.04		pg/g	11	50	24-JAN-20
OCDD		37.4	31.7		pg/g	16	50	24-JAN-20
2,3,7,8-TCDF		0.295	0.32		pg/g	8.1	50	24-JAN-20
1,2,3,7,8-PeCDF		0.252	0.216		pg/g	15	50	24-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 5 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU								
	Soil							
Batch	R4981388							
WG3253377-4	DUP	L2387288-1						
2,3,4,7,8-PeCDF		0.720	0.634		pg/g	13	50	24-JAN-20
1,2,3,4,7,8-HxCDF		0.476	0.384		pg/g	21	50	24-JAN-20
1,2,3,6,7,8-HxCDF		0.310	0.289		pg/g	7.0	50	24-JAN-20
2,3,4,6,7,8-HxCDF		0.565	0.512		pg/g	9.8	50	24-JAN-20
1,2,3,7,8,9-HxCDF		0.16	0.113		pg/g	34	50	24-JAN-20
1,2,3,4,6,7,8-HpCDF		2.30	1.94		pg/g	17	50	24-JAN-20
1,2,3,4,7,8,9-HpCDF		0.160	0.122		pg/g	27	50	24-JAN-20
OCDF		2.91	2.52		pg/g	14	50	24-JAN-20
Total-TCDD		0.226	0.958	G	pg/g	124	50	24-JAN-20
Total-PeCDD		1.87	2.48		pg/g	28	50	24-JAN-20
Total-HxCDD		4.99	4.20		pg/g	17	50	24-JAN-20
Total-HpCDD		13.0	11.4		pg/g	13	50	24-JAN-20
Total-TCDF		7.06	5.15		pg/g	31	50	24-JAN-20
Total-PeCDF		11.2	9.74		pg/g	14	50	24-JAN-20
Total-HxCDF		5.48	4.58		pg/g	18	50	24-JAN-20
Total-HpCDF		3.68	3.20		pg/g	14	50	24-JAN-20

COMMENTS: Sample and duplicate replication criteria not met for Total TCDD results. None of the compounds were detected at levels above the Lower Quantitation Limit so replication criteria are not applicable.

