

REPORT

Government of Northwest Territories

Phase II/III Environmental Site Assessment Tin Can Hill Yellowknife, NT

AE Project No. 2023-8451.000



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EXECUTIVE SUMMARY

Associated Environmental Consultants Inc. (Associated) was retained by Government of Northwest Territories in May 2023 to conduct a Phase II/III Environmental Site Assessment (ESA) at Tin Can Hill in Yellowknife, NT (the Subject Site). The Phase II/III ESA was initiated for environmental due diligence purposes prior to potential purchase and proposed development of the Subject Site as a Polytechnic University.

The objective of the Phase II/III ESA was to quantitatively assess the level of contamination at the Subject Site, based on the areas of potential environment concern identified during the Advanced Phase I ESA conducted by Associated in March 2023. Con Mine formerly operated immediately south of the Subject Site, and there is evidence that ore roasting activities caused metals contamination to surrounding properties via air pollution. The northern portion of the Subject Site is occupied by the City of Yellowknife's water treatment plant. The only other current development on the Subject Site is a road, suspected to have been constructed from mine waste.

The Phase II/III ESA work was also completed to acquire data to support a risk assessment and a remedial options analysis for the Subject Site. The Phase II/III ESA involved a soil sampling program that included advancing 42 shallow test pits across the Subject Site. Surface water samples were collected from Rat Lake, which borders the west edge of the Subject Site, and Great Slave Lake, which borders the east edge. Additional soil samples were planned, but many proposed locations consisted of rock outcrops that contained no soil. Laboratory analysis of the collected samples for potential contaminants of concern identified concentrations of various metals in soil greater than the NWT Environmental Guideline for Contaminated Site Remediation (EGCSR) guidelines and the Draft 2023 EGCSR guidelines. Arsenic contaminated soil was identified at the highest concentrations along the perimeter of the Subject Site, peaking along the roadway suspected to be made of mine waste. For other metals in soil, most of the contamination was observed on the south end of Tin Can Hill. In water samples, elevated total metals parameters were identified in both Rat Lake and Great Slave Lake. For dissolved metals parameters, only arsenic concentrations from Rat Lake were greater than applicable guidelines.

The Phase II/III ESA results supported a Preliminary Quantitative Risk Assessment (PQRA) for the Subject Site. The Phase II/III ESA and PQRA reports were utilized to create a Remedial Options Analysis (ROA) for the Subject Site. These documents are provided under separate cover.

Based on the results of the Phase II/III ESA, Associated provides the following conclusions:

- Widespread metals contamination consisting of antimony, arsenic, barium, copper, selenium, and zinc, was identified in soil across the Subject Site when soil concentrations were compared to the EGCSR guidelines.
- Additional soil contamination was identified (i.e., boron, cobalt, and vanadium) when soil concentrations were compared to the 2023 Draft EGCSR guidelines.
- Based on the laboratory metals leachate analysis, all soil is suitable for potential landfill disposal.
- Based on the results of this investigation, and the understood source of the metals contamination (i.e., air pollution from ore roasting), metals concentrations are expected to be highly variable across the site.
- The current sample density is not adequate to fully characterize the Subject Site given the pockets of surface soil across the site interspersed with bedrock outcroppings.
- Additional sampling on a tighter sampling grid (7- 10 m) in the soil pockets would increase confidence in contamination presence and delineation.

- The current data is useful to define broad risk on the site, as applied in the current PQRA.

Associated provides the following recommendations:

- Additional step out sampling (7-10 m grid) is recommended to delineate identified contamination or to characterize specific areas.
- Any proposed development on the site should refer to the companion PQRA and ROA documents completed for the Subject Site prior to proceeding.

This executive summary is subject to the same limitations presented in the Disclaimer provided in Section 10 of this report.

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1 INTRODUCTION

Associated Environmental Consultants Inc. (Associated) was retained by the Government of Northwest Territories (GNWT) in May 2023 to conduct a Phase II/III Environmental Site Assessment (ESA) at Tin Can Hill in Yellowknife, NT (the Subject Site) (Appendix A, Figure 1). The Phase II/III ESA was initiated for environmental due diligence purposes prior to potential purchase and proposed development of the Subject Site as a Polytechnic University. The assessment generally conformed to the Canadian Standards Association Phase II Environmental Site Assessment (Z769-00 [R2018]) standard (CSA 2018) and was conducted in general accordance with the Environmental Guideline for Contaminated Site Remediation (EGCSR) (GNWT 2003), under the Northwest Territories *Environment Protection Act* (R.S.N.W.T. 1988 c-E-7).

2 OBJECTIVE

The objective of the Phase II/III ESA was to quantitatively assess the level of contamination at the Subject Site, based on the areas of potential environment concern identified during the Advanced Phase I ESA conducted by Associated in March 2023 (Associated 2023).

This report describes the methods and results of the Phase II/III ESA and, in consideration of the results, presents conclusions and recommendations. The Phase II/III ESA work was also completed to acquire data to support a risk assessment and a remedial options analysis (ROA) for the Subject Site.

3 BACKGROUND

In September 2022, Associated was retained by GNWT to conduct an Advanced Phase I ESA at the Subject Site. The objective of the ESA was to determine whether any environmental liabilities associated with the Subject Site exist. This section summarizes the findings of the ESA.

The property was undeveloped until the late 1930s or early 1940s, when a road (i.e., the Old Mine Road) was constructed across the Subject Site. The construction coincided with the establishment of Con Mine in 1938, which operated to the south, adjacent to the Subject Site, until 2003. Anecdotally, Associated understands that the Subject Site was called Tin Can Hill because it was a dumping ground for emptied tin cans left behind by prospectors.

Other than the road construction, no other mining-related developments (i.e., shafts, vent openings, etc.) were identified on the Subject Site. As other mine roads in the area were constructed using mine waste, the Old Mine Road on the Subject Site may contain elevated concentrations of arsenic and other potential contaminants of concern (PCOCs). Air pollution records related to Con Mine identified emissions of zinc, copper, cyanides, hydrogen cyanides, total ammonia, and nickel between 1994 and 2003. Zinc, copper, and sulphate (among other reagents) were used at the mine for ore processing. There is evidence that historical releases of arsenic trioxide dust from ore roasting have affected the soil quality in the surrounding area, with concentrations of arsenic exceeding the EGCSR guidelines for residential land use (RL).

The Advanced Phase I ESA concluded that there was moderate potential that the on-site road or historical activities at the surrounding properties had contaminated soil and/or groundwater at the Subject Site. However, due to the underlying bedrock, only soil and surface water were proposed to be assessed for the Phase II/III ESA.

4 SCOPE OF WORK

The scope of work for the Phase II/III ESA included the following activities:

- Collection of soil samples at 37 locations across the Subject Site from surface to a maximum depth of 0.5 m below ground surface (mbgs) using a shovel or trowel;
- Collection of five surface soil and/or gravel samples along the Old Mine Road (approximately every 100 m, from surface to a maximum of 0.5 mbgs) using a shovel or trowel;
- Collection of two surface water samples from adjacent surface waterbodies;
- Submission of soil and water samples to an accredited laboratory for analysis of PCOCs;
- Comparison of soil and water data to the applicable guidelines; and
- Presentation of findings in this report.

Note that sampling of seep water was proposed for the Subject Site, but no surface water was present during the site visit.

The following additional sampling was proposed or completed to support a detailed qualitative risk assessment (DQRA) for the Subject Site:

- Collection of at least 20 mg of terrestrial invertebrate and plant tissue for chemical analysis from 25 sample locations co-located with the soil and sediment samples.
- Collection of 10 soil samples for metal bioavailability (via a physiologically based extraction test) from 10 sample locations.
- Collection of at least 20 mg of aquatic invertebrate (if present) and plant tissue for chemical analysis, from five sample locations co-located with surface water samples.

Unfortunately, due to wildfires that forced the evacuation of Yellowknife in August 2023, no biotic samples (invertebrate and plant tissue samples noted above) could be submitted to the lab for analysis. The evacuation order of August 16, 2023, occurred in the midst of the DQRA sampling. As such, insufficient information was available to complete a DQRA. Instead, a preliminary quantitative risk assessment (PQRA) was completed. In lieu of the biotic samples to provide site-specific data, the PQRA relies on the analytical data from the soil and water sampling from the ESA to characterize risk. In addition, to support the PQRA, the physiologically based extraction test (PBET) for arsenic and lead was completed on select soil samples from the Phase II/III ESA.

The PQRA characterizes the risks posed by contamination identified in soil and surface water at the Subject Site to people, plants, and animals. The project schedule did not allow the submission of plant and invertebrate tissue samples for laboratory analysis and, thus, contaminant concentrations in plant and animal tissues will be predicted using conservative modelling tools. For this reason, the risk assessment is considered to be preliminary instead of detailed. The PQRA will be presented under separate cover.

A remediation options analysis report will be prepared for the site based on the ESA and PQRA findings. This report will be presented under separate cover.

Alietum Ltd. completed an elevation survey was completed to capture the site topography, terrain, and surface features using a remotely piloted aircraft system (RPAS), to aerial map the site. The work included:

- Establishing three ground survey control points on the site and tying them to a local benchmark;

- Ensuring that horizontal and vertical observations are within 5 cm accuracy and site positioning within 0.2 m accuracy;
- Generating digital surface and terrain models to accurately depict the topography and key features (anthropogenic and natural);
- Providing deliverables in the NAD 83 Universal Transverse Mercator system, with the zone number and datum reference; and
- Referencing all elevations to mean sea level.

The elevation survey information will be provided via a download link.

5 REGULATORY FRAMEWORK

5.1 Applicable Guidelines

The EGCSR (GNWT 2003) was used for comparing soil analytical results and interpreting environmental risk. The EGCSR guidelines consider human and ecological exposure pathways and are a conservative first step in defining soil-based contamination. The EGCSR guidelines also considers the current and intended land uses of a site and the adjacent land uses, along with soil particle size.

GNWT does not have guidelines specific to surface water or groundwater quality; therefore, the Canadian Council of Ministers of the Environment (CCME 2023) Canadian Water Quality Guidelines for the Protection of Aquatic Life (CCME AL) were considered.

5.2 Land Use, Soil Grain Size, and Exposure Pathways

As the Subject Site is proposed to be redeveloped into a Polytechnic University, residential/parkland (RL/PL) land use criteria apply. Guideline values for some parameters also depend on grain size (coarse or fine) and are categorized by depth (surface and subsoil). Determination of soil grain size is based on the soils observed during soil sampling and laboratory particle size analysis. In accordance with the EGCSR, the American Society for Testing and Materials (ASTM) defines fine-grained soil as having a median grain size of less than or equal to 75 µm and coarse-grained soil as that with a median grain size of greater than 75 µm (ASTM 2017). The EGCSR guidelines consider surface soils to be from the ground surface to 1.5 mbgs and subsoils to be at depths greater than 1.5 mbgs. Only surface soils were sampled for this ESA.

The exposure pathways considered in developing the appropriate guidelines for the protection of environmental and human health include:

- Ingestion and dermal contact of soils;
- Vapour inhalation (indoor);
- Protection of potable groundwater;
- Protection of groundwater for aquatic life;
- Nutrient cycling; and
- Ecological soil contact.

The most stringent pathway for the land use was applied.



Based on the naturally elevated arsenic levels in Yellowknife-area soils, the EGCSR has established a remediation objective for arsenic concentrations based on land use. The remediation objective for residential land use (160 mg/kg) was applied and replaces the default EGCSR guideline value for arsenic of 12 mg/kg.

5.3 Draft EGCSR Guidelines

In May 2023, the GNWT updated the 2003 EGCSR and released a draft edition (GNWT 2023). Although the draft EGCSR is still under review, and not yet finalized, the guidelines in the soil criteria tables for RL were also considered for this ESA.

The draft EGCSR also contains proposed remediation soil quality criteria for arsenic with updated soil quality guidelines. The draft EGCSR RL/PL ambient background arsenic soil concentration for Yellowknife A (120 mg/kg) was applied for the Subject Site.

5.4 Waste Discharge Guidelines

To support the ROA, toxicity characteristic leaching procedure (TCLP) analysis was completed to determine if metals-contaminated soil was suitable for landfill disposal. As such, Schedule IV (Standards for Solid Waste/Process Residuals Suitable for Landfill) of the Guideline for Industrial Waste Discharges in the NWT (GNWT 2004) was used to evaluate the TCLP analytical results.

6 METHODS

The Phase II/III ESA involved soil and surface water sampling at the locations shown in Figure 2 and summarized in Table 6-1. All soil sampling took place from September 27 to 29, 2023. Surface water sampling occurred on September 29, 2023, and October 31, 2023.

Table 6-1 Soil Sampling Locations

Location	Test Pit and Surface Water ID
Subject Site	TP23-01 to TP23-37 (plus four duplicates)
Old Mine Road	OMR23-38 to OMR23-42
Great Slave Lake	SW23-01 (plus one duplicate)
Rat Lake	SW23-02

Figure 2 also shows 13 proposed soil sampling locations and three proposed surface water sampling sites across the Subject Site. Samples could not be collected from the proposed sampling locations as no medium (i.e., soil or water) was available to be sampled.

Analytical results from the soil and water analysis are summarized in Appendix B. Photographs taken during sampling are shown in Appendix C. The complete laboratory report is provided in Appendix D.

Before the sampling program began, a site-specific health and safety plan (HASP) was created. The HASP was reviewed by all on-site personnel prior to starting work.

6.1 Soil Assessment

Soil sampling involved advancing test pits using a shovel and/or trowel. Thirty-seven test pits (TP23-01 to TP23-37) were completed across the Subject Site. Five test pits (OMR23-38 to OMR23-42) were completed along the Old Mine Road. The soil stratigraphy was logged and soil samples were collected to investigate for the presence of contamination at each location. Select photographs from the assessment are included in Appendix C.

The field sampling procedure for collecting soil samples was as follows:

- The sampler used a dedicated pair of nitrile gloves for each sample to prevent cross-contamination.
- One sample was collected from each test pit.
- Samples were placed in laboratory-supplied sealable plastic bags, and in 125 mL glass jars, with minimal headspace, and were sealed for laboratory analysis.

Samples were collected in laboratory-supplied jars and plastic bags and transported in an ice-filled cooler to ALS Canada Ltd. (ALS) in Yellowknife, NT, for analysis of arsenic (III and V), total metals, total ammonia, organic carbon, sulphate, salinity, grain size, pH, moisture, electrical conductivity, and TCLP metals). Additional analysis was completed to support the risk assessment (i.e., PBET for arsenic and lead). The PBET results are tabulated (Analytical Summary Table 3) but are not discussed in this report.

6.2 Surface Water Assessment

Surface water sampling involved collecting water samples along the shores of Great Slave Lake (SW23-01) and Rat Lake (SW23-02) bordering the Subject Site.

The field sampling procedure for collecting surface water samples was as follows:

- The sampler used a dedicated pair of nitrile gloves for each sample to prevent cross-contamination.
- Samples were collected from the shore of each lake; care was taken to minimize sediment disturbance during sampling.
- Samples to be analyzed for dissolved metals were filtered in the field and placed in bottles with the appropriate preservative.
- Samples were placed in laboratory-supplied bottles, with minimal headspace, and were sealed for laboratory analysis.

Samples were collected in laboratory-supplied bottles and transported in an ice-filled cooler to ALS in Yellowknife, NT, for analysis of arsenic (III and V), dissolved metals, ammonia, organic carbon, sulphate, salinity, hardness, and pH. Sampling for analysis of all parameters except arsenic (III) and arsenic (V) was conducted on September 29, 2023. Samples for arsenic speciation analysis were collected on October 31, 2023, as the specifically required bottles did not arrive in the initial bottle order.

6.3 Quality Assurance/Quality Control

ALS follows specific quality assurance and quality control (QA/QC) procedures to ensure data are reliable. Common quality control measures are run at 5–10% frequency, and these include the use of method blanks, duplicates, blank spikes, and standard reference materials. Further information about the laboratory's QA/QC is provided in the laboratory reports in Appendix D.

Collection and analysis of duplicate samples provides information about the combined (field and analytical) precision of the sampling and analytical program. For each respective analyte, the results for each sample in the duplicate pair (a and b in the formula below) were compared, and the relative percent difference (RPD) was calculated using the following formula:

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

The RPD calculation was not completed when sample results were within five times the laboratory's detection limit due to increased uncertainty. Higher RPD values are generally associated with sample concentrations near detection limits. When concentrations in samples are higher than the respective detection limits, RPD values tend to be lower. The RPD target limit is 50% for soil and 25% for water.