WG3253377-2 LCS

2,3,7,8-TCDD			96.0		%		67-158	24-JAN-20
1,2,3,7,8-PeCDD			102.0		%		70-142	24-JAN-20
1,2,3,4,7,8-HxCDD			97.0		%		70-164	24-JAN-20
1,2,3,6,7,8-HxCDD			97.0		%		76-134	24-JAN-20
1,2,3,7,8,9-HxCDD			103.0		%		64-162	24-JAN-20
1,2,3,4,6,7,8-HpCDD			98.0		%		70-140	24-JAN-20
OCDD			95.0		%		78-144	24-JAN-20
2,3,7,8-TCDF			97.0		%		75-158	24-JAN-20
1,2,3,7,8-PeCDF			98.0		%		80-134	24-JAN-20
2,3,4,7,8-PeCDF			91.0		%		68-160	24-JAN-20
1,2,3,4,7,8-HxCDF			98.0		%		72-134	24-JAN-20
1,2,3,6,7,8-HxCDF			104.0		%		84-130	24-JAN-20
2,3,4,6,7,8-HxCDF			98.0		%		70-156	24-JAN-20
1,2,3,7,8,9-HxCDF			104.0		%		78-130	24-JAN-20
1,2,3,4,6,7,8-HpCDF			104.0		%		82-122	24-JAN-20
1,2,3,4,7,8,9-HpCDF			92.0		%		78-138	24-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 6 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	Soil							
Batch	R4981388							
WG3253377-2	LCS							
OCDF			107.0		%		63-170	24-JAN-20
WG3253377-1	MB							
2,3,7,8-TCDD			<0.065	[U]	pg/g		0.065	24-JAN-20
1,2,3,7,8-PeCDD			<0.055	[U]	pg/g		0.055	24-JAN-20
1,2,3,4,7,8-HxCDD			<0.054	[U]	pg/g		0.054	24-JAN-20
1,2,3,6,7,8-HxCDD			<0.051	[U]	pg/g		0.051	24-JAN-20
1,2,3,7,8,9-HxCDD			<0.051	[U]	pg/g		0.051	24-JAN-20
1,2,3,4,6,7,8-HpCDD			0.067	M,J,R	pg/g		0.057	24-JAN-20
OCDD			0.67	M,J	pg/g		0.16	24-JAN-20
2,3,7,8-TCDF			<0.047	[U]	pg/g		0.047	24-JAN-20
1,2,3,7,8-PeCDF			<0.035	M,U	pg/g		0.035	24-JAN-20
2,3,4,7,8-PeCDF			<0.032	[U]	pg/g		0.032	24-JAN-20
1,2,3,4,7,8-HxCDF			0.041	M,J	pg/g		0.036	24-JAN-20
1,2,3,6,7,8-HxCDF			<0.035	[U]	pg/g		0.035	24-JAN-20
2,3,4,6,7,8-HxCDF			<0.038	[U]	pg/g		0.038	24-JAN-20
1,2,3,7,8,9-HxCDF			<0.057	[U]	pg/g		0.057	24-JAN-20
1,2,3,4,6,7,8-HpCDF			<0.050	[U]	pg/g		0.05	24-JAN-20
1,2,3,4,7,8,9-HpCDF			<0.064	[U]	pg/g		0.064	24-JAN-20
OCDF			<0.15	[U]	pg/g		0.15	24-JAN-20
Total-TCDD			<0.065	[U]	pg/g		0.065	24-JAN-20
Total-PeCDD			<0.055	[U]	pg/g		0.055	24-JAN-20
Total-HxCDD			<0.054	[U]	pg/g		0.054	24-JAN-20
Total-HpCDD			<0.057	[U]	pg/g		0.057	24-JAN-20
Total-TCDF			<0.047	[U]	pg/g		0.047	24-JAN-20
Total-PeCDF			<0.035	[U]	pg/g		0.035	24-JAN-20
Total-HxCDF			<0.057	[U]	pg/g		0.057	24-JAN-20
Total-HpCDF			<0.064	[U]	pg/g		0.064	24-JAN-20
Surrogate: 13C12-2,3,7,8-TCDD			73.0		%		25-164	24-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDD			72.0		%		25-181	24-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			64.0		%		32-141	24-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			82.0		%		28-130	24-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			71.0		%		23-140	24-JAN-20
Surrogate: 13C12-OCDD			39.0		%		17-157	24-JAN-20
Surrogate: 13C12-2,3,7,8-TCDF			71.0		%		24-169	24-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 7 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU								
	Soil							
Batch	R4981388							
WG3253377-1	MB							
Surrogate: 13C12-1,2,3,7,8-PeCDF			75.0		%		24-185	24-JAN-20
Surrogate: 13C12-2,3,4,7,8-PeCDF			71.0		%		21-178	24-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			67.0		%		26-152	24-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			75.0		%		26-123	24-JAN-20
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			71.0		%		29-147	24-JAN-20
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			64.0		%		28-136	24-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			62.0		%		28-143	24-JAN-20
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			72.0		%		26-138	24-JAN-20
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			77.0		%		35-197	24-JAN-20
F-1:5-DI-SIE-VA								
	Soil							
Batch	R4994593							
WG3268526-3	DUP	L2387288-4						
Fluoride (F)		1.45	1.33		mg/kg	8.4	30	11-FEB-20
WG3268526-2	LCS							
Fluoride (F)			94.8		%		70-130	11-FEB-20
WG3268526-1	MB							
Fluoride (F)			<0.20		mg/kg		0.2	11-FEB-20
WG3268526-4	MS	L2387288-8						
Fluoride (F)			110.1		%		60-140	11-FEB-20
Batch	R4994600							
WG3272809-3	DUP	L2387288-1						
Fluoride (F)		3.49	3.62		mg/kg	3.7	30	11-FEB-20
WG3272809-2	LCS							
Fluoride (F)			90.6		%		70-130	11-FEB-20
WG3272809-1	MB							
Fluoride (F)			<0.20		mg/kg		0.2	11-FEB-20
HG-200.2-CVAF-VA								
	Soil							
Batch	R4987948							
WG3268520-4	CRM	VA-CANMET-TILL2						
Mercury (Hg)			106.9		%		70-130	04-FEB-20
WG3268520-3	LCS							
Mercury (Hg)			97.9		%		80-120	04-FEB-20
WG3268520-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 8 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAF-VA		Soil						
Batch	R4994872							
WG3272817-4	CRM	VA-CANMET-TILL2						
Mercury (Hg)			103.1		%		70-130	12-FEB-20
WG3272817-2	DUP	L2387288-7						
Mercury (Hg)		0.0635	0.0647		mg/kg	1.9	40	12-FEB-20
WG3272817-3	LCS							
Mercury (Hg)			99.3		%		80-120	12-FEB-20
WG3272817-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	12-FEB-20
MET-200.2-CCMS-VA		Soil						
Batch	R4988988							
WG3268520-4	CRM	VA-CANMET-TILL2						
Aluminum (Al)			101.9		%		70-130	04-FEB-20
Arsenic (As)			100.3		%		70-130	04-FEB-20
Barium (Ba)			94.2		%		70-130	04-FEB-20
Beryllium (Be)			93.0		%		70-130	04-FEB-20
Cadmium (Cd)			104.7		%		70-130	04-FEB-20
Calcium (Ca)			102.7		%		70-130	04-FEB-20
Chromium (Cr)			97.0		%		70-130	04-FEB-20
Cobalt (Co)			94.2		%		70-130	04-FEB-20
Copper (Cu)			95.9		%		70-130	04-FEB-20
Iron (Fe)			101.9		%		70-130	04-FEB-20
Lead (Pb)			93.7		%		70-130	04-FEB-20
Magnesium (Mg)			101.6		%		70-130	04-FEB-20
Manganese (Mn)			100.0		%		70-130	04-FEB-20
Molybdenum (Mo)			99.1		%		70-130	04-FEB-20
Nickel (Ni)			97.6		%		70-130	04-FEB-20
Phosphorus (P)			95.5		%		70-130	04-FEB-20
Potassium (K)			97.7		%		70-130	04-FEB-20
Silver (Ag)			0.27		mg/kg		0.16-0.36	04-FEB-20
Sodium (Na)			90.5		%		70-130	04-FEB-20
Strontium (Sr)			100.3		%		70-130	04-FEB-20
Thallium (Tl)			91.4		%		70-130	04-FEB-20
Titanium (Ti)			94.2		%		70-130	04-FEB-20
Vanadium (V)			98.4		%		70-130	04-FEB-20
Zinc (Zn)			99.4		%		70-130	04-FEB-20
Zirconium (Zr)			100.4		%		70-130	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 9 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R4988988							
WG3268520-3	LCS							
Aluminum (Al)			103.4		%		80-120	04-FEB-20
Arsenic (As)			102.4		%		80-120	04-FEB-20
Barium (Ba)			99.9		%		80-120	04-FEB-20
Beryllium (Be)			97.5		%		80-120	04-FEB-20
Boron (B)			98.0		%		80-120	04-FEB-20
Cadmium (Cd)			100.4		%		80-120	04-FEB-20
Calcium (Ca)			100.1		%		80-120	04-FEB-20
Chromium (Cr)			100.4		%		80-120	04-FEB-20
Cobalt (Co)			97.9		%		80-120	04-FEB-20
Copper (Cu)			98.6		%		80-120	04-FEB-20
Iron (Fe)			99.6		%		80-120	04-FEB-20
Lead (Pb)			101.7		%		80-120	04-FEB-20
Magnesium (Mg)			105.6		%		80-120	04-FEB-20
Manganese (Mn)			101.5		%		80-120	04-FEB-20
Molybdenum (Mo)			103.2		%		80-120	04-FEB-20
Nickel (Ni)			100.6		%		80-120	04-FEB-20
Phosphorus (P)			97.1		%		80-120	04-FEB-20
Potassium (K)			104.0		%		80-120	04-FEB-20
Silver (Ag)			95.5		%		80-120	04-FEB-20
Sodium (Na)			110.8		%		80-120	04-FEB-20
Strontium (Sr)			110.3		%		80-120	04-FEB-20
Sulfur (S)			101.6		%		80-120	04-FEB-20
Thallium (Tl)			101.4		%		80-120	04-FEB-20
Titanium (Ti)			101.8		%		80-120	04-FEB-20
Vanadium (V)			103.9		%		80-120	04-FEB-20
Zinc (Zn)			101.2		%		80-120	04-FEB-20
Zirconium (Zr)			93.6		%		70-130	04-FEB-20
WG3268520-1	MB							
Aluminum (Al)			<50		mg/kg		50	04-FEB-20
Arsenic (As)			<0.10		mg/kg		0.1	04-FEB-20
Barium (Ba)			<0.50		mg/kg		0.5	04-FEB-20
Beryllium (Be)			<0.10		mg/kg		0.1	04-FEB-20
Boron (B)			<5.0		mg/kg		5	04-FEB-20
Cadmium (Cd)			<0.020		mg/kg		0.02	04-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 10 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R4988988							
WG3268520-1	MB							
Calcium (Ca)			<50		mg/kg		50	04-FEB-20
Chromium (Cr)			<0.50		mg/kg		0.5	04-FEB-20
Cobalt (Co)			<0.10		mg/kg		0.1	04-FEB-20
Copper (Cu)			<0.50		mg/kg		0.5	04-FEB-20
Iron (Fe)			<50		mg/kg		50	04-FEB-20
Lead (Pb)			<0.50		mg/kg		0.5	04-FEB-20
Magnesium (Mg)			<20		mg/kg		20	04-FEB-20
Manganese (Mn)			<1.0		mg/kg		1	04-FEB-20
Molybdenum (Mo)			<0.10		mg/kg		0.1	04-FEB-20
Nickel (Ni)			<0.50		mg/kg		0.5	04-FEB-20
Phosphorus (P)			<50		mg/kg		50	04-FEB-20
Potassium (K)			<100		mg/kg		100	04-FEB-20
Silver (Ag)			<0.10		mg/kg		0.1	04-FEB-20
Sodium (Na)			<50		mg/kg		50	04-FEB-20
Strontium (Sr)			<0.50		mg/kg		0.5	04-FEB-20
Sulfur (S)			<1000		mg/kg		1000	04-FEB-20
Thallium (Tl)			<0.050		mg/kg		0.05	04-FEB-20
Titanium (Ti)			<1.0		mg/kg		1	04-FEB-20
Vanadium (V)			<0.20		mg/kg		0.2	04-FEB-20
Zinc (Zn)			<2.0		mg/kg		2	04-FEB-20
Zirconium (Zr)			<1.0		mg/kg		1	04-FEB-20
Batch	R4995450							
WG3272817-4	CRM	VA-CANMET-TILL2						
Aluminum (Al)			99.6		%		70-130	12-FEB-20
Arsenic (As)			99.4		%		70-130	12-FEB-20
Barium (Ba)			87.9		%		70-130	12-FEB-20
Beryllium (Be)			89.1		%		70-130	12-FEB-20
Cadmium (Cd)			96.0		%		70-130	12-FEB-20
Calcium (Ca)			91.9		%		70-130	12-FEB-20
Chromium (Cr)			98.3		%		70-130	12-FEB-20
Cobalt (Co)			98.7		%		70-130	12-FEB-20
Copper (Cu)			100.0		%		70-130	12-FEB-20
Iron (Fe)			97.7		%		70-130	12-FEB-20
Lead (Pb)			92.0		%		70-130	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 11 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R4995450							
WG3272817-4	CRM	VA-CANMET-TILL2						
Magnesium (Mg)			100.2		%		70-130	12-FEB-20
Manganese (Mn)			97.4		%		70-130	12-FEB-20
Molybdenum (Mo)			91.6		%		70-130	12-FEB-20
Nickel (Ni)			100.7		%		70-130	12-FEB-20
Phosphorus (P)			95.9		%		70-130	12-FEB-20
Potassium (K)			94.6		%		70-130	12-FEB-20
Silver (Ag)			0.25		mg/kg		0.16-0.36	12-FEB-20
Sodium (Na)			88.3		%		70-130	12-FEB-20
Strontium (Sr)			89.5		%		70-130	12-FEB-20
Thallium (Tl)			88.8		%		70-130	12-FEB-20
Titanium (Ti)			98.1		%		70-130	12-FEB-20
Vanadium (V)			97.8		%		70-130	12-FEB-20
Zinc (Zn)			96.0		%		70-130	12-FEB-20
Zirconium (Zr)			84.1		%		70-130	12-FEB-20
WG3272817-2	DUP	L2387288-7						
Aluminum (Al)		26200	27500		mg/kg	4.5	40	12-FEB-20
Arsenic (As)		4.94	5.05		mg/kg	2.2	30	12-FEB-20
Barium (Ba)		120	124		mg/kg	3.0	40	12-FEB-20
Beryllium (Be)		1.16	1.18		mg/kg	1.8	30	12-FEB-20
Boron (B)		15.6	18.7		mg/kg	18	30	12-FEB-20
Cadmium (Cd)		0.473	0.501		mg/kg	5.7	30	12-FEB-20
Calcium (Ca)		5550	5740		mg/kg	3.5	30	12-FEB-20
Chromium (Cr)		38.2	39.2		mg/kg	2.7	30	12-FEB-20
Cobalt (Co)		11.2	11.3		mg/kg	1.2	30	12-FEB-20
Copper (Cu)		31.3	32.1		mg/kg	2.7	30	12-FEB-20
Iron (Fe)		25000	25100		mg/kg	0.4	30	12-FEB-20
Lead (Pb)		15.4	15.8		mg/kg	2.6	40	12-FEB-20
Magnesium (Mg)		7320	7440		mg/kg	1.6	30	12-FEB-20
Manganese (Mn)		339	351		mg/kg	3.5	30	12-FEB-20
Molybdenum (Mo)		1.35	1.32		mg/kg	2.0	40	12-FEB-20
Nickel (Ni)		36.1	36.5		mg/kg	1.1	30	12-FEB-20
Phosphorus (P)		959	963		mg/kg	0.4	30	12-FEB-20
Potassium (K)		4010	4460		mg/kg	11	40	12-FEB-20
Silver (Ag)		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 12 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R4995450							
WG3272817-2	DUP	L2387288-7						
Sodium (Na)		64	70		mg/kg	7.9	40	12-FEB-20
Strontium (Sr)		21.8	22.2		mg/kg	1.6	40	12-FEB-20
Sulfur (S)		<1000	<1000	RPD-NA	mg/kg	N/A	30	12-FEB-20
Thallium (Tl)		0.228	0.246		mg/kg	7.5	30	12-FEB-20
Titanium (Ti)		128	164		mg/kg	25	40	12-FEB-20
Vanadium (V)		44.3	46.5		mg/kg	4.8	30	12-FEB-20
Zinc (Zn)		82.9	82.2		mg/kg	0.8	30	12-FEB-20
Zirconium (Zr)		6.4	6.1		mg/kg	4.8	30	12-FEB-20
WG3272817-3	LCS							
Aluminum (Al)			103.1		%		80-120	12-FEB-20
Arsenic (As)			98.7		%		80-120	12-FEB-20
Barium (Ba)			98.3		%		80-120	12-FEB-20
Beryllium (Be)			91.9		%		80-120	12-FEB-20
Boron (B)			93.9		%		80-120	12-FEB-20
Cadmium (Cd)			94.9		%		80-120	12-FEB-20
Calcium (Ca)			98.1		%		80-120	12-FEB-20
Chromium (Cr)			98.9		%		80-120	12-FEB-20
Cobalt (Co)			99.2		%		80-120	12-FEB-20
Copper (Cu)			98.3		%		80-120	12-FEB-20
Iron (Fe)			99.6		%		80-120	12-FEB-20
Lead (Pb)			98.1		%		80-120	12-FEB-20
Magnesium (Mg)			106.8		%		80-120	12-FEB-20
Manganese (Mn)			101.4		%		80-120	12-FEB-20
Molybdenum (Mo)			98.5		%		80-120	12-FEB-20
Nickel (Ni)			100.0		%		80-120	12-FEB-20
Phosphorus (P)			101.3		%		80-120	12-FEB-20
Potassium (K)			104.2		%		80-120	12-FEB-20
Silver (Ag)			98.5		%		80-120	12-FEB-20
Sodium (Na)			101.1		%		80-120	12-FEB-20
Strontium (Sr)			99.3		%		80-120	12-FEB-20
Sulfur (S)			99.3		%		80-120	12-FEB-20
Thallium (Tl)			98.2		%		80-120	12-FEB-20
Titanium (Ti)			99.4		%		80-120	12-FEB-20
Vanadium (V)			102.2		%		80-120	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 13 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R4995450							
WG3272817-3	LCS							
Zinc (Zn)			97.6		%		80-120	12-FEB-20
Zirconium (Zr)			97.4		%		70-130	12-FEB-20
WG3272817-1	MB							
Aluminum (Al)			<50		mg/kg		50	12-FEB-20
Arsenic (As)			<0.10		mg/kg		0.1	12-FEB-20
Barium (Ba)			<0.50		mg/kg		0.5	12-FEB-20
Beryllium (Be)			<0.10		mg/kg		0.1	12-FEB-20
Boron (B)			<5.0		mg/kg		5	12-FEB-20
Cadmium (Cd)			<0.020		mg/kg		0.02	12-FEB-20
Calcium (Ca)			<50		mg/kg		50	12-FEB-20
Chromium (Cr)			<0.50		mg/kg		0.5	12-FEB-20
Cobalt (Co)			<0.10		mg/kg		0.1	12-FEB-20
Copper (Cu)			<0.50		mg/kg		0.5	12-FEB-20
Iron (Fe)			<50		mg/kg		50	12-FEB-20
Lead (Pb)			<0.50		mg/kg		0.5	12-FEB-20
Magnesium (Mg)			<20		mg/kg		20	12-FEB-20
Manganese (Mn)			<1.0		mg/kg		1	12-FEB-20
Molybdenum (Mo)			<0.10		mg/kg		0.1	12-FEB-20
Nickel (Ni)			<0.50		mg/kg		0.5	12-FEB-20
Phosphorus (P)			<50		mg/kg		50	12-FEB-20
Potassium (K)			<100		mg/kg		100	12-FEB-20
Silver (Ag)			<0.10		mg/kg		0.1	12-FEB-20
Sodium (Na)			<50		mg/kg		50	12-FEB-20
Strontium (Sr)			<0.50		mg/kg		0.5	12-FEB-20
Sulfur (S)			<1000		mg/kg		1000	12-FEB-20
Thallium (Tl)			<0.050		mg/kg		0.05	12-FEB-20
Titanium (Ti)			<1.0		mg/kg		1	12-FEB-20
Vanadium (V)			<0.20		mg/kg		0.2	12-FEB-20
Zinc (Zn)			<2.0		mg/kg		2	12-FEB-20
Zirconium (Zr)			<1.0		mg/kg		1	12-FEB-20
MOISTURE-BU								
	Soil							
Batch	R4974811							
WG3253380-3	DUP	L2387288-1						
% Moisture		17.1	16.5		%	3.2	20	22-JAN-20
WG3253380-2	LCS							