7 RESULTS

7.1 Soil Assessment

The Subject Site had large amounts of rock outcrop, and the soil, where present, was shallow (i.e., a maximum soil thickness of 0.4 m was observed). The soil stratigraphy at the Subject Site generally consists of organic soil (i.e., peat), predominantly silty mineral soil, and mixtures of peat and silt. The stratigraphy of the Old Mine Road consisted of imported sand and gravel. The soil stratigraphy at the various sample points across the Subject Site is shown in Figure 2 (Appendix A).

The colour of soil samples across the Subject Site ranged from black, dark brown, brown, grey/brown, and grey. The Old Mine Road soil was blue/grey. No staining, odour, sheen, or other indications of soil contamination were observed. No debris was noted in any sample, but surficial rubbish was observed at TP23-05 (i.e., empty plastic compact disc cases, etc.).

Concentrations of all PCOCs in soil were less than the EGCSR RL/PL guidelines except for various metals (i.e., antimony, arsenic, barium, copper, selenium, and zinc). Additional soil contamination (i.e., boron, cobalt, and vanadium) was identified when the results were compared to the 2023 draft EGCSR guidelines.

7.1.1 Arsenic

Concentrations of arsenic in all but three soil samples exceeded the EGCSR arsenic guideline of 12 mg/kg. Concentrations of arsenic in three of five roadway test pits, and in six of the other 37 test pits across the Subject Site, exceeded the EGCSR RL soil background of 160 mg/kg. Compared to the draft EGCSR RL soil background of 120 mg/kg, the number of exceedances rose to four of the five roadway test pits, and to 10 of the remaining 37 test pits. Elevated arsenic values were identified primarily along the perimeter of the Subject Site with peak concentrations along the southwest edge.

Table 7-1 summarizes the soil arsenic exceedances compared to the EGCSR and draft EGCSR RL soil backgrounds. All samples listed exceed the draft EGCSR RL soil background of 120 mg/kg.

Table 7-1 Soil Exceeding Arsenic Residential Backgrounds

Location	Arsenic Concentration (mg/kg)	Soil Type
TP23-05	330	Silt/peat
TP23-06	152	Peat
TP23-08	147	Silt/peat
TP23-12	124	Peat
TP23-13	121	Peat
TP23-15	470	Peat
TP23-18	1,190	Peat
TP23-20	446	Peat
TP23-23	291	Peat
TP23-27	260	Peat
OMR23-39	126	Sand and gravel
OMR23-40	903	Sand and gravel
OMR23-41	1,850	Sand and gravel
OMR23-42	554	Sand and gravel

Values in red indicate an exceedance of the EGCSR RL soil background of 160 mg/kg.

Arsenic concentrations that exceeded the residential background are limited to samples with organic soil, soil with an organic component, or the imported fill of the Old Mine Road.

Figure 3 in Appendix A presents the arsenic concentrations for all sample points compared to the EGCSR and the draft EGCSR guidelines.

7.1.2 Arsenic Speciation Analysis

Speciation analysis was completed on select samples with elevated arsenic to determine the proportion of arsenic (III) and arsenic (V). These results are presented in Table 3 (Appendix B) and in the lab reports (Appendix D).

In the Old Mine Road samples, arsenic (V) was predominant. Arsenic (V) was also predominant in most other samples. A notable exception was for two peat samples (TP23-06 and TP23-18), in which the ratio was significantly reversed, as arsenic (III) was present in much higher concentrations than arsenic (V). These two samples are located on opposite sides of Tin Can Hill. Insufficient information available to determine the reason for the elevated arsenic (III) in these two samples.

7.1.3 Other Metals

EGCSR exceedances for other metals were found only in non-roadway samples. Elevated antimony was observed in three peat soil samples along the north edge of the Subject Site. Barium and zinc exceeded guidelines in one peat sample (TP23-23) at the south edge of the Subject Site. The remaining exceedances are co-elevated concentrations of

copper and selenium on the southern face of Tin Can Hill. Nine test pits exhibited selenium concentrations that exceeded the EGCSR guideline; four of these test pits also contained copper concentrations greater than the EGCSR guideline.

Comparing concentrations to the draft EGCSR results in a greater number of metals exceedances as the draft EGCSR guidelines are generally more stringent. Additional sample exceedances for antimony are identified under the draft EGCSR (17 compared to three) and new exceedances for boron (either at the detection limit or concentrations in all samples exceed the draft guideline), cobalt (two samples), and vanadium (15 samples). Vanadium concentrations exceeded the draft EGCSR in all Old Mine Road samples.

Note that the EGCSR does not have a guideline for boron. The detection limit for boron in many samples (5 mg/kg to 9.4 mg/kg) is greater than the draft EGCSR guideline concentration of 3.3 mg/kg. Boron was detected in 16 of the 42 samples, and these concentrations ranged from 6.2 mg/kg to 29.2 mg/kg. Based on this, it is likely that the boron concentration in most of the remaining samples, and potentially all samples, is greater than the draft EGCSR guideline of 3.3 mg/kg.

Table 7-2 summarizes the metals exceedances when concentrations are compared to the EGCSR versus the draft EGCSR.

Table 7-2 Samples that Exceeded Guidelines

Parameter	EGCSR Guideline*	Number of Exceedances	Exceedance Soil Type(s)	Draft EGCSR Guideline*	Number of Exceedances	Exceedance Soil Type(s)
Antimony	20	3	Peat	7.5	17	Peat (9) Silt/peat (4) Silt (4)
Barium	500	1	Peat	390	1	Peat
Boron	No guideline	0	—	3.3	16 (potentially all)	All
Cobalt	50	0	—	20	2	Peat (1) Silt/peat (1)
Copper	63	4	Silt (3) Silt/peat (1)	63	5	Silt (3) Silt/peat (2)
Selenium	1	9	Silt/peat (4) Silt (4) Peat (1)	1	9	Silt/peat (4) Silt (4) Peat (1)
Vanadium	130	0	—	18	15	Sand/gravel (5) Silt/peat (5) Peat (3) Silt (2)
Zinc	200	1	Peat	250	1	Peat

*All units in mg/kg

Figure 4 in Appendix A presents the other metals concentrations for all sample points compared to the EGCSR guidelines. Figure 5 presents the other metals concentrations for all sample points compared to the draft EGCSR guidelines.

7.1.4 Soil pH

The EGCSR and draft EGCSR soil pH guideline is 6–8. The pH values in the Old Mine Road samples ranged from 7.46 to 8.29. In all other samples, the soil pH ranged from 4.15 to 7.81. All soil with pH below 6 contained peat, and low pH is typical of peat soil. The pH values outside 6–8 are not a contamination concern.

7.1.5 Landfill Suitability

To support the ROA, TCLP analysis was completed to assess whether the metals-contaminated soil was suitable for landfill disposal. Concentrations of all metals in the TCLP leachate were below the laboratory detection limit and well below the Schedule IV guidelines for landfill suitability.

The analytical summary tables for soil (1 to 5) are in Appendix B, and the complete laboratory report is provided in Appendix D.

7.2 Surface Water Assessment

During sampling on September 29, 2023, field parameters were measured during sampling. The field parameters for water in SW23-01, sampled from Great Slave Lake, were 10.6°C for temperature, 249 µS/cm for conductivity, and 6.64 for pH. The field parameters for water in SW23-02, collected from Rat Lake, were 9.0°C for temperature, 745 µS/cm for conductivity, and 6.81 for pH.

Concentrations of all PCOCs were less than applicable guidelines in SW23-01, except for total chromium, which exceeded the CCME AL guideline for long-term exposure. The concentration of dissolved chromium in SW23-01 was less than the laboratory detection limit and less than the CCME AL guideline for long-term exposure.

Concentrations of all PCOCs were less than applicable guidelines in SW23-02, except for some total metals (i.e., aluminum, arsenic, copper, iron, lead, and zinc), one dissolved metal (i.e., arsenic), and fluoride, which exceeded the CCME AL guideline for long-term exposure.

Concentrations of arsenic (V) were higher than arsenic (III) in both samples. However, concentrations of arsenic (V) were much higher in SW23-02 (196 µg/L) than in SW23-01 (0.85 µg/L). These results are consistent with the total and dissolved arsenic exceedances in SW23-02, both of which were higher than in SW23-01.

The results are displayed in Figure 6 (Appendix A), the analytical summary tables (6 to 9) are in Appendix B, and the complete laboratory report in Appendix D.

7.3 Quality Assurance/Quality Control

The QA/QC results described in the ALS laboratory reports are within acceptable tolerances (Appendix D). ALS noted that for some samples, there was limited sample volume to complete the TCLP analysis and that test results from modified TCLP procedures may be unsuitable for regulatory purposes. However, a review of the results indicates that sample locations with the highest metals concentrations (i.e., TP23-03 for barium, OMR23-41 for arsenic, etc.) had

sufficient sample volume, and no qualifier was required. As such, the TCLP analysis is considered reliable for potential regulatory purposes.

Four blind duplicate samples were submitted for soil and one blind duplicate sample was submitted for water. The RPD values for all parameters were within the acceptable limits, except for percent saturation, in TP23-06 and its duplicate pair, and sulphate (mass/mass), in TP23-30 and its duplicate pair. The increased RPD for TP23-06 is likely attributable to sample heterogeneity as the soil stratigraphy was a mixture of silt and peat. Because there is no guideline for percent saturation and all other parameter concentrations were within the 50% criteria target, the elevated RPD is not a concern. The elevated RPD for sulphate in TP23-30 is for sulphate in mg/kg (mass/mass). This mg/kg result is a calculated value, based on the weight wet analysis results (mg/L) and the moisture (% wet). As the RPD for the values that were actually analyzed (mg/L and % wet) were both within the 50% target, the elevated RPD for the mg/kg is due to the cumulative difference and likely due to sample heterogeneity. Conservatively, the higher concentration of sulphate for the duplicate pair is considered representative of the sample location. As sulphate does not have a soil guideline, the contamination status of the location does not change. Based on this, the elevated RPD is not considered a concern. The remaining RPD values for the soil duplicate pairs were within the acceptable limits. The RPDs for the water sample were all within the target of 25%. Tabulated data are included in the analytical summary tables.

8 DISCUSSION

Elevated metals concentrations were identified across Tin Can Hill. The types of elevated metals varied between the Old Mine Road and the rest of the Subject Site. Metals contamination in the Old Mine Road was limited to arsenic (at the south portion of the Subject Site) and vanadium if concentrations are compared to the draft EGCSR guidelines. Contamination across the rest of the Subject Site consisted of six metals (i.e., arsenic, antimony, barium, copper, selenium, and zinc) that exceeded the EGCSR guidelines and included boron and cobalt when compared to draft EGCSR guidelines.

The barium and zinc exceedances in TP23-23 appear localized (i.e., a hot spot) and potentially unrelated to the other elevated metals. Barium and zinc concentrations were well below guidelines in all other locations, and TP23-23 had only moderately elevated concentrations of antimony and vanadium compared to the draft EGCSR guidelines. Additional step-out delineation sampling may be warranted at this location depending on the findings of the risk assessment.

The elevated concentrations of the other metals are more typical of a wide-area contamination plume. The elevated selenium may be partially naturally occurring background concentrations; many results only marginally exceed the guideline.

The widespread metals contamination is attributed to deposition from ore roasting air pollution that occurred during former mining operations around Yellowknife. Based on the source of the metals contamination (i.e., air pollution from ore roasting) the concentrations are expected to be highly variable across the site. The current sample density, an approximate 50 m plus rough grid spacing, is not adequate to fully characterize the site. As such, the identified metals contamination at a given sample point is conservatively assumed to extend up to the next sample point. The current data is only to be used to define broad risk on the site. The current dataset is appropriate for a risk assessment approach. Additional sampling on a tighter sampling grid would be required to characterize specific areas and to potentially delineate any contamination.

Due to the widespread nature of the understood contamination source (i.e., air pollution), elevated arsenic in soil is not limited to Tin Can Hill. Elevated arsenic in soil is known to be broadly present across Yellowknife well above the typical “natural” national assumed background of 10 ug/g. Based on this, the EGCSR has established site-specific human health-based soil quality remediation objectives for arsenic based on different land uses (GNWT 2003). The draft 2023 EGCSR guidelines also identify that arsenic soil concentrations are elevated within the Yellowknife municipal boundaries, and to a lesser extent, within 25 km of the City of Yellowknife (GNWT 2023). Therefore, the elevated arsenic at the Subject Site is considered a wide-area contamination issue.

9 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the Phase II/III ESA, Associated provides the following conclusions:

- Widespread metals contamination consisting of antimony, arsenic, barium, copper, selenium, and zinc, was identified in soil across the Subject Site when soil concentrations were compared to the EGCSR guidelines.
- Additional soil contamination was identified (i.e., boron, cobalt, and vanadium) when soil concentrations were compared to the draft EGCSR guidelines.
- Based on the laboratory metals leachate analysis, all soil is suitable for potential landfill disposal.
- Based on the results of this investigation, and the understood source of the metals contamination (i.e., air pollution from ore roasting), metals concentrations are expected to be highly variable across the site.
- The current sample density is not adequate to fully characterize the Subject Site given the pockets of surface soil across the site interspersed with bedrock outcroppings.
- Additional sampling on a tighter sampling grid (7- 10 m) in the soil pockets would increase confidence in contamination presence and delineation.
- The current data is useful to define broad risk on the site, as applied in the current PQRA.

Associated provides the following recommendations:

- Additional step out sampling (7-10 m grid) is recommended to delineate identified contamination or to characterize specific areas.
- Any proposed development on the site should refer to the companion PQRA and ROA documents completed for the Subject Site prior to proceeding.

10 DISCLAIMER

ASSOCIATED ENVIRONMENTAL CONSULTANTS INC.

STANDARD DISCLAIMER FOR CONTAMINATED SITE INVESTIGATIONS, MONITORING AND CONFIRMATION OF REMEDIATION SERVICES

Subject to the following conditions and limitations, the investigation described in this report has been conducted by Associated Environmental Consultants Inc. (Associated) for the Government of Northwest Territories (the Client) in a manner consistent with a reasonable level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area.

1. The scope of the investigation described in this report has been limited by the budget set for the investigation in the work program. The scope of the investigation has been reasonable having regard to that budget constraint.
2. The investigation described in this report has been limited to the scope of work described in the work program.
3. The investigation described in this report has relied upon information provided by third parties concerning the history of the site. Except as stated in this report, we have not made an independent verification of such historical information.
4. The investigation described in this report has been made in the context of existing government regulations generally promulgated at the date of this report. Except as specifically noted, the investigation did not take account of any government regulations not in effect and generally promulgated at the date of this report.
5. All documents and drawings prepared by Associated, or by others on behalf of Associated, in connection with this Project are instruments of professional service for the execution of the Project. Associated retains the property and copyright in these documents and drawings, whether the Project is executed or not.
6. The findings and conclusions are valid only for the specific site identified in the report.
7. Since site conditions may change over time, the report is intended for immediate use.
8. This report is intended for the exclusive use of the Client, including all successors and assigns. The material in it reflects Associated's best judgement, in light of the information available to it, at the time of preparation. Any use that a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Associated accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report and makes no representation of fact or opinion of any nature whatsoever to any person or entity other than the Client.

In accepting delivery of this report, the Client hereby agrees that:

- A. Associated's liability for all claims of the Client, arising out of the agreement between Associated and the Client, pursuant to which this report has been prepared (the Agreement) shall absolutely cease to exist after a period of six (6) years from the date of:
 - i. substantial completion of the investigation described in this report,
 - ii. termination of Associated's Services under the Agreement,
 - iii. commencement of the limitation period for claims prescribed by any statute of the Province or Territory for the site of the investigation described in this report,
 - iv. any significant alteration of the site of the investigation described in this report, and/or neighbouring properties after the date of the final report that would change the conclusions and recommendations of the final report,whichever shall first occur, and following the expiration of such period, the Client shall have no claim whatsoever against Associated.
- B. Any and all claims that it may have against Associated's or any of its servants, agents, or employees arising out of or in any way connected with the investigation described in this report or the preparation of this report, whether such claims are in contract or in tort, and whether such claims are based on negligence or otherwise, shall be limited to a total amount equal to the fees payable to Associated's under the contract with the Client. Associated's shall bear no liability whatsoever for any consequential loss, injury or damage incurred by the Client including but not limited to claims for loss of profits and loss of markets.