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 14 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-BU								
Soil								
Batch	R4974811							
WG3253380-2	LCS							
% Moisture			93.1		%		90-110	22-JAN-20
WG3253380-1	MB							
% Moisture			<0.10		%		0.3	22-JAN-20
Batch	R4976673							
WG3253401-2	LCS							
% Moisture			96.0		%		90-110	23-JAN-20
WG3253401-1	MB							
% Moisture			<0.10		%		0.3	23-JAN-20
MOISTURE-VA								
Soil								
Batch	R4987031							
WG3268534-2	LCS							
Moisture			100.2		%		90-110	03-FEB-20
WG3268534-1	MB							
Moisture			<0.25		%		0.25	03-FEB-20
Batch	R4992895							
WG3272824-2	LCS							
Moisture			100.4		%		90-110	10-FEB-20
WG3272824-1	MB							
Moisture			<0.25		%		0.25	10-FEB-20
Batch	R4994469							
WG3273551-3	DUP	L2387288-4						
Moisture		22.5	22.1		%	2.1	20	11-FEB-20
WG3273551-2	LCS							
Moisture			100.4		%		90-110	11-FEB-20
WG3273551-1	MB							
Moisture			<0.25		%		0.25	11-FEB-20
AG-DRY-CCMS-N-VA								
Tissue								
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Silver (Ag)-Total			106.0		%		70-130	10-FEB-20
WG3270945-2	DUP	L2387288-49						
Silver (Ag)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	10-FEB-20
WG3270945-4	LCS							
Silver (Ag)-Total			93.3		%		80-120	10-FEB-20
WG3270945-1	MB							
Silver (Ag)-Total			<0.0050		mg/kg		0.005	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 15 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
AG-DRY-CCMS-N-VA		Tissue						
Batch	R4995951							
WG3272564-3	CRM	VA-NRC-DORM4						
Silver (Ag)-Total			103.9		%		70-130	12-FEB-20
WG3272564-2	DUP	L2387288-9						
Silver (Ag)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	12-FEB-20
WG3272564-4	LCS							
Silver (Ag)-Total			91.1		%		80-120	12-FEB-20
WG3272564-1	MB							
Silver (Ag)-Total			<0.0050		mg/kg		0.005	12-FEB-20
CL-DRY-SOL-L-IC-ED		Tissue						
Batch	R4995904							
WG3273428-4	DUP	L2387288-3						
Chloride (Cl)		44	45		mg/kg	2.2	35	12-FEB-20
WG3273887-2	DUP	L2387288-48						
Chloride (Cl)		51	51		mg/kg	0.3	35	12-FEB-20
WG3273428-3	LCS							
Chloride (Cl)			106.0		%		70-130	12-FEB-20
WG3273887-3	LCS							
Chloride (Cl)			104.2		%		70-130	12-FEB-20
WG3273428-1	MB							
Chloride (Cl)			<10		mg/kg		10	12-FEB-20
WG3273887-1	MB							
Chloride (Cl)			<10		mg/kg		10	12-FEB-20
WG3273428-5	MS	L2387288-6						
Chloride (Cl)			102.4		%		70-130	12-FEB-20
WG3273887-4	MS	L2387288-31						
Chloride (Cl)			106.0		%		70-130	12-FEB-20
HG-DRY-CVAFS-N-VA		Tissue						
Batch	R4994346							
WG3270945-3	CRM	VA-NRC-DORM4						
Mercury (Hg)-Total			105.4		%		70-130	11-FEB-20
WG3270945-2	DUP	L2387288-49						
Mercury (Hg)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	11-FEB-20
WG3270945-4	LCS							
Mercury (Hg)-Total			96.2		%		80-120	11-FEB-20
WG3270945-1	MB							
Mercury (Hg)-Total			<0.0050		mg/kg		0.005	11-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 16 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-DRY-CVAFS-N-VA								
	Tissue							
Batch	R4995704							
WG3272564-3	CRM	VA-NRC-DORM4						
Mercury (Hg)-Total			109.2		%		70-130	13-FEB-20
WG3272564-2	DUP	L2387288-9						
Mercury (Hg)-Total		0.0154	0.0131		mg/kg	16	40	13-FEB-20
WG3272564-4	LCS							
Mercury (Hg)-Total			100.1		%		80-120	13-FEB-20
WG3272564-1	MB							
Mercury (Hg)-Total			<0.0050		mg/kg		0.005	13-FEB-20
MET-DRY-CCMS-N-VA								
	Tissue							
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Aluminum (Al)-Total			108.1		%		70-130	10-FEB-20
Arsenic (As)-Total			99.7		%		70-130	10-FEB-20
Barium (Ba)-Total			109.1		%		70-130	10-FEB-20
Beryllium (Be)-Total			0.015		mg/kg		0.005-0.025	10-FEB-20
Boron (B)-Total			90.0		%		70-130	10-FEB-20
Cadmium (Cd)-Total			98.3		%		70-130	10-FEB-20
Calcium (Ca)-Total			99.1		%		70-130	10-FEB-20
Chromium (Cr)-Total			106.7		%		70-130	10-FEB-20
Cobalt (Co)-Total			103.6		%		70-130	10-FEB-20
Copper (Cu)-Total			98.9		%		70-130	10-FEB-20
Iron (Fe)-Total			111.7		%		70-130	10-FEB-20
Lead (Pb)-Total			100.0		%		70-130	10-FEB-20
Magnesium (Mg)-Total			104.5		%		70-130	10-FEB-20
Manganese (Mn)-Total			96.0		%		70-130	10-FEB-20
Molybdenum (Mo)-Total			91.0		%		70-130	10-FEB-20
Nickel (Ni)-Total			99.8		%		70-130	10-FEB-20
Phosphorus (P)-Total			104.3		%		70-130	10-FEB-20
Potassium (K)-Total			107.5		%		70-130	10-FEB-20
Sodium (Na)-Total			110.5		%		70-130	10-FEB-20
Strontium (Sr)-Total			94.2		%		70-130	10-FEB-20
Thallium (Tl)-Total			79.6		%		70-130	10-FEB-20
Vanadium (V)-Total			101.2		%		70-130	10-FEB-20
Zinc (Zn)-Total			109.8		%		70-130	10-FEB-20
Zirconium (Zr)-Total			0.26		mg/kg		0.05-0.45	10-FEB-20
WG3270945-2	DUP	L2387288-49						



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 17 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA Tissue								
Batch	R4992782							
WG3270945-2 DUP		L2387288-49						
Aluminum (Al)-Total		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	10-FEB-20
Arsenic (As)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Barium (Ba)-Total		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	10-FEB-20
Beryllium (Be)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	10-FEB-20
Boron (B)-Total		3.6	2.5		mg/kg	37	40	10-FEB-20
Cadmium (Cd)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	10-FEB-20
Calcium (Ca)-Total		53	45		mg/kg	16	60	10-FEB-20
Chromium (Cr)-Total		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	10-FEB-20
Cobalt (Co)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Copper (Cu)-Total		1.26	1.03		mg/kg	20	40	10-FEB-20
Iron (Fe)-Total		19.3	15.9		mg/kg	19	40	10-FEB-20
Lead (Pb)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Magnesium (Mg)-Total		1240	1110		mg/kg	11	40	10-FEB-20
Manganese (Mn)-Total		4.25	3.49		mg/kg	20	40	10-FEB-20
Molybdenum (Mo)-Total		0.394	0.306		mg/kg	25	40	10-FEB-20
Nickel (Ni)-Total		0.29	0.22		mg/kg	24	40	10-FEB-20
Phosphorus (P)-Total		3860	3310		mg/kg	15	40	10-FEB-20
Potassium (K)-Total		4960	3980		mg/kg	22	40	10-FEB-20
Sodium (Na)-Total		<20	<20	RPD-NA	mg/kg	N/A	40	10-FEB-20
Strontium (Sr)-Total		0.097	0.077		mg/kg	23	60	10-FEB-20
Thallium (Tl)-Total		<0.0020	<0.0020	RPD-NA	mg/kg	N/A	40	10-FEB-20
Vanadium (V)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	10-FEB-20
Zinc (Zn)-Total		21.4	18.3		mg/kg	15	40	10-FEB-20
Zirconium (Zr)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	10-FEB-20
WG3270945-4 LCS								
Aluminum (Al)-Total			109.8		%		80-120	10-FEB-20
Arsenic (As)-Total			107.5		%		80-120	10-FEB-20
Barium (Ba)-Total			114.1		%		80-120	10-FEB-20
Beryllium (Be)-Total			98.0		%		80-120	10-FEB-20
Boron (B)-Total			99.1		%		80-120	10-FEB-20
Cadmium (Cd)-Total			102.7		%		80-120	10-FEB-20
Calcium (Ca)-Total			105.7		%		80-120	10-FEB-20
Chromium (Cr)-Total			108.4		%		80-120	10-FEB-20
Cobalt (Co)-Total			105.9		%		80-120	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 18 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA		Tissue						
Batch	R4992782							
WG3270945-4	LCS							
Copper (Cu)-Total			105.3		%		80-120	10-FEB-20
Iron (Fe)-Total			111.3		%		80-120	10-FEB-20
Lead (Pb)-Total			103.8		%		80-120	10-FEB-20
Magnesium (Mg)-Total			110.9		%		80-120	10-FEB-20
Manganese (Mn)-Total			107.5		%		80-120	10-FEB-20
Molybdenum (Mo)-Total			105.4		%		80-120	10-FEB-20
Nickel (Ni)-Total			106.2		%		80-120	10-FEB-20
Phosphorus (P)-Total			115.3		%		80-120	10-FEB-20
Potassium (K)-Total			110.6		%		80-120	10-FEB-20
Sodium (Na)-Total			112.1		%		80-120	10-FEB-20
Strontium (Sr)-Total			109.6		%		80-120	10-FEB-20
Thallium (Tl)-Total			99.3		%		80-120	10-FEB-20
Vanadium (V)-Total			109.8		%		80-120	10-FEB-20
Zinc (Zn)-Total			103.2		%		80-120	10-FEB-20
Zirconium (Zr)-Total			102.6		%		80-120	10-FEB-20
WG3270945-1		MB						
Aluminum (Al)-Total			<2.0		mg/kg		2	10-FEB-20
Arsenic (As)-Total			<0.020		mg/kg		0.02	10-FEB-20
Barium (Ba)-Total			<0.050		mg/kg		0.05	10-FEB-20
Beryllium (Be)-Total			<0.010		mg/kg		0.01	10-FEB-20
Boron (B)-Total			<1.0		mg/kg		1	10-FEB-20
Cadmium (Cd)-Total			<0.0050		mg/kg		0.005	10-FEB-20
Calcium (Ca)-Total			<20		mg/kg		20	10-FEB-20
Chromium (Cr)-Total			<0.050		mg/kg		0.05	10-FEB-20
Cobalt (Co)-Total			<0.020		mg/kg		0.02	10-FEB-20
Copper (Cu)-Total			<0.10		mg/kg		0.1	10-FEB-20
Iron (Fe)-Total			<3.0		mg/kg		3	10-FEB-20
Lead (Pb)-Total			<0.020		mg/kg		0.02	10-FEB-20
Magnesium (Mg)-Total			<2.0		mg/kg		2	10-FEB-20
Manganese (Mn)-Total			<0.050		mg/kg		0.05	10-FEB-20
Molybdenum (Mo)-Total			<0.020		mg/kg		0.02	10-FEB-20
Nickel (Ni)-Total			<0.20		mg/kg		0.2	10-FEB-20
Phosphorus (P)-Total			<10		mg/kg		10	10-FEB-20
Potassium (K)-Total			<20		mg/kg		20	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 19 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA								
	Tissue							
Batch	R4992782							
WG3270945-1	MB							
Sodium (Na)-Total			<20		mg/kg		20	10-FEB-20
Strontium (Sr)-Total			<0.050		mg/kg		0.05	10-FEB-20
Thallium (Tl)-Total			<0.0020		mg/kg		0.002	10-FEB-20
Vanadium (V)-Total			<0.10		mg/kg		0.1	10-FEB-20
Zinc (Zn)-Total			<0.50		mg/kg		0.5	10-FEB-20
Zirconium (Zr)-Total			<0.20		mg/kg		0.2	10-FEB-20
Batch	R4995951							
WG3272564-3	CRM	VA-NRC-DORM4						
Aluminum (Al)-Total			95.9		%		70-130	12-FEB-20
Arsenic (As)-Total			92.8		%		70-130	12-FEB-20
Barium (Ba)-Total			102.1		%		70-130	12-FEB-20
Beryllium (Be)-Total			0.014		mg/kg		0.005-0.025	12-FEB-20
Boron (B)-Total			90.2		%		70-130	12-FEB-20
Cadmium (Cd)-Total			92.3		%		70-130	12-FEB-20
Calcium (Ca)-Total			95.0		%		70-130	12-FEB-20
Chromium (Cr)-Total			99.9		%		70-130	12-FEB-20
Cobalt (Co)-Total			94.9		%		70-130	12-FEB-20
Copper (Cu)-Total			93.2		%		70-130	12-FEB-20
Iron (Fe)-Total			102.2		%		70-130	12-FEB-20
Lead (Pb)-Total			99.8		%		70-130	12-FEB-20
Magnesium (Mg)-Total			94.4		%		70-130	12-FEB-20
Manganese (Mn)-Total			107.6		%		70-130	12-FEB-20
Molybdenum (Mo)-Total			91.6		%		70-130	12-FEB-20
Nickel (Ni)-Total			92.7		%		70-130	12-FEB-20
Phosphorus (P)-Total			93.4		%		70-130	12-FEB-20
Potassium (K)-Total			96.6		%		70-130	12-FEB-20
Sodium (Na)-Total			98.6		%		70-130	12-FEB-20
Strontium (Sr)-Total			89.7		%		70-130	12-FEB-20
Thallium (Tl)-Total			89.1		%		70-130	12-FEB-20
Vanadium (V)-Total			95.4		%		70-130	12-FEB-20
Zinc (Zn)-Total			103.7		%		70-130	12-FEB-20
Zirconium (Zr)-Total			0.24		mg/kg		0.05-0.45	12-FEB-20
WG3272564-2	DUP	L2387288-9						
Aluminum (Al)-Total		62.8	50.5		mg/kg	22	40	12-FEB-20
Arsenic (As)-Total		0.044	0.038		mg/kg	15	40	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 20 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA Tissue								
Batch	R4995951							
WG3272564-2 DUP		L2387288-9						
Barium (Ba)-Total		8.75	8.65		mg/kg	1.1	40	12-FEB-20
Beryllium (Be)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	12-FEB-20
Boron (B)-Total		6.7	6.3		mg/kg	7.3	40	12-FEB-20
Cadmium (Cd)-Total		0.0416	0.0411		mg/kg	1.2	40	12-FEB-20
Calcium (Ca)-Total		4640	4260		mg/kg	8.7	60	12-FEB-20
Chromium (Cr)-Total		0.246	0.225		mg/kg	9.0	40	12-FEB-20
Cobalt (Co)-Total		0.055	0.054		mg/kg	2.7	40	12-FEB-20
Copper (Cu)-Total		5.46	5.67		mg/kg	3.8	40	12-FEB-20
Iron (Fe)-Total		113	98.2		mg/kg	14	40	12-FEB-20
Lead (Pb)-Total		0.279	0.231		mg/kg	19	40	12-FEB-20
Magnesium (Mg)-Total		2090	2110		mg/kg	1.0	40	12-FEB-20
Manganese (Mn)-Total		86.4	84.8		mg/kg	1.8	40	12-FEB-20
Molybdenum (Mo)-Total		4.08	3.80		mg/kg	7.0	40	12-FEB-20
Nickel (Ni)-Total		0.72	0.70		mg/kg	2.3	40	12-FEB-20
Phosphorus (P)-Total		2570	2540		mg/kg	1.2	40	12-FEB-20
Potassium (K)-Total		12400	12300		mg/kg	0.6	40	12-FEB-20
Sodium (Na)-Total		<20	<20	RPD-NA	mg/kg	N/A	40	12-FEB-20
Strontium (Sr)-Total		13.5	12.6		mg/kg	6.8	60	12-FEB-20
Thallium (Tl)-Total		0.0026	0.0023		mg/kg	13	40	12-FEB-20
Vanadium (V)-Total		0.15	0.12		mg/kg	21	40	12-FEB-20
Zinc (Zn)-Total		38.7	43.2		mg/kg	11	40	12-FEB-20
Zirconium (Zr)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	12-FEB-20
WG3272564-4 LCS								
Aluminum (Al)-Total			103.7		%		80-120	12-FEB-20
Arsenic (As)-Total			107.2		%		80-120	12-FEB-20
Barium (Ba)-Total			111.1		%		80-120	12-FEB-20
Beryllium (Be)-Total			88.4		%		80-120	12-FEB-20
Boron (B)-Total			88.0		%		80-120	12-FEB-20
Cadmium (Cd)-Total			102.8		%		80-120	12-FEB-20
Calcium (Ca)-Total			89.2		%		80-120	12-FEB-20
Chromium (Cr)-Total			106.4		%		80-120	12-FEB-20
Cobalt (Co)-Total			105.1		%		80-120	12-FEB-20
Copper (Cu)-Total			105.0		%		80-120	12-FEB-20
Iron (Fe)-Total			111.8		%		80-120	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 21 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA								
	Tissue							
Batch	R4995951							
WG3272564-4	LCS							
Lead (Pb)-Total			89.7		%		80-120	12-FEB-20
Magnesium (Mg)-Total			105.7		%		80-120	12-FEB-20
Manganese (Mn)-Total			107.5		%		80-120	12-FEB-20
Molybdenum (Mo)-Total			95.9		%		80-120	12-FEB-20
Nickel (Ni)-Total			104.0		%		80-120	12-FEB-20
Phosphorus (P)-Total			113.2		%		80-120	12-FEB-20
Potassium (K)-Total			110.7		%		80-120	12-FEB-20
Sodium (Na)-Total			107.9		%		80-120	12-FEB-20
Strontium (Sr)-Total			94.4		%		80-120	12-FEB-20
Thallium (Tl)-Total			88.7		%		80-120	12-FEB-20
Vanadium (V)-Total			107.8		%		80-120	12-FEB-20
Zinc (Zn)-Total			103.3		%		80-120	12-FEB-20
Zirconium (Zr)-Total			92.6		%		80-120	12-FEB-20
WG3272564-1	MB							
Aluminum (Al)-Total			<2.0		mg/kg		2	12-FEB-20
Arsenic (As)-Total			<0.020		mg/kg		0.02	12-FEB-20
Barium (Ba)-Total			<0.050		mg/kg		0.05	12-FEB-20
Beryllium (Be)-Total			<0.010		mg/kg		0.01	12-FEB-20
Boron (B)-Total			<1.0		mg/kg		1	12-FEB-20
Cadmium (Cd)-Total			<0.0050		mg/kg		0.005	12-FEB-20
Calcium (Ca)-Total			<20		mg/kg		20	12-FEB-20
Chromium (Cr)-Total			<0.050		mg/kg		0.05	12-FEB-20
Cobalt (Co)-Total			<0.020		mg/kg		0.02	12-FEB-20
Copper (Cu)-Total			<0.10		mg/kg		0.1	12-FEB-20
Iron (Fe)-Total			<3.0		mg/kg		3	12-FEB-20
Lead (Pb)-Total			<0.020		mg/kg		0.02	12-FEB-20
Magnesium (Mg)-Total			<2.0		mg/kg		2	12-FEB-20
Manganese (Mn)-Total			<0.050		mg/kg		0.05	12-FEB-20
Molybdenum (Mo)-Total			<0.020		mg/kg		0.02	12-FEB-20
Nickel (Ni)-Total			<0.20		mg/kg		0.2	12-FEB-20
Phosphorus (P)-Total			<10		mg/kg		10	12-FEB-20
Potassium (K)-Total			<20		mg/kg		20	12-FEB-20
Sodium (Na)-Total			<20		mg/kg		20	12-FEB-20
Strontium (Sr)-Total			<0.050		mg/kg		0.05	12-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 22 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA								
	Tissue							
Batch	R4995951							
WG3272564-1	MB							
Thallium (Tl)-Total			<0.0020		mg/kg		0.002	12-FEB-20
Vanadium (V)-Total			<0.10		mg/kg		0.1	12-FEB-20
Zinc (Zn)-Total			<0.50		mg/kg		0.5	12-FEB-20
Zirconium (Zr)-Total			<0.20		mg/kg		0.2	12-FEB-20
MOISTURE-BU								
	Tissue							
Batch	R4976647							
WG3254533-2	LCS							
% Moisture			94.7		%		50-150	23-JAN-20
WG3254533-1	MB							
% Moisture			<0.10		%		0.1	23-JAN-20
Batch	R4980115							
WG3254677-2	LCS							
% Moisture			96.6		%		50-150	27-JAN-20
WG3254677-1	MB							
% Moisture			<0.10		%		0.1	27-JAN-20
MOISTURE-TISS-VA								
	Tissue							
Batch	R4992446							
WG3270879-3	DUP	L2387288-19						
% Moisture		58.0	58.1		%	0.3	20	07-FEB-20
WG3270879-6	DUP	L2387288-23						
% Moisture		35.3	35.1		%	0.5	20	07-FEB-20
WG3270879-2	LCS							
% Moisture			93.7		%		90-110	07-FEB-20
WG3270879-5	LCS							
% Moisture			90.9		%		90-110	07-FEB-20
WG3270879-1	MB							
% Moisture			<0.50		%		0.5	07-FEB-20
WG3270879-4	MB							
% Moisture			<0.50		%		0.5	07-FEB-20
Batch	R4993331							
WG3272631-3	DUP	L2387288-35						
% Moisture		19.8	20.2		%	2.1	20	10-FEB-20
WG3272631-2	LCS							
% Moisture			100.0		%		90-110	10-FEB-20
WG3272631-1	MB							
% Moisture			<0.50		%		0.5	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 23 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-C428-LRMS-BU		Tissue						
Batch	R4988567							
WG3254521-2	LCS							
Total PCB			109.0		%		50-150	28-JAN-20
WG3254521-4	LCS							
Total PCB			106.8		%		50-150	28-JAN-20
WG3254521-1	MB							
Total PCB			<0.010		ng/g		0.01	28-JAN-20
S-DRY-CCMS-N-VA		Tissue						
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Sulfur (S)-Total			113.0		%		70-130	10-FEB-20
WG3270945-2	DUP	L2387288-49						
Sulfur (S)-Total		1080	850		mg/kg	24	40	10-FEB-20
WG3270945-4	LCS							
Sulfur (S)-Total			107.6		%		70-130	10-FEB-20
WG3270945-1	MB							
Sulfur (S)-Total			<100		mg/kg		100	10-FEB-20
Batch	R4995951							
WG3272564-3	CRM	VA-NRC-DORM4						
Sulfur (S)-Total			106.5		%		70-130	12-FEB-20
WG3272564-2	DUP	L2387288-9						
Sulfur (S)-Total		3460	3420		mg/kg	1.2	40	12-FEB-20
WG3272564-4	LCS							
Sulfur (S)-Total			107.1		%		70-130	12-FEB-20
WG3272564-1	MB							
Sulfur (S)-Total			<100		mg/kg		100	12-FEB-20
TI-DRY-CCMS-N-VA		Tissue						
Batch	R4992782							
WG3270945-3	CRM	VA-NRC-DORM4						
Titanium (Ti)-Total			118.0		%		70-130	10-FEB-20
WG3270945-2	DUP	L2387288-49						
Titanium (Ti)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	10-FEB-20
WG3270945-4	LCS							
Titanium (Ti)-Total			107.2		%		80-120	10-FEB-20
WG3270945-1	MB							
Titanium (Ti)-Total			<0.10		mg/kg		0.25	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 24 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TI-DRY-CCMS-N-VA Tissue								
Batch	R4995951							
WG3272564-3 CRM		VA-NRC-DORM4						
Titanium (Ti)-Total			105.0		%		70-130	12-FEB-20
WG3272564-2 DUP		L2387288-9						
Titanium (Ti)-Total		1.34	1.04		mg/kg	25	40	12-FEB-20
WG3272564-4 LCS								
Titanium (Ti)-Total			103.0		%		80-120	12-FEB-20
WG3272564-1 MB								
Titanium (Ti)-Total			<0.25		mg/kg		0.25	12-FEB-20
CP-CUSTOM-LRMS-BU Solid								
Batch	R5008427							
WG3255028-2 LCS								
Pentachlorophenol			110.0		%		50-150	11-FEB-20
COMMENTS: 13C6-Pentachlorophenol has low recovery.								
WG3255028-4 LCS								
Pentachlorophenol			127.0		%		50-150	11-FEB-20
COMMENTS: 13C6-Pentachlorophenol has low recovery.								
WG3255028-1 MB								
Pentachlorophenol			<0.25	[U]	ng/g		0.25	11-FEB-20
Surrogate: 13C6-Pentachlorophenol			43.0	G	%		50-150	11-FEB-20
COMMENTS: 13C6-Pentachlorophenol has low recovery.								
OCPEST-1699-HRMS-BU Solid								
Batch	R5007833							
WG3253398-4 DUP		L2387288-7						
alpha-BHC		<0.0068	<0.0092	RPD-NA	ng/g	N/A	50	10-FEB-20
beta-BHC		<0.0087	<0.013	RPD-NA	ng/g	N/A	50	10-FEB-20
delta-BHC		<0.0089	<0.013	RPD-NA	ng/g	N/A	50	10-FEB-20
gamma-BHC		<0.0088	<0.011	RPD-NA	ng/g	N/A	50	10-FEB-20
Heptachlor		0.00210	0.00150		ng/g	33	50	10-FEB-20
Aldrin		<0.00097	<0.00084	RPD-NA	ng/g	N/A	50	10-FEB-20
Heptachlor Epoxide		0.0102	0.0089		ng/g	14	50	10-FEB-20
trans-Chlordane		<0.0084	<0.0030	RPD-NA	ng/g	N/A	50	10-FEB-20
cis-Chlordane		<0.0080	0.0108	G	ng/g	N/A	50	10-FEB-20
Dieldrin		0.0240	0.0170		ng/g	34	50	10-FEB-20
Endrin		<0.013	<0.0062	RPD-NA	ng/g	N/A	50	10-FEB-20
Endrin Aldehyde		0.0084	<0.0031	G	ng/g	N/A	50	10-FEB-20
Endosulfan I		<0.0060	<0.0064	RPD-NA	ng/g	N/A	50	10-FEB-20
Endosulfan II		<0.020	<0.012	RPD-NA	ng/g	N/A	50	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 25 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU Solid								
Batch	R5007833							
WG3253398-4 DUP		L2387288-7						
Endosulfan Sulfate		<0.0025	<0.0027	RPD-NA	ng/g	N/A	50	10-FEB-20
4,4-DDE		0.102	0.0825		ng/g	21	50	10-FEB-20
4,4-DDD		0.013	0.0052	J	ng/g	0.0078	0.02	10-FEB-20
4,4-DDT		0.114	0.0914		ng/g	22	50	10-FEB-20
Methoxychlor		<0.0032	<0.0041	RPD-NA	ng/g	N/A	50	10-FEB-20
Mirex		0.00920	<0.00032	G	ng/g	N/A	50	10-FEB-20
Heptachlor Epoxide A		<0.0077	<0.0080	RPD-NA	ng/g	N/A	50	10-FEB-20
COMMENTS: Sample and duplicate RPD criteria outside method limits due to presence of low level hits.								
WG3253398-2 LCS								
alpha-BHC			115.0		%		50-120	10-FEB-20
beta-BHC			112.0		%		50-120	10-FEB-20
delta-BHC			109.0		%		50-120	10-FEB-20
gamma-BHC			111.0		%		50-120	10-FEB-20
Heptachlor			108.0		%		50-120	10-FEB-20
Aldrin			95.0		%		50-120	10-FEB-20
Heptachlor Epoxide			115.0		%		20-200	10-FEB-20
trans-Chlordane			105.0		%		50-120	10-FEB-20
cis-Chlordane			109.0		%		50-120	10-FEB-20
Dieldrin			105.0		%		50-120	10-FEB-20
Endrin			109.0		%		50-120	10-FEB-20
Endrin Aldehyde			101.0		%		20-200	10-FEB-20
Endosulfan I			88.0		%		50-120	10-FEB-20
Endosulfan II			96.0		%		5-200	10-FEB-20
Endosulfan Sulfate			106.0		%		50-200	10-FEB-20
4,4-DDE			111.0		%		50-120	10-FEB-20
4,4-DDD			109.0		%		42-120	10-FEB-20
4,4-DDT			108.0		%		50-120	10-FEB-20
Methoxychlor			110.0		%		50-120	10-FEB-20
Mirex			105.0		%		50-120	10-FEB-20
Heptachlor Epoxide A			116.0		%		50-150	10-FEB-20
COMMENTS: 13C12-Methoxychlor % recovery above the method limit; native target calculation against labelled using isotope dilution, therefore minimal impact on data quality is expected.								
WG3253398-1 MB								
alpha-BHC			<0.0077	[U]	ng/g		0.14	10-FEB-20
beta-BHC			<0.010	[U]	ng/g		0.14	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 26 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU								
	Solid							
Batch	R5007833							
WG3253398-1	MB							
delta-BHC			<0.010	[U]	ng/g		0.14	10-FEB-20
gamma-BHC			<0.0090	[U]	ng/g		0.14	10-FEB-20
Heptachlor			0.00085	M,J,R	ng/g		0.14	10-FEB-20
Aldrin			<0.00074	[U]	ng/g		0.14	10-FEB-20
Heptachlor Epoxide			0.0013	M,J,R	ng/g		0.14	10-FEB-20
trans-Chlordane			<0.0055	[U]	ng/g		0.14	10-FEB-20
cis-Chlordane			<0.0053	[U]	ng/g		0.14	10-FEB-20
Dieldrin			<0.0031	M,U	ng/g		0.14	10-FEB-20
Endrin			<0.0084	[U]	ng/g		0.14	10-FEB-20
Endrin Aldehyde			<0.011	[U]	ng/g		0.14	10-FEB-20
Endosulfan I			<0.0067	[U]	ng/g		0.14	10-FEB-20
Endosulfan II			<0.012	[U]	ng/g		0.14	10-FEB-20
Endosulfan Sulfate			<0.0029	[U]	ng/g		0.14	10-FEB-20
4,4-DDE			<0.0051	[U]	ng/g		0.14	10-FEB-20
4,4-DDD			<0.0042	[U]	ng/g		0.14	10-FEB-20
4,4-DDT			<0.010	[U]	ng/g		0.14	10-FEB-20
Methoxychlor			<0.0019	[U]	ng/g		0.14	10-FEB-20
Mirex			<0.00037	[U]	ng/g		0.14	10-FEB-20
Surrogate: alpha-BHC, 13C6-			74.0		%		16-129	10-FEB-20
Surrogate: trans-Nonachlor, 13C10-			87.0		%		14-136	10-FEB-20
Surrogate: Dieldrin, 13C12-			97.0		%		40-151	10-FEB-20
Surrogate: Endrin, 13C12-			93.0		%		35-155	10-FEB-20
Surrogate: Endosulfan II, 13C9-			94.0		%		5-122	10-FEB-20
Surrogate: 4,4'-DDE, 13C12-			91.0		%		21-125	10-FEB-20
Surrogate: 4,4'-DDT, 13C12-			87.0		%		5-120	10-FEB-20
Surrogate: Mirex, 13C10-			83.0		%		5-120	10-FEB-20
Heptachlor Epoxide A			<0.0081	[U]	ng/g		0.14	10-FEB-20
Surrogate: 4,4'-DDD, 13C12-			94.0		%		5-120	10-FEB-20
Surrogate: gamma-BHC, 13C6-			80.0		%		11-120	10-FEB-20
Surrogate: Methoxychlor, 13C12-			84.0		%		5-120	10-FEB-20
Surrogate: beta-BHC, 13C6-			89.0		%		11-120	10-FEB-20
Surrogate: delta-BHC, 13C6-			88.0		%		11-120	10-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 27 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU								
	Solid							
Batch	R5011480							
WG3254521-2	LCS							
alpha-BHC			108.0		%		50-120	11-FEB-20
beta-BHC			104.0		%		50-120	11-FEB-20
delta-BHC			113.0		%		50-120	11-FEB-20
gamma-BHC			105.0		%		50-120	11-FEB-20
Heptachlor			104.0		%		50-120	11-FEB-20
Aldrin			99.0		%		50-120	11-FEB-20
Heptachlor Epoxide			120.0		%		20-200	11-FEB-20
trans-Chlordane			100.0		%		50-120	11-FEB-20
cis-Chlordane			105.0		%		50-120	11-FEB-20
Dieldrin			106.0		%		50-120	11-FEB-20
Endrin			114.0		%		50-120	11-FEB-20
Endrin Aldehyde			73.0		%		20-200	11-FEB-20
Endosulfan I			83.0		%		50-120	11-FEB-20
Endosulfan II			100.0		%		5-200	11-FEB-20
Endosulfan Sulfate			108.0		%		50-200	11-FEB-20
4,4-DDE			113.0		%		50-120	11-FEB-20
4,4-DDD			107.0		%		42-120	11-FEB-20
4,4-DDT			110.0		%		50-120	11-FEB-20
Methoxychlor			110.0		%		50-120	11-FEB-20
Mirex			109.0		%		50-120	11-FEB-20
Endrin Ketone			104.0		%		50-150	11-FEB-20
Heptachlor Epoxide A			111.0		%		50-150	11-FEB-20
<p>COMMENTS: Methoxychlor-ES recovery outside method limits. Target results are calculated against labelled isotopes using isotope dilution, therefore minimal impact on data quality is expected.</p>								
WG3254521-1								
	MB							
alpha-BHC			<0.034	[U]	ng/g		1.3	11-FEB-20
beta-BHC			<0.046	[U]	ng/g		1.3	11-FEB-20
delta-BHC			<0.042	[U]	ng/g		1.3	11-FEB-20
gamma-BHC			<0.042	[U]	ng/g		1.3	11-FEB-20
Heptachlor			0.0015	M,J,R	ng/g		1.3	11-FEB-20
Aldrin			<0.0050	[U]	ng/g		1.3	11-FEB-20
Heptachlor Epoxide			<0.0058	[U]	ng/g		1.3	11-FEB-20
trans-Chlordane			<0.015	[U]	ng/g		1.3	11-FEB-20
cis-Chlordane			<0.015	[U]	ng/g		1.3	11-FEB-20
Dieldrin			<0.0095	[U]	ng/g		1.3	11-FEB-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 28 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCPEST-1699-HRMS-BU								
	Solid							
Batch	R5011480							
WG3254521-1	MB							
Endrin			<0.013	[U]	ng/g		1.3	11-FEB-20
Endrin Aldehyde			<0.013	[U]	ng/g		1.3	11-FEB-20
Endosulfan I			<0.023	[U]	ng/g		1.3	11-FEB-20
Endosulfan II			<0.055	[U]	ng/g		1.3	11-FEB-20
Endosulfan Sulfate			<0.018	[U]	ng/g		1.3	11-FEB-20
4,4-DDE			<0.018	[U]	ng/g		1.3	11-FEB-20
4,4-DDD			<0.017	[U]	ng/g		1.3	11-FEB-20
4,4-DDT			<0.027	[U]	ng/g		1.3	11-FEB-20
Methoxychlor			<0.0043	[U]	ng/g		1.3	11-FEB-20
Mirex			<0.0010	[U]	ng/g		1.3	11-FEB-20
Surrogate: alpha-BHC, 13C6-			42.0		%		16-129	11-FEB-20
Surrogate: Heptachlor, 13C10-			41.0		%		5-120	11-FEB-20
Surrogate: trans-Nonachlor, 13C10-			64.0		%		14-136	11-FEB-20
Surrogate: Dieldrin, 13C12-			68.0		%		40-151	11-FEB-20
Surrogate: Endrin, 13C12-			67.0		%		35-155	11-FEB-20
Surrogate: Endosulfan II, 13C9-			66.0		%		5-122	11-FEB-20
Surrogate: 4,4'-DDE, 13C12-			69.0		%		21-125	11-FEB-20
Surrogate: 4,4'-DDT, 13C12-			80.0		%		5-120	11-FEB-20
Surrogate: Mirex, 13C10-			79.0		%		5-120	11-FEB-20
Endrin Ketone			<0.032	[U]	ng/g		1.3	11-FEB-20
Heptachlor Epoxide A			<0.045	[U]	ng/g		1.3	11-FEB-20
Surrogate: 4,4'-DDD, 13C12-			78.0		%		5-120	11-FEB-20
Surrogate: gamma-BHC, 13C6-			46.0		%		11-120	11-FEB-20
Surrogate: Methoxychlor, 13C12-			95.0		%		5-120	11-FEB-20
Surrogate: beta-BHC, 13C6-			51.0		%		11-120	11-FEB-20
Surrogate: delta-BHC, 13C6-			54.0		%		11-120	11-FEB-20
PCB-C428-LRMS-BU								
	Solid							
Batch	R4996239							
WG3253398-4	DUP	L2387288-7						
Total PCB		0.347	0.547		ng/g	45	50	28-JAN-20
WG3253398-2	LCS							
Total PCB			110.1		%		50-150	27-JAN-20
WG3253398-5	LCS							
Total PCB			102.2		%		50-150	27-JAN-20
WG3253398-1	MB							