11 CERTIFICATION OF QUALIFIED ASSESSORS

This Phase II/III ESA report was prepared for Government of Northwest Territories to determine the potential that soil or water at the Subject Site is contaminated relative to applicable guidelines under the current or intended land use.

The services provided by Associated Environmental Consultants Inc. in the preparation of this report were conducted in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practising under similar conditions. No other warranty expressed or implied is made.

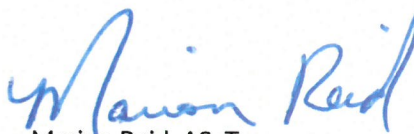
We trust this completes the assignment to your satisfaction. Please feel free to contact the undersigned if you have any questions.

This report was prepared by:
Associated Environmental Consultants Inc.

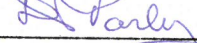


Trevor Roste, P.Ag.
Project Manager, Environmental Scientist

This report was reviewed by:
Associated Environmental Consultants Inc.



Marion Reid, ASCT
Manager, Version 1.0, Geoscience

PERMIT TO PRACTICE	
ASSOCIATED ENVIRONMENTAL CONSULTANTS INC.	
Signature	
Date	<u>April 2 2024</u>
PERMIT NUMBER: P 1034	
NT/NU Association of Professional Engineers and Geoscientists	



David Parbery, M.Sc., MNRM, P.Geo. (NAPEG)
NAPEG Representative and Senior Reviewer

Permit to Practice
Associated Environmental Consultants Inc.

Associated Environmental Consultants Inc.
Northern Environment
Unit 201, 5103 48 Street
Yellowknife, NT X1A 1N5

12 QUALIFICATIONS OF ASSESSORS

Marion Reid, AScT

Role: Senior Reviewer, Environmental Scientist

Experience: Marion has been an environmental consultant since 1996, focusing on contaminated sites projects. Over her career, she has managed hundreds of contaminated sites projects, ranging from small-scale to large, complex sites. Her clients have included large oil companies, government ministries and organizations, municipalities, First Nation bands, commercial business owners, and private property owners. Projects she has managed include preliminary and detailed site investigations, site remediation, risk assessments, soil vapour assessments, background soil and groundwater investigations, and site closures. Marion has extensive knowledge of the BC contaminated sites regulatory regime and a keen understanding of the regulatory closure process. In recent years, she has facilitated the acquisition of over 20 regulatory closures (certificates of compliance or determinations) on properties across BC. Marion has been registered with Applied Science Technologists and Technicians of BC since 1997 and her membership is in good standing.

Trevor Roste, P.Ag.

Role: Environmental Scientist

Experience: Trevor has been an environmental consultant since 2003 and specializes in contaminated sites projects, including preliminary and detailed site investigation, site remediation, risk assessment, soil vapour assessment, groundwater investigation, and site closures. Trevor has managed hundreds of contaminated sites projects, ranging from small-scale to large, complex sites. His clients have included several large upstream and downstream oil and gas companies, provincial and municipal governments, commercial business owners, First Nations, and private property owners. Trevor has a thorough understanding of the BC *Contaminated Sites Regulation* and the regulatory closure process. He has assisted with the acquisition of over 20 regulatory closures (certificates of compliance or determinations) of properties across BC. He has also facilitated the acquisition of over 50 regulatory closures (certificates of restoration – part 1) of former oil and gas well sites in northeast BC. Trevor is a professional agrologist with the BC Institute of Agrologists.

Aaron Yaremchuk, P.Chem.

Role: Environmental Scientist

Experience: Aaron is an environmental scientist with 5 years of experience in environmental consulting. He has a chemistry and environmental background and has knowledge of contaminant hydrogeology, contaminated site investigations, site remediation, environmental impact assessments, and groundwater modelling. Aaron has field experience in environmental site investigations in BC, Alberta, Manitoba, Ontario, Yukon, and Northwest Territories. Aaron is a practising professional chemist with the Association of the Chemical Profession of British Columbia.

David Parbery, M.Sc., M.N.R.M., P.Geo. (NAPEG)

Role: NAPEG Representative and Senior Reviewer

David is a Registered Professional Geoscientist (NAPEG Registered) with over 25 years of work experience in Alberta, Manitoba, Saskatchewan, and Northwest Territories. His focus is on assisting clients with their environmental regulatory compliance issues, contaminated site remediation, and environmental monitoring programs. David has experience conducting Phase I, II and III Environmental Site Assessments, Remedial Options Analyses, Emergency Spill Response, and Hazardous Building Material Assessments

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- Associated Environmental Consultants Inc. (Associated). 2023. Advanced Phase I Environmental Site Assessment, Tin Can Hill, Yellowknife, NT. Prepared for the Government of Northwest Territories.
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- Government of Northwest Territories (GNWT). 2023. Draft 2023 Environmental Guideline for Contaminated Site Remediation. https://www.gov.nt.ca/ecc/sites/ecc/files/resources/draft_2023_environmental_guideline_for_contaminated_site_remediation.pdf

APPENDIX A – FIGURES

Figure 1: Site Location Plan

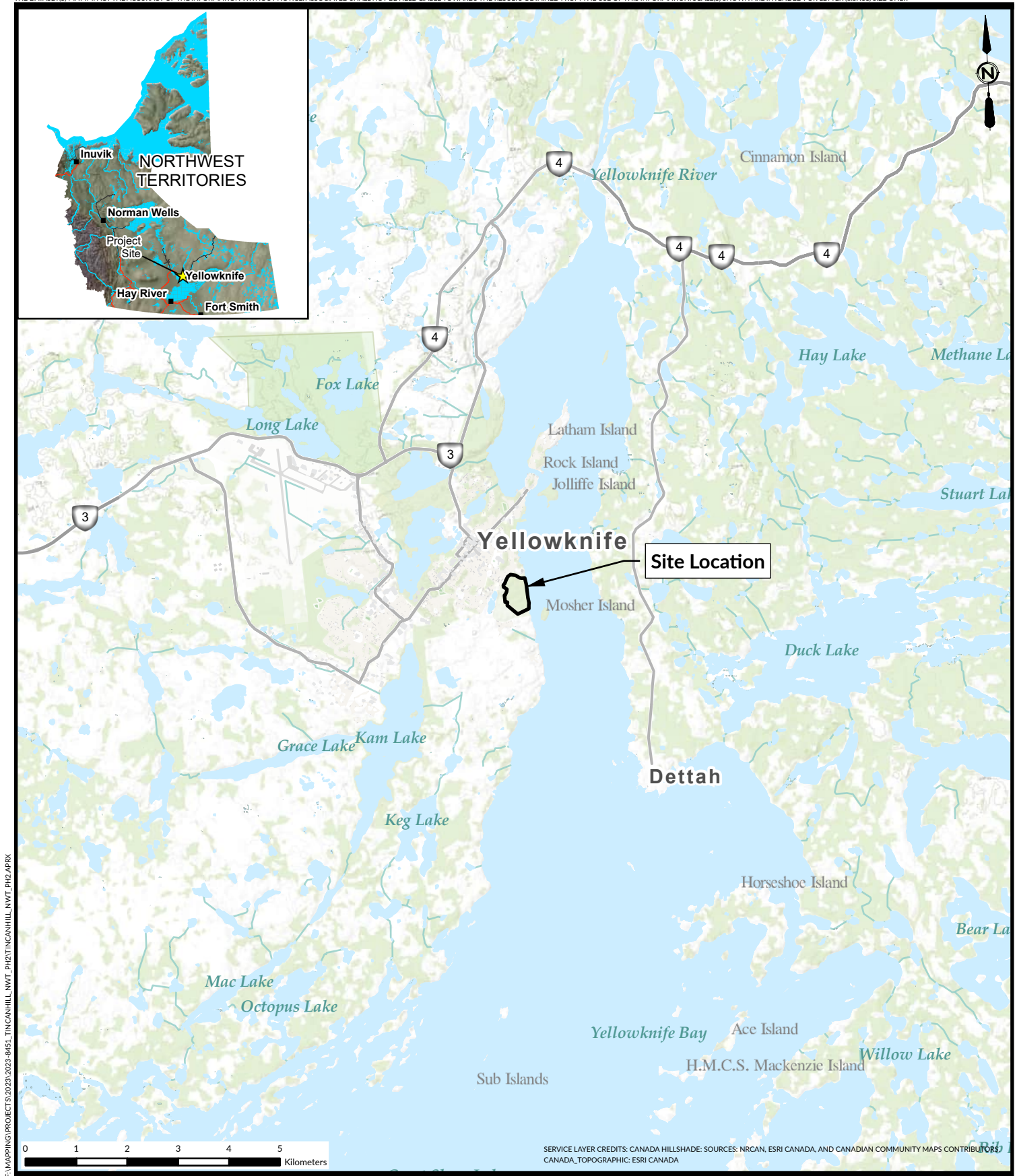
Figure 2: Sampling Location Plan

Figure 3: Soil Analytical Results – Arsenic

Figure 4: Soil Analytical Results – Other Metals

Figure 5: Soil Analytical Results – Other Metals, Draft Guidelines

Figure 6: Surface Water Analytical Results



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FIGURE 1: SITE LOCATION PLAN

GOVERNMENT OF NORTHWEST TERRITORIES

PHASE II/III ESA - TIN CAN HILL, YELLOWKNIFE, NT



- Test Pit - Peat
- Test Pit - Sand & Gravel
- Test Pit - Silt
- Test Pit - Silt / Peat
- Surface Water Sample

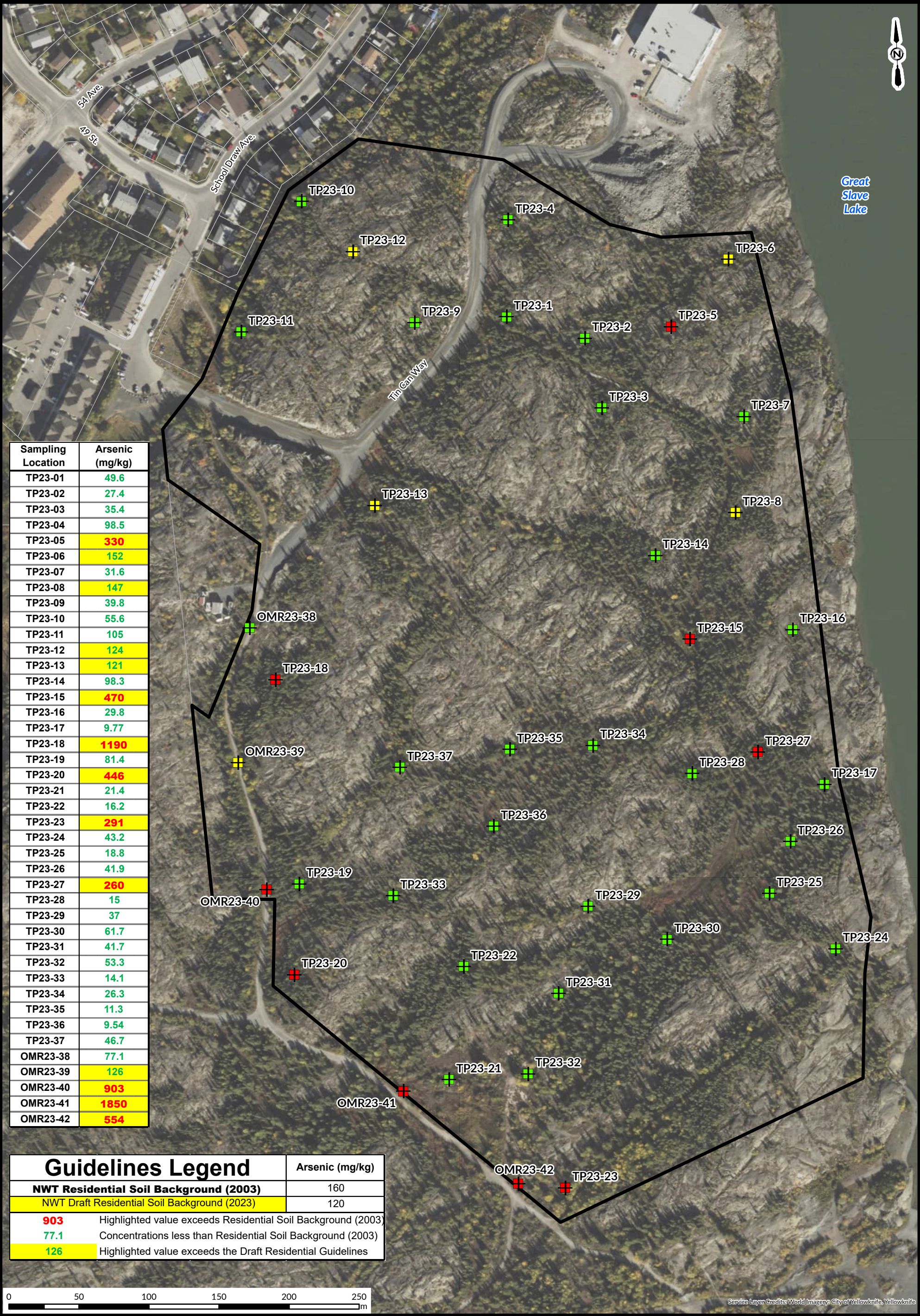
- Proposed Sampling Point - No Soil
- Proposed Sampling Point - No Surface Water
- Subject Property
- Parcel Boundary

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FIGURE 2: SAMPLING LOCATION PLAN

GOVERNMENT OF NORTHWEST TERRITORIES

PHASE II/III ESA - TIN CAN HILL, YELLOWKNIFE, NT



Subject Property

Parcel Boundary

Test Pits

Concentrations less than Residential Soil Background (2003)

Exceeds the Draft Residential Guidelines

Exceeds Residential Soil Background (2003) and the Draft Residential Guidelines

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FIGURE 3: SOIL ANALYTICAL RESULTS – ARSENIC

GOVERNMENT OF NORTHWEST TERRITORIES

PHASE II/III ESA – TIN CAN HILL, YELLOWKNIFE, NT

Guidelines Legend	Antimony	Barium	Cobalt	Copper	Selenium	Vanadium	Zinc
NWT Tier 1 RL/PL CS/FS	20	500	50	63	1	130	200
Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/ Parkland Land Use for coarse-grained and fine-grained soil							
903	Highlighted value exceeds NWT Tier 1 RL/PL CS/FS guidelines			Units for all parameters are mg/kg			
77.1	Concentrations less than NWT Tier 1 RL/PL CS/FS guidelines			NG - no guideline			



Parameter	TP23-01	TP23-02	TP23-03	TP23-04	TP23-05	TP23-06	TP23-07	TP23-08	TP23-09	TP23-10	TP23-11	TP23-12	TP23-13	TP23-14	TP23-15	TP23-16	TP23-17	TP23-18	TP23-19	TP23-20	TP23-21
Antimony	1.14	6.52	3.42	17.1	9.03	27	7.45	1.34	1.89	36	2.66	27.4	7.15	9.08	4.16	2.84	3.11	16.9	12.2	15.7	1.72
Barium	93.1	22.5	32.7	51.7	102	10.6	37.3	74.6	9.83	30	68.2	54.9	53.2	292	43.8	84.5	80.7	112	31	212	169
Cobalt	13.2	1.67	1.29	6.04	23.5	1.1	1.84	12.9	0.28	4.14	12.3	5.32	2.88	40.6	6.92	1.92	1.42	4.4	4.25	13.8	11
Copper	68.8	12.4	7.71	18.8	30.8	16	14.3	17.4	3.63	32.2	15.5	18.4	7.4	35.4	22.7	15.1	21.2	20.3	28	25.9	31.6
Selenium	0.49	<0.37	<0.38	<0.38	<0.37	<0.38	0.43	<0.37	<0.37	0.42	<0.37	<0.37	<0.30	<0.30	0.49	1.14	<0.30	<0.30	<0.30	<0.30	0.27
Vanadium	41	1.78	1.66	4.05	44.3	4.25	2.45	45.6	0.77	3.45	42.7	10.7	9.9	7.89	26.3	3.81	3.44	9.84	9.73	26	55.1
Zinc	40.1	5.8	4.1	20.5	76.5	16.6	16.9	30.4	8.1	25	86.6	26.3	13.7	94.7	19.2	30.9	9.7	23.4	21.2	59.7	53.6

Parameter	TP23-22	TP23-23	TP23-24	TP23-25	TP23-26	TP23-27	TP23-28	TP23-29	TP23-30	TP23-31	TP23-32	TP23-33	TP23-34	TP23-35	TP23-36	TP23-37	OMR23-38	OMR23-39	OMR23-40	OMR23-41	OMR23-42
Antimony	0.52	12	10.8	3.83	3.93	14.8	6.91	12.4	9.19	14	10.8	1.62	1.69	4.92	3.7	12.1	0.86	1.16	3.17	3.56	6.04
Barium	192	2770	51.3	71.3	126	81.3	59.2	42.5	77.9	46.8	79.1	172	91.4	172	98	50.4	39.6	47.4	30.6	24.5	53.2
Cobalt	11	12.4	2.62	2.4	3.36	2.32	1.93	3.27	3.72	2.67	1.88	5.86	2.55	2.72	1.27	2.06	8.62	9.33	12.8	19.1	12.3
Copper	22.3	35.3	18.6	13.6	25.8	8.17	145	76.7	45.6	66.6	23.6	41.9	33.5	121	50.3	15.2	21.8	26.7	44	52	32.4
Selenium	<0.20	0.31	<0.30	0.56	0.69	<0.30	1.54	1.31	1.09	1.42	0.63	1.16	1.05	3.23	2.27	0.46	<0.20	<0.20	<0.20	<0.20	<0.20
Vanadium	50.6	42.8	5.58	1.45	1.73	4.59	4.3	4.08	3.81	3.58	3.33	29.4	12.2	7.41	1.99	4.24	32.2	34	39	51.5	39.4
Zinc	50.2	768	60.9	33	57	49.4	60.4	28.8	26.3	83.6	68	17.1	13.7	5.2	19.1	13.4	41.4	47.8	48	49.9	50.4

Subject Property

Parcel Boundary

Test Pits

Concentrations less than NWT Tier 1 RL/PL CS/FS guidelines

Concentrations greater than NWT Tier 1 RL/PL CS/FS guidelines

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FIGURE 4: SOIL ANALYTICAL RESULTS – OTHER METALS

GOVERNMENT OF NORTHWEST TERRITORIES

PHASE II/III ESA – TIN CAN HILL, YELLOWKNIFE, NT

Guidelines Legend	Antimony	Barium	Boron	Cobalt	Copper	Selenium	Vanadium	Zinc				
2023 Draft Residential Guidelines	7.5	390	3.3	20	63	1	18	250				
NWT Draft 2023 Environmental Guideline for Contaminated Site Remediation												
77.1	Concentrations less than the 2023 Draft Residential Guidelines				Units for all parameters are mg/kg							
126	Highlighted value exceeds the 2023 Draft Residential Guidelines											
<5.0	Detection limit is greater than the guideline											



Parameter	TP23-01	TP23-02	TP23-03	TP23-04	TP23-05	TP23-06	TP23-07	TP23-08	TP23-09	TP23-10	TP23-11	TP23-12	TP23-13	TP23-14	TP23-15	TP23-16	TP23-17	TP23-18	TP23-19	TP23-20	TP23-21
Antimony	1.14	6.52	3.42	17.1	9.03	27	7.45	1.34	1.89	36	2.66	27.4	7.15	9.08	4.16	2.84	3.11	16.9	12.2	15.7	1.72
Barium	93.1	22.5	32.7	51.7	102	10.6	37.3	74.6	9.83	30	68.2	54.9	53.2	292	43.8	84.5	80.7	112	31	212	169
Boron	<9.3	<9.3	<9.4	<9.4	<9.3	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<9.4	<7.5	<7.4	<7.5	9.1	22.6	<7.5	<7.4	<7.4	8.4
Cobalt	13.2	1.67	1.29	6.04	23.5	1.1	1.84	12.9	0.28	4.14	12.3	5.32	2.88	40.6	6.92	1.92	1.42	4.4	4.25	13.8	11
Copper	68.8	12.4	7.71	18.8	30.8	16	14.3	17.4	3.63	32.2	15.5	18.4	7.4	35.4	22.7	15.1	21.2	20.3	28	25.9	31.6
Selenium	0.49	<0.37	<0.38	<0.38	<0.37	<0.38	0.43	<0.37	<0.37	0.42	<0.37	<0.37	<0.30	<0.30	<0.30	0.49	1.14	<0.30	<0.30	<0.30	0.27
Vanadium	41	1.78	1.66	4.05	44.3	4.25	2.45	45.6	0.77	3.45	42.7	10.7	9.9	7.89	26.3	3.81	3.44	9.84	9.73	26	55.1
Zinc	40.1	5.8	4.1	20.5	76.5	16.6	16.9	30.4	8.1	25	86.6	26.3	13.7	94.7	19.2	30.9	9.7	23.4	21.2	59.7	53.6
Parameter	TP23-22	TP23-23	TP23-24	TP23-25	TP23-26	TP23-27	TP23-28	TP23-29	TP23-30	TP23-31	TP23-32	TP23-33	TP23-34	TP23-35	TP23-36	TP23-37	OMR23-38	OMR23-39	OMR23-40	OMR23-41	OMR23-42
Antimony	0.52	12	10.8	3.83	3.93	14.8	6.91	12.4	9.19	14	10.8	1.62	1.69	4.92	3.7	12.1	0.86	1.16	3.17	3.56	6.04
Barium	192	2770	51.3	71.3	126	81.3	59.2	42.5	77.9	46.8	79.1	172	91.4	172	98	50.4	39.6	47.4	30.6	24.5	53.2
Boron	10.4	<7.4	8.5	10.2	13.6	<7.5	8.5	25.3	24.8	29.2	32.5	6.2	12.8	17.9	21.4	<7.4	<5.0	<5.0	<5.0	<5.0	<5.0
Cobalt	11	12.4	2.62	2.4	3.36	2.32	1.93	3.27	3.72	2.67	1.88	5.86	2.55	2.72	1.27	2.06	8.62	9.33	12.8	19.1	12.3
Copper	22.3	35.3	18.6	13.6	25.8	8.17	145	76.7	45.6	66.6	23.6	41.9	33.5	121	50.3	15.2	21.8	26.7	44	52	32.4
Selenium	<0.20	0.31	<0.30	0.56	0.69	<0.30	1.54	1.31	1.09	1.42	0.63	1.16	1.05	3.23	2.27	0.46	<0.20	<0.20	<0.20	<0.20	<0.20
Vanadium	50.6	42.8	5.58	1.45	1.73	4.59	4.3	4.08	3.81	3.58	3.33	29.4	12.2	7.41	1.99	4.24	32.2	34	39	51.5	39.4
Zinc	50.2	768	60.9	33	57	49.4	60.4	28.8	26.3	83.6	68	17.1	13.7	5.2	19.1	13.4	41.4	47.8	48	49.9	50.4



Subject Property

Parcel Boundary

Test Pits

Concentrations less than the 2023 Draft Residential Guidelines

Concentrations less than the 2023 Draft Residential Guidelines and detection limit is greater than the guideline

Concentrations greater than the 2023 Draft Residential Guidelines

AE PROJECT NO.

2023-8451

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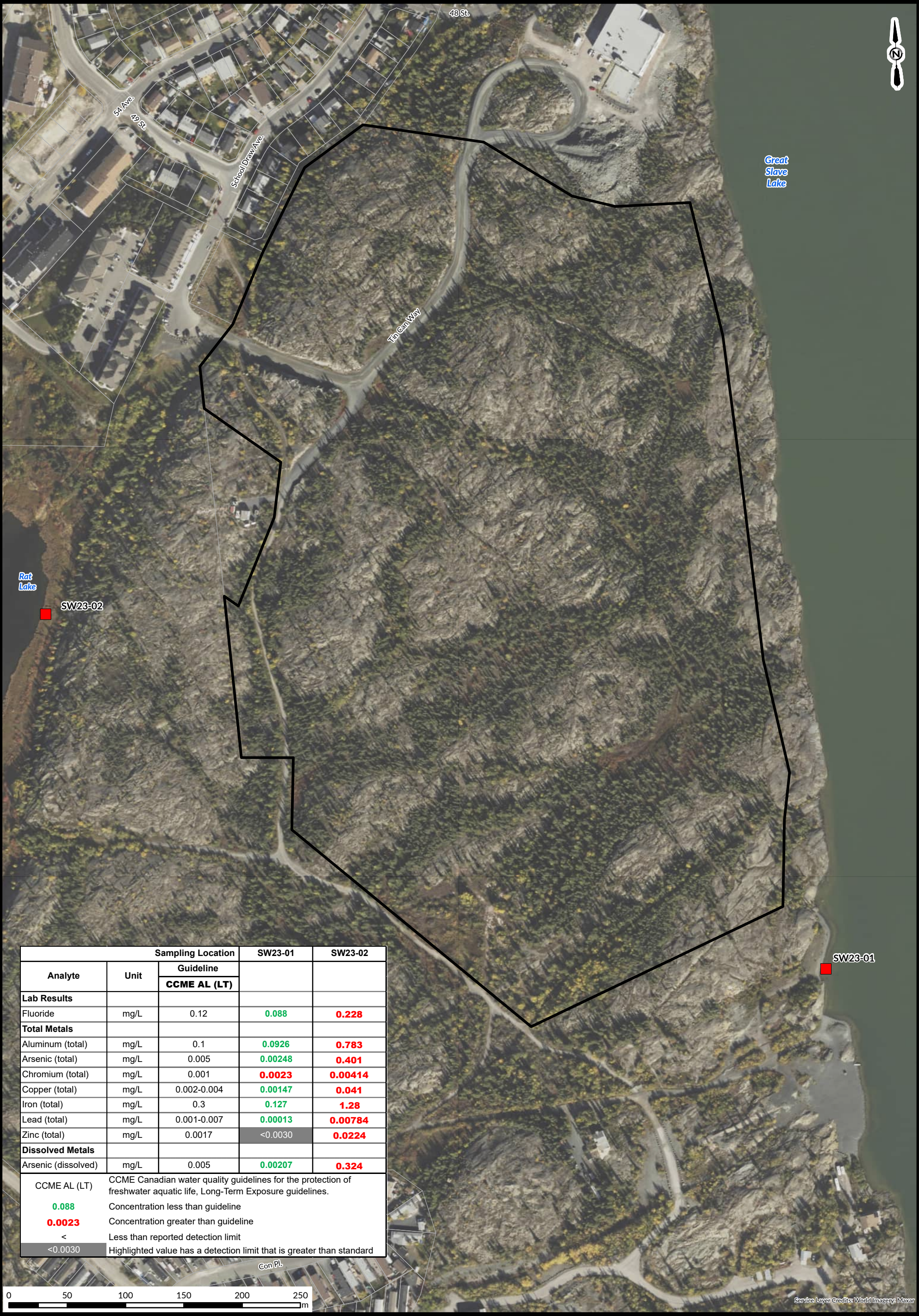
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FIGURE 5: SOIL ANALYTICAL RESULTS
- OTHER METALS, DRAFT GUIDELINES

GOVERNMENT OF NORTHWEST TERRITORIES

PHASE II/III ESA – TIN CAN HILL,
YELLOWKNIFE, NT



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Associated
Environmental



Subject Property



Parcel Boundary

Water Sample Locations



Concentration less than guideline



Concentration greater than guideline

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FIGURE 6: SURFACE WATER ANALYTICAL RESULTS

GOVERNMENT OF NORTHWEST TERRITORIES

PHASE II/III ESA – TIN CAN HILL, YELLOWKNIFE, NT

APPENDIX B – ANALYTICAL SUMMARY TABLES

Table 1: Summary of Soil Analytical Results – Particle Size

Table 2: Summary of Soil Analytical Results – Metals

Table 3: Summary of Soil Analytical Results – Speciated Arsenic and IVBA (PBET)

Table 4: Summary of Soil Analytical Results – Toxicity Characteristic Leaching Procedure

Table 5: Summary of Soil Analytical Results – General Parameters

Table 6: Summary of Surface Water Analytical Results – Total Metals

Table 7: Summary of Surface Water Analytical Results – Dissolved Metals

Table 8: Summary of Surface Water Analytical Results – Speciated Arsenic

Table 9: Summary of Surface Water Analytical Results – General Parameters

Table 1: Summary of Soil Analytical Results - Particle Size

Sampling Location				OMR23-38-0.1	OMR23-39-0.1	OMR23-40-0.1	OMR23-41-0.1	OMR23-42-0.1	TP23-01-0.2	TP23-11-0.1	TP23-21-0.3	TP23-22-0.2
Date Sampled				29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	27-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23
Lab Sample ID				EO2309073-038	EO2309073-039	EO2309073-040	EO2309073-041	EO2309073-042	EO2309073-001	EO2309073-011	EO2309073-021	EO2309073-022
Soil Type				Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Silt	Silt/Peat	Silt/Peat	Silt
Sample Depth (m)				0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.2	0-0.1	0-0.3	0-0.2
Sample Type				Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Analyte	Unit	Guideline										
		NWT Tier 1 RL/PL CS	NWT Tier 1 RL/PL FS									
Lab Results												
Particle Size												
Fines (<0.075mm)	%	NG	NG	19.5	25.7	22.0	25.2	26.6	53.2	62.2	84.0	82.7
Sand (>0.075mm)	%	NG	NG	80.5	74.3	78.0	74.8	73.4	46.8	37.8	16.0	17.3
Texture		NG	NG	Coarse	Coarse	Coarse	Coarse	Coarse	Fine	Fine	Fine	Fine

Accompanying lab reports: **ALS - E02309073**

NWT Tier 1 RL/PL CS	Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/ Parkland Land Use and Coarse-grained Soil
NWT Tier 1 RL/PL FS	Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/ Parkland Land Use and Fine-grained Soil
NWT Tier 1 RL/PL CS	Highlighted value exceeds NWT Tier 1 RL/PL CS
NWT Tier 1 RL/PL FS	Highlighted value exceeds NWT Tier 1 RL/PL FS
-	Not analyzed
<	Less than reported detection limit
NG	No guideline
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil