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 29 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-C428-LRMS-BU	Solid							
Batch	R4996239							
WG3253398-1 MB								
Total PCB			<0.010		ng/g		0.01	28-JAN-20
DX-1613B-HRMS-BU	Biota							
Batch	R4982112							
WG3254540-2 LCS								
2,3,7,8-TCDD			97.0		%		67-158	27-JAN-20
1,2,3,7,8-PeCDD			99.0		%		70-142	27-JAN-20
1,2,3,4,7,8-HxCDD			100.0		%		70-164	27-JAN-20
1,2,3,6,7,8-HxCDD			91.0		%		76-134	27-JAN-20
1,2,3,7,8,9-HxCDD			99.0		%		64-162	27-JAN-20
1,2,3,4,6,7,8-HpCDD			102.0		%		70-140	27-JAN-20
OCDD			94.0		%		78-144	27-JAN-20
2,3,7,8-TCDF			93.0		%		75-158	27-JAN-20
1,2,3,7,8-PeCDF			99.0		%		80-134	27-JAN-20
2,3,4,7,8-PeCDF			90.0		%		68-160	27-JAN-20
1,2,3,4,7,8-HxCDF			96.0		%		72-134	27-JAN-20
1,2,3,6,7,8-HxCDF			101.0		%		84-130	27-JAN-20
2,3,4,6,7,8-HxCDF			98.0		%		70-156	27-JAN-20
1,2,3,7,8,9-HxCDF			105.0		%		78-130	27-JAN-20
1,2,3,4,6,7,8-HpCDF			103.0		%		82-122	27-JAN-20
1,2,3,4,7,8,9-HpCDF			93.0		%		78-138	27-JAN-20
OCDF			87.0		%		63-170	27-JAN-20
WG3254540-1 MB								
2,3,7,8-TCDD			<0.044	[U]	pg/g		0.044	27-JAN-20
1,2,3,7,8-PeCDD			<0.024	[U]	pg/g		0.024	27-JAN-20
1,2,3,4,7,8-HxCDD			<0.018	[U]	pg/g		0.018	27-JAN-20
1,2,3,6,7,8-HxCDD			<0.018	[U]	pg/g		0.018	27-JAN-20
1,2,3,7,8,9-HxCDD			<0.018	[U]	pg/g		0.018	27-JAN-20
1,2,3,4,6,7,8-HpCDD			0.025	M,J,R	pg/g		0.022	27-JAN-20
OCDD			0.086	M,J	pg/g		0.018	27-JAN-20
2,3,7,8-TCDF			<0.032	[U]	pg/g		0.032	27-JAN-20
1,2,3,7,8-PeCDF			0.030	M,J	pg/g		0.015	27-JAN-20
2,3,4,7,8-PeCDF			<0.013	[U]	pg/g		0.013	27-JAN-20
1,2,3,4,7,8-HxCDF			<0.015	[U]	pg/g		0.015	27-JAN-20