Table 2: Summary of Soil Analytical Results - Metals

Sampling Location				TP23-08-0.2	TP23-08-0.2	Relative	TP23-09-0.2	TP23-10-0.1	TP23-11-0.1	TP23-12-0.1	TP23-13-0.1	TP23-14-0.1	TP23-15-0.1	TP23-16-0.1	TP23-17-0.3	TP23-18-0.1	TP23-19-0.1
Date Sampled				28-Sep-23	28-Sep-23	Percent	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23
Lab Sample ID				EO2309073-008	EO2309073-044	Difference	EO2309073-009	EO2309073-010	EO2309073-011	EO2309073-012	EO2309073-013	EO2309073-014	EO2309073-015	EO2309073-016	EO2309073-017	EO2309073-018	EO2309073-019
Soil Type				Silt/Peat	Silt/Peat		Peat	Peat	Silt/Peat	Peat	Peat	Peat	Peat	Peat	Silt/Peat	Peat	Peat
Sample Depth (m)				0-0.2	0-0.2		0-0.2	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.3	0-0.1	0-0.1
Sample Type				Normal	Duplicate		Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Analyte	Unit	Guideline				RPD %											
		NWT Tier 1 RL/PL CS/FS	2023 Draft Residential Guidelines														
Lab Results																	
General																	
pH (in 2:1 water:soil mixture)		6 - 8	6 - 8	4.89	4.58	6.5%	4.30	6.15	6.07	5.45	4.15	5.36	5.01	6.78	6.94	4.52	6.34
Metals																	
Aluminum	mg/kg	NG	NG	10400	11600	10.9%	257	1840	15500	4880	2760	3050	6790	1070	1120	3000	3100
Antimony	mg/kg	20	7.5	1.34	1.33	0.7%	1.89	36.0	2.66	27.4	7.15	9.08	4.16	2.84	3.11	16.9	12.2
Arsenic (inorganic)	mg/kg	12 ^{1,1,2,1}	17	134	147	9.3%	39.8	55.6	105	124	121	98.3	470	29.8	9.77	1190	81.4
Arsenic (inorganic)	mg/kg	160 ^{1,2,2,2}	120	134	147	9.3%	39.8	55.6	105	124	121	98.3	470	29.8	9.77	1190	81.4
Barium	mg/kg	500	390	71.2	74.6	4.7%	9.83	30.0	68.2	54.9	53.2	292	43.8	84.5	80.7	112	31.0
Beryllium	mg/kg	4	5	<0.19	0.17	*	<0.19	<0.19	0.26	0.20	<0.15	0.22	0.18	<0.15	<0.15	<0.15	<0.15
Bismuth	mg/kg	NG	NG	<0.37	<0.29	*	<0.37	<0.37	<0.37	<0.37	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Boron	mg/kg	NG	3.3	<9.4	<7.4	*	<9.4	<9.4	<9.4	<9.4	<7.5	<7.4	<7.5	9.1	22.6	<7.5	<7.4
Cadmium	mg/kg	10	1.4	0.234	0.293	22.4%	0.118	0.617	0.158	0.360	0.153	1.33	0.927	0.417	0.308	0.465	0.244
Calcium	mg/kg	NG	NG	7270	8660	17.5%	946	27000	6100	16600	3120	11900	11000	39200	46500	7560	19700
Chromium (total)	mg/kg	64	64	34.9	39.4	12.1%	<0.94	3.50	46.9	9.49	9.66	5.41	17.1	1.99	2.49	9.02	11.0
Cobalt	mg/kg	50	20	12.5	12.9	3.1%	0.28	4.14	12.3	5.32	2.88	40.6	6.92	1.92	1.42	4.40	4.25
Copper	mg/kg	63	63	15.9	17.4	9.0%	3.63	32.2	15.5	18.4	7.40	35.4	22.7	15.1	21.2	20.3	28.0
Iron	mg/kg	NG	NG	18100	18500	2.2%	474	2030	20700	5290	4820	4480	10900	1380	1180	5280	5390
Lead	mg/kg	140	70	9.04	6.93	26.4%	<0.94	2.24	13.2	30.1	10.9	14.5	12.6	2.11	1.06	48.0	19.2
Lithium	mg/kg	NG	NG	17.3	17.1	1.2%	<3.7	<3.7	25.5	<3.7	<3.0	<3.0	6.9	<3.0	<3.0	<3.0	4.2
Magnesium	mg/kg	NG	NG	4340	5390	21.6%	282	1520	6380	1810	1470	1350	2780	1540	1430	1880	2300
Manganese	mg/kg	NG	NG	191	211	10.0%	21.0	476	378	786	42.6	3330	376	365	332	201	172
Mercury (inorganic)	mg/kg	6.6	6.6	0.0243	0.0295	19.3%	0.0365	0.0482	0.0283	0.177	0.0897	0.128	0.0568	0.0555	0.0427	0.143	0.0872
Molybdenum	mg/kg	10	4	0.34	0.33	3.0%	<0.19	0.46	0.23	0.29	0.46	0.37	0.20	0.51	0.33	0.39	1.54
Nickel	mg/kg	50	45	23.0	22.5	2.2%	<0.94	12.0	30.0	9.91	7.27	26.6	13.0	5.45	7.76	13.0	13.5
Phosphorus	mg/kg	NG	NG	201	285	34.6%	123	518	250	835	310	705	378	407	565	490	449
Potassium	mg/kg	NG	NG	240	310	25.5%	<190	290	320	460	740	510	260	210	<150	660	410
Selenium	mg/kg	1	1	<0.37	0.31	*	<0.37	0.42	<0.37	<0.37	<0.30	<0.30	<0.30	0.49	1.14	<0.30	<0.30
Silver	mg/kg	20	20	<0.19	<0.15	*	<0.19	<0.19	<0.19	<0.19	<0.15	0.25	<0.15	<0.15	<0.15	<0.15	<0.15
Sodium	mg/kg	NG	NG	141	137	2.9%	<94	<94	<94	<94	<75	91	<75	<74	<75	<75	<74
Strontium	mg/kg	NG	NG	9.29	10.3	10.3%	2.98	19.4	10.5	14.4	8.71	26.9	8.48	29.1	37.4	15.7	13.1
Sulphur	mg/kg	NG	NG	<1900	<1500	*	<1900	<1900	<1900	<1900	<1500	<1500	<1500	<1500	2800	<1500	<1500
Thallium	mg/kg	1	1	<0.094	<0.074	*	<0.094	<0.094	<0.094	<0.094	<0.075	0.093	<0.075	<0.074	<0.075	<0.075	<0.074
Tin	mg/kg	50	NG	<3.7	<2.9	*	<3.7	<3.7	<3.7	<3.7	4.8	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Titanium	mg/kg	NG	NG	334	506	41.0%	5.8	22.8	383	42.8	123	54.4	220	36.2	23.9	111	75.4
Tungsten	mg/kg	NG	NG	<0.94	<0.74	*	<0.94	<0.94	<0.94	<0.94	<0.75	<0.74	<0.75	<0.74	<0.75	<0.75	<0.74
Uranium	mg/kg	NG	23	0.930	1.07	14.0%	<0.094	0.462	0.642	1.13	0.437	0.289	0.340	3.70	5.11	0.308	0.336
Vanadium	mg/kg	130	18	42.4	45.6	7.3%	0.77	3.45	42.7	10.7	9.90	7.89	26.3	3.81	3.44	9.84	9.73
Zinc	mg/kg	200	250	30.4	30.4	0.0%	8.1	25.0	86.6	26.3	13.7	94.7	19.2	30.9	9.7	23.4	21.2
Zirconium	mg/kg	NG	NG	<1.9	1.8	*	<1.9	<1.9	<1.9	<1.9	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5

Accompanying lab reports: **ALS - E02309073**

NWT Tier 1 RL/PL CS/FS	Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/ Parkland Land Use for coarse-grained soil/fine-grained soil
NWT Tier 1 RL/PL CS/FS	Highlighted value exceeds NWT Tier 1 RL/PL CS/FS
2023 Draft Residential Guidelines	Highlighted value exceeds the Draft 2023 Environmental Residential Guideline for Contaminated Site Remediation
-	Not analyzed
<	Less than reported detection limit
NG	No guideline
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil



Table 2: Summary of Soil Analytical Results - Metals

Sampling Location				TP23-20-0.1	TP23-21-0.3	TP23-22-0.2	TP23-23-0.1	TP23-24-0.2	TP23-25-0.1	TP23-26-02	TP23-27-0.1	TP23-28-0.2	TP23-29-0.3	TP23-30-0.4	TP23-30-0.4	Relative Percent Difference	TP23-31-0.3	
Date Sampled				28-Sep-23	28-Sep-23	28-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23		29-Sep-23	TP23-31-0.3
Lab Sample ID				EO2309073-020	EO2309073-021	EO2309073-022	EO2309073-023	EO2309073-024	EO2309073-025	EO2309073-026	EO2309073-027	EO2309073-028	EO2309073-029	EO2309073-030	EO2309073-045		EO2309073-031	
Soil Type				Peat	Silt/Peat	Silt	Peat	Silt/Peat	Silt/Peat	Silt/Peat	Silt/Peat	Silt/Peat	Silt	Silt	Silt		Silt	Silt
Sample Depth (m)				0-0.1	0-0.3	0-0.2	0-0.1	0-0.2	0-0.1	0-0.2	0-0.1	0-0.2	0-0.1	0-0.3	0-0.4	0-0.4	0-0.3	
Sample Type				Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal		
Analyte	Unit	Guideline														RPD %		
		NWT Tier 1 RL/PL CS/FS	2023 Draft Residential Guidelines															
Lab Results																		
General																		
pH (in 2:1 water:soil mixture)		6 - 8	6 - 8	5.68	7.25	7.81	6.04	5.99	6.44	6.69	4.85	5.71	6.25	6.45	6.34	1.7%	6.36	
Metals																		
Aluminum	mg/kg	NG	NG	8100	18700	20400	9330	1090	1110	1700	933	1140	860	1440	1060	30.4%	978	
Antimony	mg/kg	20	7.5	15.7	1.72	0.52	12.0	10.8	3.83	3.93	14.8	6.91	12.4	8.32	9.19	9.9%	14.0	
Arsenic (inorganic)	mg/kg	12 ^{1,1,2,1}	17	446	21.4	16.2	291	43.2	18.8	41.9	260	15.0	37.0	61.7	38.0	47.5%	41.7	
Arsenic (inorganic)	mg/kg	160 ^{1,2,2,2}	120	446	21.4	16.2	291	43.2	18.8	41.9	260	15.0	37.0	61.7	38.0	47.5%	41.7	
Barium	mg/kg	500	390	212	169	192	2770	51.3	71.3	126	81.3	59.2	42.5	66.7	77.9	15.5%	46.8	
Beryllium	mg/kg	4	5	0.23	0.64	0.78	0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	*	<0.15	
Bismuth	mg/kg	NG	NG	<0.30	0.29	0.28	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	*	<0.29	
Boron	mg/kg	NG	3.3	<7.4	8.4	10.4	<7.4	8.5	10.2	13.6	<7.5	8.5	25.3	19.3	24.8	24.9%	29.2	
Cadmium	mg/kg	10	1.4	0.641	0.139	0.064	1.02	1.05	0.333	0.472	1.02	0.654	0.415	0.278	0.264	5.2%	0.577	
Calcium	mg/kg	NG	NG	12400	8030	7250	10700	21800	43900	52000	11800	35500	28800	40400	49300	19.8%	27200	
Chromium (total)	mg/kg	64	64	23.4	56.3	51.3	34.5	2.73	1.81	2.35	2.79	2.17	1.98	2.77	2.12	26.6%	2.60	
Cobalt	mg/kg	50	20	13.8	11.0	11.0	12.4	2.62	2.40	3.36	2.32	1.93	3.27	3.72	3.54	5.0%	2.67	
Copper	mg/kg	63	63	25.9	31.6	22.3	35.3	18.6	13.6	25.8	8.17	145	76.7	39.2	45.6	15.1%	66.6	
Iron	mg/kg	NG	NG	13400	24700	27100	17000	1460	977	1120	1660	1020	1610	2370	2420	2.1%	3830	
Lead	mg/kg	140	70	26.8	7.17	7.80	68.9	9.96	1.49	0.99	14.0	3.80	10.5	4.53	1.68	*	2.48	
Lithium	mg/kg	NG	NG	10.7	32.0	33.6	15.5	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	*	<2.9	
Magnesium	mg/kg	NG	NG	4780	9290	9650	6540	1300	1870	1770	975	844	1070	1440	1280	11.8%	1220	
Manganese	mg/kg	NG	NG	1740	236	376	531	408	687	2080	335	235	40.9	215	137	44.3%	37.7	
Mercury (inorganic)	mg/kg	6.6	6.6	0.139	0.0134	0.0102	0.108	0.119	0.0605	0.0601	0.154	0.0901	0.0664	0.0669	0.0546	20.2%	0.0717	
Molybdenum	mg/kg	10	4	0.58	0.84	0.50	0.39	0.92	0.57	0.65	0.89	0.41	1.28	0.63	0.32	65.3%	1.64	
Nickel	mg/kg	50	45	26.4	34.1	31.3	25.2	9.64	6.28	14.9	3.90	35.0	16.8	12.9	13.1	1.5%	27.0	
Phosphorus	mg/kg	NG	NG	601	500	480	460	630	699	636	579	420	339	578	406	35.0%	355	
Potassium	mg/kg	NG	NG	840	3090	3740	470	600	180	180	700	300	<150	<150	<150	*	<150	
Selenium	mg/kg	1	1	<0.30	0.27	<0.20	0.31	<0.30	0.56	0.69	<0.30	1.54	1.31	0.75	1.09	37.0%	1.42	
Silver	mg/kg	20	20	0.28	<0.10	<0.10	0.24	<0.15	<0.15	<0.15	0.16	<0.15	<0.15	<0.15	<0.15	*	<0.15	
Sodium	mg/kg	NG	NG	<74	306	347	87	<74	<74	<74	<75	<75	<74	<74	<74	*	<74	
Strontium	mg/kg	NG	NG	24.7	26.0	34.1	74.6	29.8	44.5	56.0	26.1	28.6	33.5	42.5	51.4	19.0%	31.4	
Sulphur	mg/kg	NG	NG	<1500	<1000	<1000	<1500	<1500	1700	1700	<1500	<1500	7400	5100	6200	19.5%	8100	
Thallium	mg/kg	1	1	0.093	0.204	0.210	<0.074	<0.074	<0.074	<0.074	<0.075	<0.075	<0.074	<0.074	<0.074	*	<0.074	
Tin	mg/kg	50	NG	4.5	<2.0	<2.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	*	<2.9	
Titanium	mg/kg	NG	NG	222	810	757	374	23.6	9.2	22.2	26.6	14.8	23.5	28.3	17.6	46.6%	22.9	
Tungsten	mg/kg	NG	NG	<0.74	<0.50	<0.50	<0.74	<0.74	<0.74	<0.74	<0.75	<0.75	<0.74	<0.74	<0.74	*	<0.74	
Uranium	mg/kg	NG	23	0.473	3.27	1.17	0.763	0.687	0.764	0.824	1.06	4.44	5.97	2.93	3.93	29.2%	5.56	
Vanadium	mg/kg	130	18	26.0	55.1	50.6	42.8	5.58	1.45	1.73	4.59	4.30	4.08	3.81	2.81	30.2%	3.58	
Zinc	mg/kg	200	250	59.7	53.6	50.2	768	60.9	33.0	57.0	49.4	60.4	28.8	26.3	14.2	*	83.6	
Zirconium	mg/kg	NG	NG	<1.5	20.3	18.8	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	*	<1.5	

Accompanying lab reports: **ALS - E02309073**

NWT Tier 1 RL/PL CS/FS	Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/ Parkland Land Use for coarse-grained soil/fine-grained soil
NWT Tier 1 RL/PL CS/FS	Highlighted value exceeds NWT Tier 1 RL/PL CS/FS
2023 Draft Residential Guidelines	Highlighted value exceeds the Draft 2023 Environmental Residential Guideline for Contaminated Site Remediation
-	Not analyzed
<	Less than reported detection limit
NG	No guideline
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil



Table 2: Summary of Soil Analytical Results - Metals

				Sampling Location	TP23-32-0.3	TP23-33-0.1	TP23-34-0.2	TP23-34-0.2	Relative	TP23-35-0.2	TP23-36-0.2	TP23-37-0.1
				Date Sampled	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	Percent	29-Sep-23	29-Sep-23	29-Sep-23
				Lab Sample ID	EO2309073-032	EO2309073-033	EO2309073-034	EO2309073-046	Difference	EO2309073-035	EO2309073-036	EO2309073-037
				Soil Type	Silt	Silt/Peat	Peat	Peat		Silt/Peat	Silt	Silt/Peat
				Sample Depth (m)	0-0.3	0-0.1	0-0.2	0-0.2		0-0.2	0-0.2	0-0.1
				Sample Type	Normal	Normal	Normal	Duplicate		Normal	Normal	Normal
Analyte	Unit	Guideline							RPD %			
		NWT Tier 1 RL/PL CS/FS	2023 Draft Residential Guidelines									
Lab Results												
General												
pH (in 2:1 water:soil mixture)		6 - 8	6 - 8		6.42	6.93	6.52	6.44	1.2%	6.85	6.74	5.19
Metals												
Aluminum	mg/kg	NG	NG		609	8650	4050	4900	19.0%	2280	1180	2240
Antimony	mg/kg	20	7.5		10.8	1.62	1.61	1.69	4.8%	4.92	3.70	12.1
Arsenic (inorganic)	mg/kg	12 ^{1,1,2,1}	17		53.3	14.1	25.5	26.3	3.1%	11.3	9.54	46.7
Arsenic (inorganic)	mg/kg	160 ^{1,2,2,2}	120		53.3	14.1	25.5	26.3	3.1%	11.3	9.54	46.7
Barium	mg/kg	500	390		79.1	172	91.3	91.4	0.1%	172	98.0	50.4
Beryllium	mg/kg	4	5		<0.15	0.41	<0.15	<0.15	*	<0.15	<0.15	<0.15
Bismuth	mg/kg	NG	NG		<0.30	<0.20	<0.29	<0.30	*	<0.30	<0.29	<0.30
Boron	mg/kg	NG	3.3		32.5	6.2	12.8	12.1	5.6%	17.9	21.4	<7.4
Cadmium	mg/kg	10	1.4		0.304	0.163	0.208	0.187	10.6%	0.436	0.441	0.300
Calcium	mg/kg	NG	NG		40200	27000	48400	49100	1.4%	64500	51300	17700
Chromium (total)	mg/kg	64	64		1.59	22.8	10.4	12.7	19.9%	3.35	2.25	3.68
Cobalt	mg/kg	50	20		1.88	5.86	2.27	2.55	11.6%	2.72	1.27	2.06
Copper	mg/kg	63	63		23.6	41.9	33.5	33.1	1.2%	121	50.3	15.2
Iron	mg/kg	NG	NG		1400	13900	5880	6910	16.1%	1480	885	2260
Lead	mg/kg	140	70		5.04	3.28	1.65	1.60	3.1%	<0.74	1.19	9.76
Lithium	mg/kg	NG	NG		<3.0	11.8	4.0	4.7	16.1%	<3.0	<2.9	<3.0
Magnesium	mg/kg	NG	NG		1220	4200	2210	2710	20.3%	970	931	902
Manganese	mg/kg	NG	NG		831	185	142	146	2.8%	559	178	81.7
Mercury (inorganic)	mg/kg	6.6	6.6		0.110	0.0373	0.0507	0.0492	3.0%	0.0589	0.0629	0.104
Molybdenum	mg/kg	10	4		0.52	0.32	0.37	0.42	12.7%	0.24	0.29	0.41
Nickel	mg/kg	50	45		10.4	20.3	11.0	12.0	8.7%	16.4	13.9	6.70
Phosphorus	mg/kg	NG	NG		618	465	662	680	2.7%	1010	690	736
Potassium	mg/kg	NG	NG		<150	840	180	200	10.5%	<150	<150	400
Selenium	mg/kg	1	1		0.63	1.16	1.01	1.05	3.9%	3.23	2.27	0.46
Silver	mg/kg	20	20		<0.15	0.19	<0.15	<0.15	*	0.20	<0.15	<0.15
Sodium	mg/kg	NG	NG		<74	116	<74	<74	*	<74	<74	<74
Strontium	mg/kg	NG	NG		44.7	32.1	42.8	43.3	1.2%	44.9	47.0	16.7
Sulphur	mg/kg	NG	NG		5200	1500	2900	2700	7.1%	1900	2600	2300
Thallium	mg/kg	1	1		<0.074	0.052	<0.074	<0.074	*	<0.074	<0.074	<0.074
Tin	mg/kg	50	NG		<3.0	<2.0	<2.9	<3.0	*	<3.0	<2.9	<3.0
Titanium	mg/kg	NG	NG		12.5	239	61.6	77.5	22.9%	19.0	11.1	21.2
Tungsten	mg/kg	NG	NG		<0.74	<0.50	<0.74	<0.74	*	<0.74	<0.74	<0.74
Uranium	mg/kg	NG	23		1.66	5.92	8.94	9.48	5.9%	4.32	3.53	0.574
Vanadium	mg/kg	130	18		3.33	29.4	11.1	12.2	9.4%	7.41	1.99	4.24
Zinc	mg/kg	200	250		68.0	17.1	13.0	13.7	5.2%	5.2	19.1	13.4
Zirconium	mg/kg	NG	NG		<1.5	7.0	<1.5	<1.5	*	1.6	<1.5	<1.5

Accompanying lab reports: **ALS - E02309073**

NWT Tier 1 RL/PL CS/FS	Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/ Parkland Land Use for coarse-grained soil/fine-grained soil
NWT Tier 1 RL/PL CS/FS	Highlighted value exceeds NWT Tier 1 RL/PL CS/FS
2023 Draft Residential Guidelines	Highlighted value exceeds the Draft 2023 Environmental Residential Guideline for Contaminated Site Remediation
-	Not analyzed
<	Less than reported detection limit
NG	No guideline
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil



Table 3: Summary of Soil Analytical Results - Speciated Arsenic and IVBA (PBET)

Sampling Location Date Sampled Lab Sample ID Soil Type Sample Depth (m) Sample Type			OMR23-39-0.1 29-Sep-23 EO2309073-039 Sand & Gravel 0-0.1 Normal	OMR23-40-0.1 29-Sep-23 EO2309073-040 Sand & Gravel 0-0.1 Normal	OMR23-41-0.1 29-Sep-23 EO2309073-041 Sand & Gravel 0-0.1 Normal	OMR23-42-0.1 29-Sep-23 EO2309073-042 Sand & Gravel 0-0.1 Normal	TP23-05-0.1 28-Sep-23 EO2309073-005 Silt/Peat 0-0.1 Normal	TP23-06-0.1 28-Sep-23 EO2309073-006 Peat 0-0.1 Normal	TP23-08-0.2 28-Sep-23 EO2309073-008 Silt/Peat 0-0.2 Normal	TP23-15-0.1 28-Sep-23 EO2309073-015 Peat 0-0.1 Normal	TP23-18-0.1 28-Sep-23 EO2309073-018 Peat 0-0.1 Normal	TP23-20-0.1 28-Sep-23 EO2309073-020 Peat 0-0.1 Normal	TP23-23-0.1 29-Sep-23 EO2309073-023 Peat 0-0.1 Normal	TP23-27-0.1 29-Sep-23 EO2309073-027 Silt/Peat 0-0.1 Normal	
Analyte	Unit	Guideline													
		NWT Tier 1 RL/PL CS/FS													
Lab Results															
Arsenic (inorganic)	mg/kg	12 ^{1.1,2.1}	126	903	1850	554	330	152	134	470	1190	446	291	260	
Arsenic (inorganic)	mg/kg	160 ^{1.1,2.1}	126	903	1850	554	330	152	134	470	1190	446	291	260	
Arsenic III	µg/g	NG	-	1.65	3.37	2.47	1.55	88.8	5.96	0.911	219	5.96	6.67	-	
Arsenic V	µg/g	NG	-	28.5	68.3	23.7	25.9	4.52	12	21.9	7.8	22.8	9.75	-	
Arsenic, IVBA (%)	%	NG	29.1	12.9	18.2	19.2	21.7	-	-	29.8	5.6	25.3	23.9	38.5	
Arsenic, IVBA (leachate)	mg/L	NG	0.37	1.20	3.44	1.10	0.68	0.20	0.60	1.45	0.67	1.12	0.72	1.00	
Arsenic, IVBA (leachate) (mass/mass)	µg/g	NG	37	116	336	106	72	21	58	140	66	113	70	100	
Cacodylic acid	µg/g	NG	-	<0.01	<0.01	<0.01	0.0904	0.0353	0.0401	0.0246	0.154	0.191	0.0835	-	
Lead	mg/kg	140	16.4	14.7	20.1	37.5	28.3	1.76	9.04	12.6	48.0	26.8	68.9	14.0	
Lead, IVBA (%)	%	NG	66.5	72.6	68.0	80.0	59.4	-	-	<1.0	72.1	52.7	78.6	<1.0	
Lead, IVBA (leachate)	mg/L	NG	0.11	0.11	0.14	0.31	0.16	0.13	<0.10	<0.10	0.35	0.14	0.56	<0.10	
Lead, IVBA (leachate) (mass/mass)	µg/g	NG	11	11	14	30	17	14	<10	<10	35	14	54	<10	
Monomethylarsonic acid	µg/g	NG	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.0258	<0.02	0.0389	-	
pH, IVBA final		NG	1.51	1.58	1.68	1.58	1.54	1.57	1.53	1.54	1.54	1.54	1.55	1.55	
pH, IVBA Initial		NG	1.50	1.53	1.58	1.54	1.50	1.52	1.51	1.50	1.52	1.52	1.51	1.54	
Final volume	ml	NG	100	100	100	100	100	100	100	100	100	100	100	100	
Weight, extraction (dry)	g	NG	1.009	1.031	1.024	1.033	0.951	0.957	1.031	1.036	1.011	0.992	1.034	1.000	

Accompanying lab reports: ALS - E02309073	
NWT Tier 1 RL/PL CS/FS	Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/Parkland Land Use for coarse-grained soil/fine-grained soil
NWT Tier 1 RL/PL CS/FS	Highlighted value exceeds NWT Tier 1 RL/PL CS/FS
-	Not analyzed
<	Less than reported detection limit
NG	No guideline
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil

Table 4: Summary of Soil Analytical Results - Toxicity Characteric Leaching Procedure

			Sampling Location	OMR23-38-0.1	OMR23-39-0.1	OMR23-40-0.1	OMR23-41-0.1	OMR23-42-0.1	TP23-01-0.2	TP23-02-0.2	TP23-03-0.1	TP23-04-0.1	TP23-04-0.1	Relative
			Date Sampled	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	27-Sep-23	27-Sep-23	27-Sep-23	28-Sep-23	28-Sep-23	Percent
			Lab Sample ID	EO2309073-038	EO2309073-039	EO2309073-040	EO2309073-041	EO2309073-042	EO2309073-001	EO2309073-002	EO2309073-003	EO2309073-004	EO2309073-043	Difference
			Soil Type	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Silt	Peat	Peat	Peat	Peat	
			Sample Depth (m)	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.2	0-0.2	0-0.1	0-0.1	0-0.1	
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	
Analyte	Unit	Standard												
		Schedule IV												
Lab Results														
Metals in TCLP Leachate														
Antimony - leachate (TCLP)	mg/L	NS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	*
Arsenic - leachate (TCLP)	mg/L	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*
Barium - leachate (TCLP)	mg/L	NS	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	*
Beryllium - leachate (TCLP)	mg/L	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	*
Boron - leachate (TCLP)	mg/L	NS	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	*
Cadmium - leachate (TCLP)	mg/L	0.5	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*
Calcium - leachate (TCLP)	mg/L	NS	63	87	223	619	112	148	162	161	46	40	14.0%	
Chromium - leachate (TCLP)	mg/L	5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	*
Cobalt - leachate (TCLP)	mg/L	NS	<0.050	<0.050	<0.050	0.103	0.069	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*
Copper - leachate (TCLP)	mg/L	NS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*
Iron - leachate (TCLP)	mg/L	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	*
Lead - leachate (TCLP)	mg/L	600	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	*
Magnesium - leachate (TCLP)	mg/L	NS	6.4	9.2	12.8	9.1	14.5	19.5	14.8	19.8	10.5	9.4	11.1%	
Nickel - leachate (TCLP)	mg/L	NS	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	*
Selenium - leachate (TCLP)	mg/L	NS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	*
Silver - leachate (TCLP)	mg/L	5	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*
Thallium - leachate (TCLP)	mg/L	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*
Uranium - leachate (TCLP)	mg/L	NS	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	*
Vanadium - leachate (TCLP)	mg/L	NS	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	*
Zinc - leachate (TCLP)	mg/L	500	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	*
Zirconium - leachate (TCLP)	mg/L	NS	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	*
Non-Volatile Extraction Details in TCLP Leachate														
TCLP final extract pH		NS	6.34	5.09	5.45	5.50	5.56	5.10	5.14	5.24	5.02	4.89	2.6%	
TCLP initial extract pH		NS	4.94	4.94	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.94	0.8%	
pH, TCLP 1st preliminary		NS	8.32	8.22	8.96	9.25	9.21	7.88	6.00	6.31	5.10	5.49	7.4%	
pH, TCLP 2nd preliminary		NS	1.37	1.41	1.38	1.54	1.55	1.36	1.58	1.49	1.36	1.59	15.6%	

Accompanying lab reports: ALS - E02309073

Schedule IV	Standards for Solid Waste/Process Residuals Suitable for Landfill
-	Not analyzed
<	Less than reported detection limit
NS	No standard
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil

Table 4: Summary of Soil Analytical Results - Toxicity Characteric Leaching Procedure

			Sampling Location	OMR23-38-0.1	TP23-05-0.1	TP23-06-0.1	TP23-07-0.1	TP23-08-0.2	TP23-08-0.2	Relative	TP23-09-0.2	TP23-10-0.1	TP23-11-0.1	TP23-12-0.1
			Date Sampled	29-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	Percent	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23
			Lab Sample ID	EO2309073-038	EO2309073-005	EO2309073-006	EO2309073-007	EO2309073-008	EO2309073-044	Difference	EO2309073-009	EO2309073-010	EO2309073-011	EO2309073-012
			Soil Type	Sand & Gravel	Silt/Peat	Peat	Peat	Silt/Peat	Silt/Peat		Peat	Peat	Silt/Peat	Peat
			Sample Depth (m)	0-0.1	0-0.1	0-0.1	0-0.1	0-0.2	0-0.2		0-0.2	0-0.1	0-0.1	0-0.1
			Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate		Normal	Normal	Normal	Normal
Analyte	Unit	Standard												
		Schedule IV												
Lab Results														
Metals in TCLP Leachate														
Antimony - leachate (TCLP)	mg/L	NS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	*	<0.10	<0.10	<0.10	<0.10
Arsenic - leachate (TCLP)	mg/L	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*	<1.0	<1.0	<1.0	<1.0
Barium - leachate (TCLP)	mg/L	NS	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	*	<2.5	<2.5	<2.5	<2.5
Beryllium - leachate (TCLP)	mg/L	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	*	<0.025	<0.025	<0.025	<0.025
Boron - leachate (TCLP)	mg/L	NS	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	*	<0.50	<0.50	<0.50	<0.50
Cadmium - leachate (TCLP)	mg/L	0.5	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*	<0.050	<0.050	<0.050	<0.050
Calcium - leachate (TCLP)	mg/L	NS	63	69	170	204	64	45	34.9%		42	210	54	147
Chromium - leachate (TCLP)	mg/L	5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	*	<0.25	<0.25	<0.25	<0.25
Cobalt - leachate (TCLP)	mg/L	NS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*	<0.050	<0.050	<0.050	<0.050
Copper - leachate (TCLP)	mg/L	NS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*	<0.050	<0.050	<0.050	<0.050
Iron - leachate (TCLP)	mg/L	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	*	<5.0	<5.0	<5.0	<5.0
Lead - leachate (TCLP)	mg/L	600	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	*	<0.25	<0.25	<0.25	<0.25
Magnesium - leachate (TCLP)	mg/L	NS	6.4	8.2	14.3	26.6	7.8	6.2	22.9%		5.6	20.7	3.6	13.8
Nickel - leachate (TCLP)	mg/L	NS	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	*	<0.25	<0.25	<0.25	<0.25
Selenium - leachate (TCLP)	mg/L	NS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	*	<0.10	<0.10	<0.10	<0.10
Silver - leachate (TCLP)	mg/L	5	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*	<0.050	<0.050	<0.050	<0.050
Thallium - leachate (TCLP)	mg/L	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*	<1.0	<1.0	<1.0	<1.0
Uranium - leachate (TCLP)	mg/L	NS	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	*	<0.20	<0.20	<0.20	<0.20
Vanadium - leachate (TCLP)	mg/L	NS	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	*	<0.15	<0.15	<0.15	<0.15
Zinc - leachate (TCLP)	mg/L	500	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	*	<0.50	<0.50	<0.50	<0.50
Zirconium - leachate (TCLP)	mg/L	NS	<10	<10	<10	<10	<10	<10	<10	*	<10	<10	<10	<10
Non-Volatile Extraction Details in TCLP Leachate														
TCLP final extract pH		NS	6.34	5.02	5.07	5.02	5.00	4.94	1.2%		5.09	5.12	5.16	5.20
TCLP initial extract pH		NS	4.94	4.90	4.90	4.90	4.90	4.94	0.8%		4.90	4.90	4.90	4.90
pH, TCLP 1st preliminary		NS	8.32	5.58	6.25	6.38	4.53	6.58	36.9%		5.03	6.42	6.53	5.97
pH, TCLP 2nd preliminary		NS	1.37	1.42	1.61	1.69	1.31	1.63	21.8%		1.45	1.63	1.24	1.57

Accompanying lab reports: ALS - E02309073

Schedule IV	Standards for Solid Waste/Process Residuals Suitable for Landfill
-	Not analyzed
<	Less than reported detection limit
NS	No standard
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil

Table 4: Summary of Soil Analytical Results - Toxicity Characteric Leaching Procedure