COMMENTS: Blank has low levels of select targets. No impact to data quality is expected.



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 30 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	Biota							
Batch	R4982112							
WG3254540-1 MB								
1,2,3,6,7,8-HxCDF			<0.015	[U]	pg/g		0.015	27-JAN-20
2,3,4,6,7,8-HxCDF			<0.015	[U]	pg/g		0.015	27-JAN-20
1,2,3,7,8,9-HxCDF			0.024	M,J,R	pg/g		0.02	27-JAN-20
1,2,3,4,6,7,8-HpCDF			0.021	M,J,R	pg/g		0.017	27-JAN-20
1,2,3,4,7,8,9-HpCDF			<0.020	[U]	pg/g		0.02	27-JAN-20
OCDF			0.049	M,J	pg/g		0.024	27-JAN-20
Total-TCDD			<0.044	[U]	pg/g		0.044	27-JAN-20
Total-PeCDD			<0.024	[U]	pg/g		0.024	27-JAN-20
Total-HxCDD			<0.018	[U]	pg/g		0.018	27-JAN-20
Total-HpCDD			<0.022	[U]	pg/g		0.022	27-JAN-20
Total-TCDF			<0.032	[U]	pg/g		0.032	27-JAN-20
Total-PeCDF			0.030	A	pg/g		0.015	27-JAN-20
Total-HxCDF			<0.020	[U]	pg/g		0.02	27-JAN-20
Total-HpCDF			<0.020	[U]	pg/g		0.02	27-JAN-20
Surrogate: 13C12-2,3,7,8-TCDD			65.0		%		25-164	27-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDD			73.0		%		25-181	27-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			65.0		%		32-141	27-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			71.0		%		28-130	27-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			70.0		%		23-140	27-JAN-20
Surrogate: 13C12-OCDD			71.0		%		17-157	27-JAN-20
Surrogate: 13C12-2,3,7,8-TCDF			64.0		%		24-169	27-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDF			71.0		%		21-192	27-JAN-20
Surrogate: 13C12-2,3,4,7,8-PeCDF			71.0		%		21-178	27-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			62.0		%		26-152	27-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			70.0		%		26-123	27-JAN-20
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			66.0		%		29-147	27-JAN-20
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			59.0		%		28-136	27-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			70.0		%		28-143	27-JAN-20
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			72.0		%		26-138	27-JAN-20
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			68.0		%		31-197	27-JAN-20

COMMENTS: Blank has low levels of select targets. No impact to data quality is expected.



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 31 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU		Biota						
Batch	R4985267							
WG3254570-2		LCS						
2,3,7,8-TCDD			101.0		%		67-158	28-JAN-20
1,2,3,7,8-PeCDD			102.0		%		70-142	28-JAN-20
1,2,3,4,7,8-HxCDD			103.0		%		70-164	28-JAN-20
1,2,3,6,7,8-HxCDD			97.0		%		76-134	28-JAN-20
1,2,3,7,8,9-HxCDD			95.0		%		64-162	28-JAN-20
1,2,3,4,6,7,8-HpCDD			103.0		%		70-140	28-JAN-20
OCDD			93.0		%		78-144	28-JAN-20
2,3,7,8-TCDF			94.0		%		75-158	28-JAN-20
1,2,3,7,8-PeCDF			100.0		%		80-134	28-JAN-20
2,3,4,7,8-PeCDF			96.0		%		68-160	28-JAN-20
1,2,3,4,7,8-HxCDF			99.0		%		72-134	28-JAN-20
1,2,3,6,7,8-HxCDF			102.0		%		84-130	28-JAN-20
2,3,4,6,7,8-HxCDF			100.0		%		70-156	28-JAN-20
1,2,3,7,8,9-HxCDF			106.0		%		78-130	28-JAN-20
1,2,3,4,6,7,8-HpCDF			103.0		%		82-122	28-JAN-20
1,2,3,4,7,8,9-HpCDF			94.0		%		78-138	28-JAN-20
OCDF			92.0		%		63-170	28-JAN-20
WG3254570-1		MB						
2,3,7,8-TCDD			<0.029	[U]	pg/g		0.029	28-JAN-20
1,2,3,7,8-PeCDD			0.020	M,J	pg/g		0.019	28-JAN-20
1,2,3,4,7,8-HxCDD			0.021	M,J	pg/g		0.019	28-JAN-20
1,2,3,6,7,8-HxCDD			<0.020	M,U	pg/g		0.02	28-JAN-20
1,2,3,7,8,9-HxCDD			0.035	M,J,R	pg/g		0.019	28-JAN-20
1,2,3,4,6,7,8-HpCDD			0.071	M,J	pg/g		0.014	28-JAN-20
OCDD			0.260	M,J,R	pg/g		0.024	28-JAN-20
2,3,7,8-TCDF			<0.019	[U]	pg/g		0.019	28-JAN-20
1,2,3,7,8-PeCDF			<0.015	[U]	pg/g		0.015	28-JAN-20
2,3,4,7,8-PeCDF			<0.011	M,U	pg/g		0.011	28-JAN-20
1,2,3,4,7,8-HxCDF			<0.016	[U]	pg/g		0.016	28-JAN-20
1,2,3,6,7,8-HxCDF			<0.016	[U]	pg/g		0.016	28-JAN-20
2,3,4,6,7,8-HxCDF			<0.016	M,U	pg/g		0.016	28-JAN-20
1,2,3,7,8,9-HxCDF			0.042	M,J,R	pg/g		0.021	28-JAN-20
1,2,3,4,6,7,8-HpCDF			0.031	M,J,R	pg/g		0.013	28-JAN-20
1,2,3,4,7,8,9-HpCDF			<0.017	M,U	pg/g		0.017	28-JAN-20



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 32 of 36

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU		Biota						
Batch	R4985267							
WG3254570-1	MB							
OCDF			0.069	M,J,R	pg/g		0.021	28-JAN-20
Total-TCDD			<0.029	[U]	pg/g		0.029	28-JAN-20
Total-PeCDD			0.020	A	pg/g		0.019	28-JAN-20
Total-HxCDD			0.021	A	pg/g		0.02	28-JAN-20
Total-HpCDD			0.125	A	pg/g		0.014	28-JAN-20
Total-TCDF			<0.019	[U]	pg/g		0.019	28-JAN-20
Total-PeCDF			<0.015	[U]	pg/g		0.015	28-JAN-20
Total-HxCDF			<0.021	[U]	pg/g		0.021	28-JAN-20
Total-HpCDF			<0.017	[U]	pg/g		0.017	28-JAN-20
Surrogate: 13C12-2,3,7,8-TCDD			69.0		%		25-164	28-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDD			78.0		%		25-181	28-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			74.0		%		32-141	28-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			74.0		%		28-130	28-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			75.0		%		23-140	28-JAN-20
Surrogate: 13C12-OCDD			73.0		%		17-157	28-JAN-20
Surrogate: 13C12-2,3,7,8-TCDF			70.0		%		24-169	28-JAN-20
Surrogate: 13C12-1,2,3,7,8-PeCDF			74.0		%		21-192	28-JAN-20
Surrogate: 13C12-2,3,4,7,8-PeCDF			72.0		%		21-178	28-JAN-20
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			69.0		%		26-152	28-JAN-20
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			72.0		%		26-123	28-JAN-20
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			72.0		%		29-147	28-JAN-20
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			66.0		%		28-136	28-JAN-20
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			73.0		%		28-143	28-JAN-20
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			75.0		%		26-138	28-JAN-20
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			78.0		%		31-197	28-JAN-20

COMMENTS: Blank has low levels of select targets, no impact to data quality is expected.

Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 33 of 36

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	Duplicate results and limits are expressed in terms of absolute difference.
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.
[U]	The analyte was not detected above the EDL.

Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 34 of 36



Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 35 of 36

Quality Control Report

Workorder: L2387288

Report Date: 12-MAY-20

Page 36 of 36

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.



www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form



COC Number: 17 -

L2387288-COFC

Page 1 of 6

Canada Toll Free: 1 800 668 9878

Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)																																																																																		
Company: Stantec Consulting Ltd.		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply																																																																																		
Contact: Katherine Ketis		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>					EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>																																																																											
Phone: (519) 780-8198		<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>						Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>																																																																											
Company address below will appear on the final report		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm																																																																																		
Street: 70 Southgate Drive Suite 1		Email 1 or Fax Katherine.Ketis@stantec.com			For tests that can not be performed according to the service level selected, you will be contacted.																																																																																		
City/Province: Guelph, ON		Email 2			Analysis Request																																																																																		
Postal Code: N1G 4P5		Email 3			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																																																																																		
Invoice To Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Invoice Distribution			NUMBER OF CONTAINERS	<table border="1"> <tr> <th>Metals (list attached) Note: Fluoride (NEW)</th> <th>Chloride</th> <th>OCPs</th> <th>PCBs (no arachlors)</th> <th>PCP</th> <th>PCDD/PCDF</th> </tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>										Metals (list attached) Note: Fluoride (NEW)	Chloride	OCPs	PCBs (no arachlors)	PCP	PCDD/PCDF																																																																		
Metals (list attached) Note: Fluoride (NEW)	Chloride	OCPs	PCBs (no arachlors)	PCP												PCDD/PCDF																																																																							
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			SAMPLES ON HOLD																																																																																		
Company: Clean Harbors		Email 1 or Fax carabott.eric@cleanharbors.com													SUSPECTED HAZARD (see Special Instructions)																																																																								
Contact: Erica Carabott		Email 2																																																																																					
Project Information		Oil and Gas Required Fields (client use)																																																																																					
ALS Account # / Quote #: Q53923		AFE/Cost Center:		PO#																																																																																			
Job #: 122160003		Major/Minor Code:		Routing Code:																																																																																			
PO / AFE:		Requisitioner:																																																																																					
LSD:		Location:																																																																																					
ALS Lab Work Order # (lab use only):		ALS Contact:		Sampler:																																																																																			
ALS Sample # (lab use only)		Sample Identification and/or Coordinates (This description will appear on the report)		Date (dd-mmm-yy)																					Time (hh:mm)	Sample Type																																																													
1		19-W2-SS-CH-001*		10-Oct-19*																					8:30*	Soil																																																													
2		19-W2-NG-CH-003*		10-Oct-19*																					9:00*	Plant Tissue																																																													
3		19-W2-SB-CH-005*		10-Oct-19*	9:30*	Plant Tissue																																																																																	
4		19-W4-SS-CH-007*		9-Oct-19*	16:00*	Soil																																																																																	
5		19-W4-NG-CH-009*		9-Oct-19*	16:15*	Plant Tissue																																																																																	
6		19-W4-SB-CH-011*		9-Oct-19*	16:30*	Plant Tissue																																																																																	
7		19-N2-SS-CH-013*		8-Oct-19*	14:00*	Soil																																																																																	
8		19-N2-SD-CH-015*		8-Oct-19*	14:30*	Sediment																																																																																	
9		19-N2-NG-CH-019*		8-Oct-19*	15:00*	Plant Tissue																																																																																	
10		19-N2-SB-CH-021*		8-Oct-19*	15:30*	Plant Tissue																																																																																	
11		19-N4-SS-CH-023*		8-Oct-19*	12:30*	Soil																																																																																	
12		19-N4-NG-CH-025*		8-Oct-19*	12:40*	Plant Tissue																																																																																	
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)																																																																																		
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																																																																																		
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO					Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																																																																		
					Cooling Initiated <input checked="" type="checkbox"/>					INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C																																																																								
					5.8°C																																																																																		
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)																																																																															
Released by: <i>Michelle Kite</i>		Date: Nov 22, 2019		Time: 9:00		Received by: <i>ARRAN BURTON</i>		Date: 25-Nov-2019		Time: 11:15		Received by:		Date:		Time:																																																																							

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NOV 2018 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.



www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L2387288-COFC

COC Number: 17 -

Page 2 of 6

Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)											
Company:	Stantec Consulting Ltd.	Select Report Format:	<input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)	Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply												
Contact:	Katherine Ketis	Quality Control (QC) Report with Report	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>		EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>								
Phone:	(519) 780-8198	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked			3 day [P3-25%] <input type="checkbox"/>			Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>								
Company address below will appear on the final report		Select Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX		2 day [P2-50%] <input type="checkbox"/>											
Street:	70 Southgate Drive Suite 1	Email 1 or Fax	Katherine.Ketis@stantec.com	Date and Time Required for all E&P TATs:			dd-mmm-yy hh:mm									
City/Province:	Guelph, ON	Email 2		For tests that can not be performed according to the service level selected, you will be contacted.												
Postal Code:	N1G 4P5	Email 3		Analysis Request												
Invoice To	Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Invoice Distribution			NUMBER OF CONTAINERS	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below							SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)		
	Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Select Invoice Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX	Metals (list attached) Note: Fluoride (NEW)												
Company:	Clean Harbors	Email 1 or Fax	carabott.eric@cleanharbors.com	Chloride												
Contact:	Erica Carabott	Email 2		OCPs												
Project Information		Oil and Gas Required Fields (client use)				PCBs (no arachlors)										
ALS Account # / Quote #:	Q53923	AFE/Cost Center:	PO#	PCP												
Job #:	122160003	Major/Minor Code:	Routing Code:	PCDD/PCDF												
PO / AFE:		Requisitioner:														
LSD:		Location:														
ALS Lab Work Order # (lab use only):		ALS Contact:		Sampler:												
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type												
13	19-N4-SB-CH-027*	8-Oct-19 *	13:00 *	Plant Tissue	1	R										
14	19-N5-SS-CH-029*	14-Aug-19*	13:00 *	Soil	1	R										
15	19-N5-SD-CH-031*	14-Aug-19*	13:30 *	Sediment	1	R										
16	19-N5-NG-CH-035*	14-Aug-19*	10:50 18:15	Plant Tissue	1	R										
17	19-E1-SS-CH-037*	9-Oct-19 *	9:00 *	Soil	1	R										
18	19-E1-NG-CH-039 *	9-Oct-19 *	9:30 *	Plant Tissue	1	R										
19	19-E1-SB-CHR-042 *	9-Oct-19*	9:20 *	Plant Tissue	1	R										
20	19-E2-SS-CH-043 *	10-Oct-19 *	15:00 *	Soil	1	R		R								
21	19-E2-SD-CH-045 *	10-Oct-19 *	15:30 *	Sediment	1	R		R	R							
22	19-E2-NG-CH-049 *	10-Oct-19 *	16:00 *	Plant Tissue	1	R		R	R							
23	19-E2-FC-CH-051 *	10-Oct-19 *	16:30 *	Plant Tissue	2	R		R	R	R						
24																
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)											
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>											
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO					Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>											
					Cooling Initiated <input checked="" type="checkbox"/>											
					INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C								
					5.8 °C											
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)								
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:		
<i>[Signature]</i>	Nov 22, 2019	9:00	<i>[Signature]</i>	25-Nov-2019	11:15											

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NOV 2016 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.



Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)																																																																						
Company:	Stantec Consulting Ltd.	Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply																																																																						
Contact:	Katherine Ketis	Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>					EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>																																																															
Phone:	(519) 780-8198	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>						Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>																																																															
Company address below will appear on the final report		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			2 day [P2-50%] <input type="checkbox"/>					Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm																																																																	
Street:	70 Southgate Drive Suite 1	Email 1 or Fax Katherine.Ketis@stantec.com			For tests that can not be performed according to the service level selected, you will be contacted.																																																																						
City/Province:	Guelph, ON	Email 2			Analysis Request																																																																						
Postal Code:	N1G 4P5	Email 3			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																																																																						
Invoice To	Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Invoice Distribution			NUMBER OF CONTAINERS	<table border="1"> <thead> <tr> <th>Metals (list attached) Note: Fluoride (NEW)</th> <th>Chloride</th> <th>OCPs</th> <th>PCBs (no arachlors)</th> <th>PCP</th> <th>PCDD/PCDF</th> </tr> </thead> <tbody> <tr><td>1</td><td>R</td><td>R</td><td></td><td></td><td>R</td></tr> <tr><td>2</td><td>R</td><td>R</td><td></td><td></td><td>R</td></tr> <tr><td>3</td><td>R</td><td>R</td><td></td><td></td><td>R</td></tr> <tr><td>4</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td></tr> <tr><td>5</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td></tr> <tr><td>6</td><td>R</td><td>R</td><td></td><td></td><td>R</td></tr> <tr><td>7</td><td>R</td><td>R</td><td></td><td></td><td>R</td></tr> <tr><td>8</td><td>R</td><td>R</td><td></td><td></td><td>R</td></tr> <tr><td>9</td><td>R</td><td>R</td><td></td><td></td><td>R</td></tr> </tbody> </table>										Metals (list attached) Note: Fluoride (NEW)	Chloride	OCPs	PCBs (no arachlors)	PCP	PCDD/PCDF	1	R	R			R	2	R	R			R	3	R	R			R	4	R	R	R	R	R	5	R	R	R	R	R	6	R	R			R	7	R	R			R	8	R	R			R	9	R	R			R
Metals (list attached) Note: Fluoride (NEW)	Chloride	OCPs	PCBs (no arachlors)	PCP												PCDD/PCDF																																																											
1	R	R														R																																																											
2	R	R														R																																																											
3	R	R														R																																																											
4	R	R	R	R												R																																																											
5	R	R	R	R												R																																																											
6	R	R														R																																																											
7	R	R														R																																																											
8	R	R														R																																																											
9	R	R			R																																																																						
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			SAMPLES ON HOLD																																																																						
Company:	Clean Harbors	Email 1 or Fax carabott.eric@cleanharbors.com													SUSPECTED HAZARD (see Special Instructions)																																																												
Contact:	Erica Carabott	Email 2																																																																									
Project Information		Oil and Gas Required Fields (client use)																																																																									
ALS Account # / Quote #:	Q53923	AFE/Cost Center:	PO#																																																																								
Job #:	122160003	Major/Minor Code:	Routing Code:																																																																								
PO / AFE:		Requisitioner:																																																																									
LSD:		Location:																																																																									
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler:																																																																								
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type																																																																							
24	19-E5-SS-CH-053 *	9-Oct-19 *	10:00 *	Soil																																																																							
25	19-E5-NG-CH-055 *	9-Oct-19 *	10:30 *	Plant Tissue																																																																							
26	19-E5-SB-CH-057 *	9-Oct-19 *	10:15 *	Plant Tissue																																																																							
27	19-E6-SS-CH-059 *	14-Aug-19 *	12:30 *	Soil																																																																							
28	19-E6-NG-CH-061 *	14-Aug-19 *	12:45 *	Plant Tissue																																																																							
29	19-E7-SS-CH-303 *	9-Oct-19 *	13:00 *	Soil																																																																							
30	19-E7-NG-CH-305 *	9-Oct-19 *	13:30 *	Plant Tissue																																																																							
31	19-E7-SB-CH-300 *	1-Oct-19 *	12:30 *	Plant Tissue																																																																							



www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form



COC Number: 17 -

Canada Toll Free: 1 800 668 9878

L2387288 GOF6

Page 4 of 6

Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)																					
Company: Stantec Consulting Ltd.		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply																					
Contact: Katherine Ketis		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>		EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>																	
Phone: (519) 780-8198		<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>			Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>																	
Company address below will appear on the final report		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				2 day [P2-50%] <input type="checkbox"/>																				
Street: 70 Southgate Drive Suite 1		Email 1 or Fax: Katherine.Ketis@stantec.com			Date and Time Required for all E&P TATs:				dd-mmm-yy hh:mm																	
City/Province: Guelph, ON		Email 2			For tests that can not be performed according to the service level selected, you will be contacted.																					
Postal Code: N1G 4P5		Email 3			Analysis Request																					
Invoice To		Invoice Distribution			NUMBER OF CONTAINERS	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																				
Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				Metals (list attached) Note: Fluoride (NEW)																				
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Email 1 or Fax: carabott.eric@cleanharbors.com					Chloride																			
Company: Clean Harbors		Email 2						OCPs																		
Contact: Erica Carabott									PCBs (no arachlors)																	
Project Information		Oil and Gas Required Fields (client use)								PCP																
ALS Account # / Quote #: Q53923		AFE/Cost Center: PO#									PCDD/PCDF															
Job #: 122160003		Major/Minor Code: Routing Code:																								
PO / AFE:		Requisitioner:																								
LSD:		Location:																								
ALS Lab Work Order # (lab use only):		ALS Contact:		Sampler:																						
ALS Sample # (lab use only)		Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mmm-yy)							Time (hh:mm)		Sample Type												
32	19-S1-SS-CH-063*	10-Oct-19*	11:00*	Soil	1	R						R														
33	19-S1-SD-CH-065*	10-Oct-19*	11:15*	Sediment	1	R		R																		
34	19-S1-NG-CH-069*	10-Oct-19*	11:30*	Plant Tissue	1	R		R																		
35	19-S1-SB-CH-071*	10-Oct-19*	11:45*	Plant Tissue	1	R		R																		
36	19-S2-SS-CH-073*	10-Oct-19*	10:00*	Soil	1	R		R																		
37	19-S2-NG-CH-075*	10-Oct-19*	10:30*	Plant Tissue	1	R		R																		
38	19-S2-SB-CH-077*	10-Oct-19*	11:00*	Plant Tissue	1	R		R																		
39	19-S4-SS-CH-087*	9-Oct-19*	14:00*	Soil	1	R		R																		
40	19-S4-SD-CH-089*	9-Oct-19*	14:45*	Sediment	1	R		R																		
41	19-S4-NG-CH-093*	9-Oct-19*	14:30*	Plant Tissue	1	R		R																		
42	19-S4-SB-CH-095*	1-Oct-19*	13:30*	Plant Tissue	1	R		R																		
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)																					
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																					
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO					Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																					
					Cooling Initiated <input checked="" type="checkbox"/>																					
					INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C																	
					5.8°C																					
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)																		
Released by: <i>[Signature]</i>		Date: Nov 22, 2019		Time: 9:00		Received by: <i>[Signature]</i>		Date: 25-Nov-2019		Time: 11:15		Received by:		Date:		Time:										

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NOV 2018 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.



Chain of Custody (COC) / Analytical Request Form

COC Number: 17 -



L2387288-COFC

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level below - Contact your AM to confirm all E&P TATs (surcharges may apply)																																																				
Company:	Stantec Consulting Ltd.	Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply					EMERGENCY																																															
Contact:	Katherine Ketis	Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)		4 day [P4-20%] <input type="checkbox"/>			1 Business day [E - 100%] <input type="checkbox"/>																																															
Phone:	(519) 780-8198	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked			3 day [P3-25%] <input type="checkbox"/>		2 day [P2-50%] <input type="checkbox"/>			Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>																																															
Company address below will appear on the final report		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm																																																				
Street:	70 Southgate Drive Suite 1	Email 1 or Fax Katherine.Ketis@stantec.com			For tests that can not be performed according to the service level selected, you will be contacted.																																																				
City/Province:	Guelph, ON	Email 2			Analysis Request																																																				
Postal Code:	N1G 4P5	Email 3			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																																																				
Invoice To	Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Invoice Distribution			NUMBER OF CONTAINERS	<table border="1"> <tr> <th>Metals (list attached) Note: Fluoride (NEW)</th> <th>Chloride</th> <th>OCFs</th> <th>PCBs (no arachnids)</th> <th>PCP</th> <th>PCDD/PCDF</th> </tr> <tr> <td>1 R</td> <td>R</td> <td>R</td> <td>R</td> <td></td> <td>R</td> </tr> <tr> <td>1 R</td> <td>R</td> <td>R</td> <td>R</td> <td></td> <td>R</td> </tr> <tr> <td>1 R</td> <td>R</td> <td>R</td> <td>R</td> <td></td> <td>R</td> </tr> <tr> <td>1 R</td> <td>R</td> <td>R</td> <td>R</td> <td></td> <td>R</td> </tr> <tr> <td>1 R</td> <td>R</td> <td>R</td> <td>R</td> <td>R</td> <td>R</td> </tr> <tr> <td>2 R</td> <td>R</td> <td>R</td> <td>R</td> <td>R</td> <td>R</td> </tr> </table>										Metals (list attached) Note: Fluoride (NEW)	Chloride	OCFs	PCBs (no arachnids)	PCP	PCDD/PCDF	1 R	R	R	R		R	1 R	R	R	R		R	1 R	R	R	R		R	1 R	R	R	R		R	1 R	R	R	R	R	R	2 R	R	R	R	R	R
Metals (list attached) Note: Fluoride (NEW)	Chloride	OCFs	PCBs (no arachnids)	PCP												PCDD/PCDF																																									
1 R	R	R	R													R																																									
1 R	R	R	R													R																																									
1 R	R	R	R													R																																									
1 R	R	R	R													R																																									
1 R	R	R	R	R												R																																									
2 R	R	R	R	R												R																																									
	Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX																																																							
Company:	Clean Harbors	Email 1 or Fax carabott.eric@cleanharbors.com																																																							
Contact:	Erica Carabott	Email 2																																																							
Project Information		Oil and Gas Required Fields (client use)																																																							
ALS Account # / Quote #:	Q53923	AFE/Cost Center:	PO#																																																						
Job #:	122160003	Major/Minor Code:	Routing Code:																																																						
PO / AFE:		Requisitioner:																																																							
LSD:		Location:																																																							
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler:																																																						
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type																																																					
43	19-D1-SS-CH-200*	8-Oct-19*	14:10*	Soil																																																					
44	19-D2-SS-CH-201*	10-Oct-19*	15:15*	Soil																																																					
45	19-D3-NG-CH-203*	8-Oct-19*	15:10*	Plant Tissue																																																					
46	19-D8-NG-CH-208*	10-Oct-19*	16:10*	Plant Tissue																																																					
47	19-D4-SD-CH-204*	8-Oct-19*	14:40*	Sediment																																																					
48	19-D5-SB-CH-206*	8-Oct-19*	15:40*	Plant Tissue																																																					
49	19-D6-FC-CH-207*	10-Oct-19*	16:40*	Plant Tissue																																																					
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)																																																				
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO					Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>					Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																															
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Cooling Initiated <input checked="" type="checkbox"/>					INITIAL COOLER TEMPERATURES °C: 5.8°C																																															
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)																																																				
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:																																														
<i>[Signature]</i>	Nov 22 2019	9:00	AARON METZ	25-Nov-2019	11:15																																																				

SAMPLES ON HOLD

SUSPECTED HAZARD (see Special Instructions)



Chain of Custody (COC) / Analytical Request Form



COC Number: 17 -

Page 6 of 6

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L2387288-COFC

Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)												
Company:	Stantec Consulting Ltd.	Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply												
Contact:	Katherine Ketis	Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)	4 day [P4-20%] <input type="checkbox"/>			EMERGENCY	1 Business day [E - 100%] <input type="checkbox"/>							
Phone:	(519) 780-8198	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				3 day [P3-25%] <input type="checkbox"/>				Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] <input type="checkbox"/>							
Company address below will appear on the final report		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				2 day [P2-50%] <input type="checkbox"/>											
Street:	70 Southgate Drive Suite 1	Email 1 or Fax Katherine.Ketis@stantec.com			Date and Time Required for all E&P TATs:				dd-mmm-yy hh:mm								
City/Province:	Guelph, ON	Email 2			For tests that can not be performed according to the service level selected, you will be contacted.												
Postal Code:	N1G 4P5	Email 3			Analysis Request												
Invoice To		Invoice Distribution			NUMBER OF CONTAINERS	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below							SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)			
Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				Metals (list attached) Note: Fluoride (NEW)	Chloride	OCPs	PCBs (no arachnids)	PCP	PCDD/PCDF						
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Email 1 or Fax carabott.eric@cleanharbors.com															
Company: Clean Harbors		Email 2															
Contact: Erica Carabott																	
Project Information		Oil and Gas Required Fields (client use)															
ALS Account # / Quote #: Q53923		AFE/Cost Center:		PO#													
Job #: 122160003		Major/Minor Code:		Routing Code:													
PO / AFE:		Requisitioner:															
LSD:		Location:															
ALS Lab Work Order # (lab use only):		ALS Contact:		Sampler:													
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type													
50	19-E6-FB-CH-211*	14-Aug-19*	12:05*	Water	2	R	R										
51	19-E1-FB-CH-213*	9-Oct-19*	8:30*	Water	2	R	R										
52	19-E6-RB-CH-215*	14-Aug-19*	12:00*	Water	2	R	R										
53	19-E1-RB-CH-216*	9-Oct-19*	8:35*	Water	2	R	R										
54	19-E6-TB-CH-220*	14-Aug-19*	not applicable	Water	2	R	R										
55	19-E1-TB-CH-221*	9-Oct-19*	not applicable	Water	2	R	R										
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)			SAMPLE CONDITION AS RECEIVED (lab use only)												
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input type="checkbox"/> NO		Please do not dispose of samples until instructed to do so. Depending on results of organic samples submitted, organic analysis on all remaining held samples may be required.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>												
Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO					Ice Packs <input type="checkbox"/> Ice Cubes <input checked="" type="checkbox"/> Custody seal intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>												
					Cooling Initiated <input checked="" type="checkbox"/>												
					INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C								
					5.8°C												
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)											
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:						
<i>Katherine Ketis</i>	Nov 22 2019	9:00	<i>ARON BRETAN</i>	25-Nov-2019	11:15												

Table Error! No text of specified style in document.-1: List of Analytes, by Group, Monitored during the 2018 Biomonitoring Program, Lambton Facility

Barium	Iron	Silicon
Beryllium	* Fluoride (NEW) *	Silver
Boron	Magnesium	Sodium
Calcium	Manganese	Strontium
Chloride	Molybdenum	Sulphur
Chromium	Nickel	Titanium
Cobalt	Phosphorus	Zirconium
	Potassium	
Aluminum	Copper	Thallium
Arsenic	Lead	Vanadium
Cadmium	Mercury	Zinc
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	
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)	

Chemical	Units	Detection Limit for Natural Grasses/Crops ¹	Detection Limit for Soil/Sediment ²
Aluminum	mg/Kg	2	50
Arsenic	mg/Kg	0.02	0.1
Barium	mg/Kg	0.05	0.5
Beryllium	mg/Kg	0.01	0.1
Boron	mg/Kg	1	5
Cadmium	mg/Kg	0.005	0.02
Calcium	mg/Kg	20	50
Chloride	mg/Kg	10 (2018 was 20)	0.5 (2018 was 5)
Chromium	mg/Kg	0.05	0.5
Cobalt	mg/Kg	0.02	0.1
Copper	mg/Kg	0.1	0.5
Fluoride	mg/Kg	8	0.2
Iron	mg/Kg	3	50
Lead	mg/Kg	0.02	0.5
Magnesium	mg/Kg	2	20
Manganese	mg/Kg	0.05	1
Mercury	mg/Kg	0.005	0.005
Molybdenum	mg/Kg	0.02	0.1
Nickel	mg/Kg	0.2	0.5
Phosphorus	mg/Kg	10	50
Potassium	mg/Kg	20	100
Silicon	mg/Kg	N/A	N/A
Silver	mg/Kg	0.005	0.1
Sodium	mg/Kg	20	50
Strontium	mg/Kg	0.05	0.5
Sulfur	mg/Kg	N/A	100 (2018 was 1000)
Thallium	mg/Kg	0.002	0.05
Titanium	mg/Kg	0.1	1
Vanadium	mg/Kg	0.1	0.2
Zinc	mg/Kg	0.5	2
Zirconium	mg/Kg	0.2	1