			Sampling Location	OMR23-38-0.1	TP23-13-0.1	TP23-14-0.1	TP23-15-0.1	TP23-16-0.1	TP23-17-0.3	TP23-18-0.1	TP23-19-0.1	TP23-20-0.1	TP23-21-0.3	TP23-22-0.2	
			Date Sampled	29-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23
			Lab Sample ID	EO2309073-038	EO2309073-013	EO2309073-014	EO2309073-015	EO2309073-016	EO2309073-017	EO2309073-018	EO2309073-019	EO2309073-020	EO2309073-021	EO2309073-022	
			Soil Type	Sand & Gravel	Peat	Peat	Peat	Peat	Silt/Peat	Peat	Peat	Peat	Silt/Peat	Silt	
			Sample Depth (m)	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.3	0-0.1	0-0.1	0-0.1	0-0.3	0-0.2	
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
Analyte	Unit	Standard													
		Schedule IV													
Lab Results															
Metals in TCLP Leachate															
Antimony - leachate (TCLP)	mg/L	NS	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Arsenic - leachate (TCLP)	mg/L	2.5	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Barium - leachate (TCLP)	mg/L	NS	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
Beryllium - leachate (TCLP)	mg/L	NS	<0.025	<0.050	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	
Boron - leachate (TCLP)	mg/L	NS	<0.50	<1.00	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
Cadmium - leachate (TCLP)	mg/L	0.5	<0.050	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Calcium - leachate (TCLP)	mg/L	NS	63	23	64	86	273	173	23	239	87	70	97		
Chromium - leachate (TCLP)	mg/L	5	<0.25	<0.50	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	
Cobalt - leachate (TCLP)	mg/L	NS	<0.050	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Copper - leachate (TCLP)	mg/L	NS	<0.050	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Iron - leachate (TCLP)	mg/L	NS	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Lead - leachate (TCLP)	mg/L	600	<0.25	<0.50	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	
Magnesium - leachate (TCLP)	mg/L	NS	6.4	8.5	9.2	10.9	23.8	10.5	11.4	14.2	16.2	10.9	15.0		
Nickel - leachate (TCLP)	mg/L	NS	<0.25	<0.50	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	
Selenium - leachate (TCLP)	mg/L	NS	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Silver - leachate (TCLP)	mg/L	5	<0.050	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Thallium - leachate (TCLP)	mg/L	NS	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Uranium - leachate (TCLP)	mg/L	NS	<0.20	<0.40	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
Vanadium - leachate (TCLP)	mg/L	NS	<0.15	<0.30	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	
Zinc - leachate (TCLP)	mg/L	500	<0.50	<1.00	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
Zirconium - leachate (TCLP)	mg/L	NS	<10	<20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Non-Volatile Extraction Details in TCLP Leachate															
TCLP final extract pH		NS	6.34	4.93	5.00	4.98	5.24	5.10	4.85	5.09	4.99	6.78	6.19		
TCLP initial extract pH		NS	4.94	4.90	4.90	4.90	4.90	4.94	4.94	4.94	4.94	4.94	4.94	4.94	
pH, TCLP 1st preliminary		NS	8.32	4.15	5.86	5.29	7.05	7.82	4.83	7.05	6.25	8.03	8.36		
pH, TCLP 2nd preliminary		NS	1.37	1.34	1.37	1.37	1.88	1.67		2.39	1.46	1.39	1.39		

Accompanying lab reports: ALS - E02309073

Schedule IV	Standards for Solid Waste/Process Residuals Suitable for Landfill
-	Not analyzed
<	Less than reported detection limit
NS	No standard
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil

Table 4: Summary of Soil Analytical Results - Toxicity Characteric Leaching Procedure

			Sampling Location	OMR23-38-0.1	TP23-23-0.1	TP23-24-0.2	TP23-25-0.1	TP23-26-02	TP23-27-0.1	TP23-28-0.2	TP23-29-0.3	TP23-30-0.4	TP23-30-0.4	Relative
			Date Sampled	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	Percent
			Lab Sample ID	EO2309073-038	EO2309073-023	EO2309073-024	EO2309073-025	EO2309073-026	EO2309073-027	EO2309073-028	EO2309073-029	EO2309073-030	EO2309073-045	Difference
			Soil Type	Sand & Gravel	Peat	Silt/Peat	Silt/Peat	Silt/Peat	Silt/Peat	Silt/Peat	Silt	Silt	Silt	
			Sample Depth (m)	0-0.1	0-0.1	0-0.2	0-0.1	0-0.2	0-0.1	0-0.2	0-0.3	0-0.4	0-0.4	
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate		
Analyte	Unit	Standard												
		Schedule IV	RPD %											
Lab Results														
Metals in TCLP Leachate														
Antimony - leachate (TCLP)	mg/L	NS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	*	
Arsenic - leachate (TCLP)	mg/L	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*	
Barium - leachate (TCLP)	mg/L	NS	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	*	
Beryllium - leachate (TCLP)	mg/L	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	*	
Boron - leachate (TCLP)	mg/L	NS	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	*	
Cadmium - leachate (TCLP)	mg/L	0.5	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*	
Calcium - leachate (TCLP)	mg/L	NS	63	81	176	250	232	142	193	136	159	151	5.2%	
Chromium - leachate (TCLP)	mg/L	5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	*	
Cobalt - leachate (TCLP)	mg/L	NS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*	
Copper - leachate (TCLP)	mg/L	NS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*	
Iron - leachate (TCLP)	mg/L	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	*	
Lead - leachate (TCLP)	mg/L	600	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	*	
Magnesium - leachate (TCLP)	mg/L	NS	6.4	21.9	17.1	22.8	16.8	19.6	11.1	6.9	9.9	9.8	1.0%	
Nickel - leachate (TCLP)	mg/L	NS	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	*	
Selenium - leachate (TCLP)	mg/L	NS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	*	
Silver - leachate (TCLP)	mg/L	5	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*	
Thallium - leachate (TCLP)	mg/L	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*	
Uranium - leachate (TCLP)	mg/L	NS	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	*	
Vanadium - leachate (TCLP)	mg/L	NS	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	*	
Zinc - leachate (TCLP)	mg/L	500	<0.50	1.37	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	*	
Zirconium - leachate (TCLP)	mg/L	NS	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	*	
Non-Volatile Extraction Details in TCLP Leachate														
TCLP final extract pH		NS	6.34	5.02	5.02	5.10	5.11	5.03	5.05	5.08	5.06	5.08	0.4%	
TCLP initial extract pH		NS	4.94	4.94	4.94	4.94	4.94	4.93	4.93	4.93	4.93	4.94	0.2%	
pH, TCLP 1st preliminary		NS	8.32	6.48	6.73	6.97	6.90	5.99	6.18	6.62	6.85	6.63	3.3%	
pH, TCLP 2nd preliminary		NS	1.37	1.38	1.77	2.57	2.20	1.87	1.78	1.76	1.78	1.95	9.1%	

Accompanying lab reports: ALS - E02309073

Schedule IV	Standards for Solid Waste/Process Residuals Suitable for Landfill
-	Not analyzed
<	Less than reported detection limit
NS	No standard
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil

Table 4: Summary of Soil Analytical Results - Toxicity Characteric Leaching Procedure

			Sampling Location	OMR23-38-0.1	TP23-31-0.3	TP23-32-0.3	TP23-33-0.1	TP23-34-0.2	TP23-34-0.2	Relative	TP23-35-0.2	TP23-36-0.2	TP23-37-0.1
			Date Sampled	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	Percent	29-Sep-23	29-Sep-23	29-Sep-23
			Lab Sample ID	EO2309073-038	EO2309073-031	EO2309073-032	EO2309073-033	EO2309073-034	EO2309073-046	Difference	EO2309073-035	EO2309073-036	EO2309073-037
			Soil Type	Sand & Gravel	Silt	Silt	Silt/Peat	Peat	Peat		Silt/Peat	Silt	Silt/Peat
			Sample Depth (m)	0-0.1	0-0.3	0-0.3	0-0.1	0-0.2	0-0.2		0-0.2	0-0.2	0-0.1
			Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate		Normal	Normal	Normal
Analyte	Unit	Standard											
		Schedule IV											
Lab Results													
Metals in TCLP Leachate													
Antimony - leachate (TCLP)	mg/L	NS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	*	<0.10	<0.10	<0.10	
Arsenic - leachate (TCLP)	mg/L	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*	<1.0	<1.0	<1.0	
Barium - leachate (TCLP)	mg/L	NS	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	*	<2.5	<2.5	<2.5	
Beryllium - leachate (TCLP)	mg/L	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	*	<0.025	<0.025	<0.025	
Boron - leachate (TCLP)	mg/L	NS	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	*	<0.50	<0.50	<0.50	
Cadmium - leachate (TCLP)	mg/L	0.5	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*	<0.050	<0.050	<0.050	
Calcium - leachate (TCLP)	mg/L	NS	63	142	164	220	205	201	2.0%	299	195	108	
Chromium - leachate (TCLP)	mg/L	5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	*	<0.25	<0.25	<0.25	
Cobalt - leachate (TCLP)	mg/L	NS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*	<0.050	<0.050	<0.050	
Copper - leachate (TCLP)	mg/L	NS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*	<0.050	<0.050	<0.050	
Iron - leachate (TCLP)	mg/L	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	*	<5.0	<5.0	<5.0	
Lead - leachate (TCLP)	mg/L	600	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	*	<0.25	<0.25	<0.25	
Magnesium - leachate (TCLP)	mg/L	NS	6.4	9.4	9.4	13.3	8.4	7.6	10.0%	11.8	7.7	8.9	
Nickel - leachate (TCLP)	mg/L	NS	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	*	<0.25	<0.25	<0.25	
Selenium - leachate (TCLP)	mg/L	NS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	*	<0.10	<0.10	<0.10	
Silver - leachate (TCLP)	mg/L	5	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	*	<0.050	<0.050	<0.050	
Thallium - leachate (TCLP)	mg/L	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*	<1.0	<1.0	<1.0	
Uranium - leachate (TCLP)	mg/L	NS	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	*	<0.20	<0.20	<0.20	
Vanadium - leachate (TCLP)	mg/L	NS	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	*	<0.15	<0.15	<0.15	
Zinc - leachate (TCLP)	mg/L	500	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	*	<0.50	<0.50	<0.50	
Zirconium - leachate (TCLP)	mg/L	NS	<10	<10	<10	<10	<10	<10	*	<10	<10	<10	
Non-Volatile Extraction Details in TCLP Leachate													
TCLP final extract pH		NS	6.34	5.08	5.09	5.50	5.09	5.11	0.4%	5.19	5.12	4.93	
TCLP initial extract pH		NS	4.94	4.93	4.93	4.90	4.93	4.94	0.2%	4.93	4.93	4.93	
pH, TCLP 1st preliminary		NS	8.32	6.78	6.78	7.57	6.52	5.18	22.9%	7.22	7.15	5.88	
pH, TCLP 2nd preliminary		NS	1.37	1.81	1.94	1.49	2.19	2.55	15.2%	2.66	2.09	2.11	

Accompanying lab reports: ALS - E02309073

Schedule IV	Standards for Solid Waste/Process Residuals Suitable for Landfill
-	Not analyzed
<	Less than reported detection limit
NS	No standard
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil

Table 5: Summary of Soil Analytical Results - General Parameters

			Sampling Location	OMR23-38-0.1	OMR23-39-0.1	OMR23-40-0.1	OMR23-41-0.1	OMR23-42-0.1	TP23-01-0.2	TP23-02-0.2	TP23-03-0.1	TP23-04-0.1
			Date Sampled	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	27-Sep-23	27-Sep-23	27-Sep-23	28-Sep-23
			Lab Sample ID	EO2309073-038	EO2309073-039	EO2309073-040	EO2309073-041	EO2309073-042	EO2309073-001	EO2309073-002	EO2309073-003	EO2309073-004
			Soil Type	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Sand & Gravel	Silt	Peat	Peat	Peat
			Sample Depth (m)	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.2	0-0.2	0-0.1	0-0.1
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Analyte	Unit	Guideline										
		NWT Tier 1 RL/PL CS/FS										
Lab Results												
General												
Moisture	% wet	NG	3.33	3.77	4.81	6.29	7.10	16.1	47.0	43.8	38.1	
Available ammonium (as N)	µg/g	NG	<1.0	<1.0	<1.0	<1.1	<1.1	8.9	25.0	19.2	13.6	
Total carbon (percent)	%	NG	0.573	1.09	1.11	1.72	1.00	7.77	45.6	48.4	46.2	
Inorganic carbon (as CaCO3 equivalent) (percent)	%	NG	0.62	1.23	2.06	7.83	1.11	1.87	3.26	3.03	1.51	
Calcium (in saturated paste)	mg/L	NG	31.9	33.3	36.9	324	156	67.6	41.1	25.6	17.3	
Calcium (in saturated paste) (mass/mass)	mg/kg	NG	8.9	14.3	11.7	119	57.4	51.0	258	176	113	
Inorganic carbon (percent)	%	NG	0.075	0.148	0.248	0.939	0.133	0.225	0.391	0.364	0.182	
Total organic carbon (percent)	%	NG	0.498	0.942	0.862	0.781	0.867	7.54	45.2	48.0	46.0	
Chloride (in saturated paste) (mass/mass)	mg/kg	NG	<10	<10	<10	<10	<10	<15	<126	<138	<131	
Chloride (in saturated paste)	mg/L	NG	<20	<20	<20	<20	<20	<20	<20	<20	<20	
Conductivity (in saturated paste)	dS/m	2	0.171	0.209	0.172	1.34	0.997	0.274	0.172	0.113	0.142	
Magnesium (in saturated paste)	mg/L	NG	<5.0	6.8	<5.0	29.4	27.0	9.2	5.1	<5.0	5.4	
Magnesium (in saturated paste) (mass/mass)	mg/kg	NG	<5.0	<5.0	<5.0	10.8	9.9	6.9	32.0	<34.4	35.4	
Moisture	% wet	NG	3.33	3.77	4.81	6.29	7.10	16.1	47.0	43.8	38.1	
Potassium (in saturated paste)	mg/L	NG	5.8	26.9	6.0	16.3	46.4	<5.0	9.3	<5.0	12.2	
Potassium (in saturated paste) (mass/mass)	mg/kg	NG	<5.0	11.5	<5.0	6.0	17.1	<5.0	58.4	<34.4	80.0	
Percent saturation	%	NG	27.9	42.9	31.8	36.8	36.8	75.5	628	688	656	
Sodium (in saturated paste) (mass/mass)	mg/kg	NG	<5.0	<5.0	<5.0	<5.0	5.5	<5.0	<31.4	<34.4	<32.8	
Sodium (in saturated paste)	mg/L	NG	<5.0	<5.0	<5.0	<5.0	15.0	<5.0	<5.0	<5.0	<5.0	
Sodium adsorption ratio		5	<0.10	<0.10	<0.10	<0.10	0.29	<0.10	<0.10	<0.10	<0.10	
Available sulphate - as sulphur	µg/g	NG	<6.0	<6.0	6.4	155	51.7	<15.0	<29.7	<30.5	<29.7	
Sulphate (in saturated paste) (mass/mass)	mg/kg	NG	<8.0	<8.0	9.4	269	150	34.4	179	49.5	112	
Sulphate (in saturated paste)	mg/L	NG	21.6	17.7	29.7	731	407	45.5	28.5	7.2	17.1	
Temperature, oven	°C	NG	<38	<38	<38	<38	<38	<38	<38	<38	<38	

Accompanying lab reports: **ALS - E02309073**

NWT Tier 1 RL/PL CS/FS	Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/
	Parkland Land Use for coarse-grained soil/fine-grained soil
NWT Tier 1 RL/PL CS/FS	Highlighted value exceeds NWT Tier 1 RL/PL CS/FS
<	Less than reported detection limit
NG	No guideline
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil

Table 5: Summary of Soil Analytical Results - General Parameters

Sampling Location Date Sampled Lab Sample ID Soil Type Sample Depth (m) Sample Type			TP23-04-0.1 28-Sep-23	Relative Percent Difference	TP23-05-0.1 28-Sep-23	TP23-06-0.1 28-Sep-23	TP23-07-0.1 28-Sep-23	TP23-08-0.2 28-Sep-23	TP23-08-0.2 28-Sep-23	Relative Percent Difference	TP23-09-0.2 28-Sep-23
			EO2309073-043		EO2309073-005	EO2309073-006	EO2309073-007	EO2309073-008	EO2309073-044		EO2309073-009
			Peat 0-0.1 Duplicate		Silt/Peat 0-0.1 Normal	Peat 0-0.1 Normal	Peat 0-0.1 Normal	Silt/Peat 0-0.2 Normal	Silt/Peat 0-0.2 Duplicate		Peat 0-0.2 Normal
Analyte	Unit	Guideline		RPD %						RPD %	
		NWT Tier 1 RL/PL CS/FS									
Lab Results											
General											
Moisture	% wet	NG	47.7	22.4%	41.7	50.6	45.1	22.1	17.5	23.2%	40.4
Available ammonium (as N)	µg/g	NG	39.4	*	32.6	25.5	25.3	8.3	8.9	7.0%	13.7
Total carbon (percent)	%	NG	41.9	9.8%	31.2	42.8	45.3	23.9	16.2	38.4%	47.7
Inorganic carbon (as CaCO3 equivalent) (percent)	%	NG	1.23	20.4%	2.02	3.48	3.80	1.07	1.38	25.3%	1.80
Calcium (in saturated paste)	mg/L	NG	22.0	23.9%	27.4	41.0	27.2	32.7	20.0	48.2%	10.0
Calcium (in saturated paste) (mass/mass)	mg/kg	NG	99.0	13.2%	77.5	276	191	70.6	112	45.3%	71.1
Inorganic carbon (percent)	%	NG	0.148	20.6%	0.242	0.418	0.456	0.129	0.166	25.1%	0.216
Total organic carbon (percent)	%	NG	41.8	9.6%	31.0	42.4	44.8	23.8	16.0	39.2%	47.5
Chloride (in saturated paste) (mass/mass)	mg/kg	NG	<90	*	<57	<134	<140	<43	<112	*	<142
Chloride (in saturated paste)	mg/L	NG	<20	*	<20	<20	<20	<20	<20	*	<20
Conductivity (in saturated paste)	dS/m	2	0.156	9.4%	0.151	0.193	0.131	0.136	0.107	23.9%	0.069
Magnesium (in saturated paste)	mg/L	NG	5.2	3.8%	5.1	5.4	<5.0	<5.0	<5.0	*	<5.0
Magnesium (in saturated paste) (mass/mass)	mg/kg	NG	23.4	40.8%	14.4	36.3	<35.1	<10.8	<27.9	*	<35.6
Moisture	% wet	NG	47.7	22.4%	41.7	50.6	45.1	22.1	17.5	23.2%	40.4
Potassium (in saturated paste)	mg/L	NG	14.4	16.5%	7.0	9.5	<5.0	<5.0	7.8	*	<5.0
Potassium (in saturated paste) (mass/mass)	mg/kg	NG	64.8	21.0%	19.8	63.8	<35.1	<10.8	43.5	*	<35.6
Percent saturation	%	NG	450	37.3%	283	672	702	216	558	88.4%	711
Sodium (in saturated paste) (mass/mass)	mg/kg	NG	<22.5	*	<14.2	<33.6	<35.1	<10.8	<27.9	*	<35.6
Sodium (in saturated paste)	mg/L	NG	<5.0	*	<5.0	<5.0	<5.0	<5.0	<5.0	*	<5.0
Sodium adsorption ratio		5	<0.10	*	<0.10	<0.10	<0.10	<0.10	<0.10	*	<0.10
Available sulphate - as sulphur	µg/g	NG	<29.9	*	<29.5	<30.2	<30.7	<29.3	<14.8	*	<29.6
Sulphate (in saturated paste) (mass/mass)	mg/kg	NG	78.3	35.4%	50.9	202	84.2	28.5	48.5	*	51.2
Sulphate (in saturated paste)	mg/L	NG	17.4	1.7%	18.0	30.0	12.0	13.2	8.7	41.1%	7.2
Temperature, oven	°C	NG	<38	*	<38	<38	<38	<38	<38	*	<38

Accompanying lab reports: ALS - E02309073

NWT Tier 1 RL/PL CS/FS	Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/ Parkland Land Use for coarse-grained soil/fine-grained soil
NWT Tier 1 RL/PL CS/FS	Highlighted value exceeds NWT Tier 1 RL/PL CS/FS
<	Less than reported detection limit
NG	No guideline
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil



Table 5: Summary of Soil Analytical Results - General Parameters

			Sampling Location	TP23-10-0.1	TP23-11-0.1	TP23-12-0.1	TP23-13-0.1	TP23-14-0.1	TP23-15-0.1	TP23-16-0.1	TP23-17-0.3	TP23-18-0.1
			Date Sampled	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23
			Lab Sample ID	EO2309073-010	EO2309073-011	EO2309073-012	EO2309073-013	EO2309073-014	EO2309073-015	EO2309073-016	EO2309073-017	EO2309073-018
			Soil Type	Peat	Silt/Peat	Peat	Peat	Peat	Peat	Peat	Silt/Peat	Peat
			Sample Depth (m)	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.3	0-0.1
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Analyte	Unit	Guideline										
		NWT Tier 1 RL/PL CS/FS										
Lab Results												
General												
Moisture	% wet	NG	42.3	7.72	30.3	34.0	15.3	27.5	41.3	71.4	35.1	
Available ammonium (as N)	µg/g	NG	24.8	<5.4	29.3	9.0	34.4	7.0	25.7	24.4	31.1	
Total carbon (percent)	%	NG	41.6	3.38	36.7	42.3	30.7	23.2	39.3	39.0	41.2	
Inorganic carbon (as CaCO3 equivalent) (percent)	%	NG	4.49	0.61	2.98	0.83	2.54	1.40	5.30	5.95	1.79	
Calcium (in saturated paste)	mg/L	NG	43.7	22.1	17.0	24.5	26.7	23.8	47.5	42.9	33.7	
Calcium (in saturated paste) (mass/mass)	mg/kg	NG	227	16.6	109	96.5	129	106	237	227	236	
Inorganic carbon (percent)	%	NG	0.539	0.073	0.357	0.099	0.305	0.168	0.635	0.713	0.215	
Total organic carbon (percent)	%	NG	41.1	3.31	36.3	42.2	30.4	23.0	38.7	38.3	41.0	
Chloride (in saturated paste) (mass/mass)	mg/kg	NG	<104	<15	<129	83	<96	<89	<100	<106	<140	
Chloride (in saturated paste)	mg/L	NG	<20	<20	<20	21	<20	<20	<20	<20	<20	
Conductivity (in saturated paste)	dS/m	2	0.181	0.099	0.102	0.242	0.284	0.119	0.174	0.160	0.150	
Magnesium (in saturated paste)	mg/L	NG	5.4	<5.0	<5.0	10.5	5.4	<5.0	5.3	<5.0	5.0	
Magnesium (in saturated paste) (mass/mass)	mg/kg	NG	28.1	<5.0	<32.2	41.4	26.0	<22.4	26.4	<26.5	<35.0	
Moisture	% wet	NG	42.3	7.72	30.3	34.0	15.3	27.5	41.3	71.4	35.1	
Potassium (in saturated paste)	mg/L	NG	9.1	<5.0	6.5	45.4	15.9	6.9	5.4	<5.0	7.2	
Potassium (in saturated paste) (mass/mass)	mg/kg	NG	47.3	<5.0	41.9	179	76.6	30.8	26.9	<26.5	50.5	
Percent saturation	%	NG	520	74.9	644	394	482	447	499	530	701	
Sodium (in saturated paste) (mass/mass)	mg/kg	NG	<26.0	<5.0	<32.2	<19.7	41.4	<22.4	<24.9	<26.5	<35.0	
Sodium (in saturated paste)	mg/L	NG	<5.0	<5.0	<5.0	<5.0	8.6	<5.0	<5.0	<5.0	<5.0	
Sodium adsorption ratio		5	<0.10	<0.10	<0.10	<0.10	0.40	<0.10	<0.10	<0.10	<0.10	
Available sulphate - as sulphur	µg/g	NG	<29.7	<14.9	<30.5	<30.0	<29.8	<29.9	<30.6	62.7	44.4	
Sulphate (in saturated paste) (mass/mass)	mg/kg	NG	131	8.1	75.3	88.6	121	56.3	67.4	168	200	
Sulphate (in saturated paste)	mg/L	NG	25.2	10.8	11.7	22.5	25.2	12.6	13.5	31.8	28.5	
Temperature, oven	°C	NG	<38	<38	<38	<38	<38	<38	<38	<38	<38	

Accompanying lab reports: **ALS - E02309073**

NWT Tier 1 RL/PL CS/FS	Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/ Parkland Land Use for coarse-grained soil/fine-grained soil
NWT Tier 1 RL/PL CS/FS	Highlighted value exceeds NWT Tier 1 RL/PL CS/FS
<	Less than reported detection limit
NG	No guideline
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil

Table 5: Summary of Soil Analytical Results - General Parameters

			Sampling Location	TP23-19-0.1	TP23-20-0.1	TP23-21-0.3	TP23-22-0.2	TP23-23-0.1	TP23-24-0.2	TP23-25-0.1	TP23-26-02	TP23-27-0.1
			Date Sampled	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23
			Lab Sample ID	EO2309073-019	EO2309073-020	EO2309073-021	EO2309073-022	EO2309073-023	EO2309073-024	EO2309073-025	EO2309073-026	EO2309073-027
			Soil Type	Peat	Peat	Silt/Peat	Silt	Peat	Silt/Peat	Silt/Peat	Silt/Peat	Silt/Peat
			Sample Depth (m)	0-0.1	0-0.1	0-0.3	0-0.2	0-0.1	0-0.2	0-0.1	0-0.2	0-0.1
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Analyte	Unit	Guideline										
		NWT Tier 1 RL/PL CS/FS										
Lab Results												
General												
Moisture	% wet	NG	40.0	16.1	14.2	12.7	18.9	39.7	43.3	58.4	40.4	
Available ammonium (as N)	µg/g	NG	27.8	12.4	<6.6	<5.7	<6.3	19.5	22.9	21.9	24.8	
Total carbon (percent)	%	NG	34.6	22.0	7.33	1.74	12.5	44.1	41.4	39.2	27.3	
Inorganic carbon (as CaCO3 equivalent) (percent)	%	NG	3.82	1.78	1.52	1.13	1.51	3.90	5.46	6.14	3.16	
Calcium (in saturated paste)	mg/L	NG	67.0	37.6	98.6	53.2	26.6	39.8	64.4	80.6	51.7	
Calcium (in saturated paste) (mass/mass)	mg/kg	NG	372	153	48.7	23.7	166	224	216	361	366	
Inorganic carbon (percent)	%	NG	0.458	0.213	0.183	0.136	0.182	0.468	0.656	0.736	0.380	
Total organic carbon (percent)	%	NG	34.1	21.8	7.15	1.60	12.3	43.6	40.7	38.5	26.9	
Chloride (in saturated paste) (mass/mass)	mg/kg	NG	<111	<82	<10	<10	<125	<113	<67	<90	<141	
Chloride (in saturated paste)	mg/L	NG	<20	<20	<20	<20	<20	<20	<20	<20	<20	
Conductivity (in saturated paste)	dS/m	2	0.257	0.192	0.541	0.251	0.140	0.184	0.218	0.285	0.237	
Magnesium (in saturated paste)	mg/L	NG	6.3	10.0	16.2	7.7	8.1	5.9	7.4	8.0	8.5	
Magnesium (in saturated paste) (mass/mass)	mg/kg	NG	35.0	40.8	8.0	<5.0	50.5	33.3	24.8	35.8	60.1	
Moisture	% wet	NG	40.0	16.1	14.2	12.7	18.9	39.7	43.3	58.4	40.4	
Potassium (in saturated paste)	mg/L	NG	15.4	17.6	<5.0	<5.0	8.0	18.4	5.2	<5.0	26.2	
Potassium (in saturated paste) (mass/mass)	mg/kg	NG	85.6	71.8	<5.0	<5.0	49.9	104	17.4	<22.4	185	
Percent saturation	%	NG	556	408	49.4	44.6	624	564	335	448	707	
Sodium (in saturated paste) (mass/mass)	mg/kg	NG	<27.8	<20.4	<5.0	<5.0	<31.2	<28.2	<16.8	<22.4	<35.3	
Sodium (in saturated paste)	mg/L	NG	<5.0	<5.0	5.9	5.2	<5.0	<5.0	<5.0	<5.0	<5.0	
Sodium adsorption ratio		5	<0.10	<0.10	0.14	0.18	<0.10	<0.10	<0.10	<0.10	<0.10	
Available sulphate - as sulphur	µg/g	NG	33.5	<30.8	39.2	7.4	<29.9	<30.0	<29.8	82.0	<29.6	
Sulphate (in saturated paste) (mass/mass)	mg/kg	NG	177	91.8	76.6	20.4	74.9	94.8	77.4	366	178	
Sulphate (in saturated paste)	mg/L	NG	31.8	22.5	155	45.8	12.0	16.8	23.1	81.8	25.2	
Temperature, oven	°C	NG	<38	<38	<38	<38	<38	<38	<38	<38	<38	

Accompanying lab reports: **ALS - E02309073**

NWT Tier 1 RL/PL CS/FS	Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/ Parkland Land Use for coarse-grained soil/fine-grained soil
NWT Tier 1 RL/PL CS/FS	Highlighted value exceeds NWT Tier 1 RL/PL CS/FS
<	Less than reported detection limit
NG	No guideline
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
51%	RPD value greater than the target criteria of 50% for soil

Table 5: Summary of Soil Analytical Results - General Parameters

			Sampling Location	TP23-28-0.2	TP23-29-0.3	TP23-30-0.4	TP23-30-0.4	Relative	TP23-31-0.3	TP23-32-0.3	TP23-33-0.1	TP23-34-0.2
			Date Sampled	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23	Percent	29-Sep-23	29-Sep-23	29-Sep-23	29-Sep-23
			Lab Sample ID	EO2309073-028	EO2309073-029	EO2309073-030	EO2309073-045	Difference	EO2309073-031	EO2309073-032	EO2309073-033	EO2309073-034
			Soil Type	Silt/Peat	Silt	Silt	Silt		Silt	Silt	Silt/Peat	Peat
			Sample Depth (m)	0-0.2	0-0.3	0-0.4	0-0.4		0-0.3	0-0.3	0-0.1	0-0.2
			Sample Type	Normal	Normal	Normal	Duplicate		Normal	Normal	Normal	Normal
Analyte	Unit	Guideline						RPD %				
		NWT Tier 1 RL/PL CS/FS										
Lab Results												
General												
Moisture	% wet	NG		44.3	75.2	72.3	73.2	1.2%	74.3	74.0	24.0	53.0
Available ammonium (as N)	µg/g	NG		30.9	18.7	23.0	17.6	26.6%	14.0	17.3	10.3	21.1
Total carbon (percent)	%	NG		42.7	41.6	39.2	36.6	6.9%	37.4	39.1	13.7	38.5
Inorganic carbon (as CaCO3 equivalent) (percent)	%	NG		5.40	5.42	5.87	5.57	5.2%	4.80	5.37	2.92	4.97
Calcium (in saturated paste)	mg/L	NG		44.6	80.4	111	100	10.4%	138	147	63.8	44.3
Calcium (in saturated paste) (mass/mass)	mg/kg	NG		239	526	720	467	42.6%	970	1120	82.9	190
Inorganic carbon (percent)	%	NG		0.648	0.650	0.704	0.669	5.1%	0.576	0.644	0.351	0.597
Total organic carbon (percent)	%	NG		42.0	41.0	38.5	35.9	7.0%	36.8	38.4	13.3	37.9
Chloride (in saturated paste) (mass/mass)	mg/kg	NG		<107	<131	<130	<93	*	<141	<153	<26	<86
Chloride (in saturated paste)	mg/L	NG		<20	<20	<20	<20	*	<20	<20	<20	<20
Conductivity (in saturated paste)	dS/m	2		0.164	0.297	0.571	0.468	19.8%	0.685	0.682	0.225	0.150
Magnesium (in saturated paste)	mg/L	NG		<5.0	6.0	10.6	9.0	16.3%	12.3	11.1	5.9	<5.0
Magnesium (in saturated paste) (mass/mass)	mg/kg	NG		<26.8	39.2	68.8	42.0	48.4%	86.5	84.7	7.7	<21.5
Moisture	% wet	NG		44.3	75.2	72.3	73.2	1.2%	74.3	74.0	24.0	53.0
Potassium (in saturated paste)	mg/L	NG		8.2	<5.0	<5.0	<5.0	*	<5.0	<5.0	<5.0	<5.0
Potassium (in saturated paste) (mass/mass)	mg/kg	NG		43.9	<32.7	<32.4	<23.3	*	<35.2	<38.2	<6.5	<21.5
Percent saturation	%	NG		535	654	649	467	32.6%	703	763	130	430
Sodium (in saturated paste) (mass/mass)	mg/kg	NG		<26.8	<32.7	<32.4	<23.3	*	<35.2	<38.2	<6.5	<21.5
Sodium (in saturated paste)	mg/L	NG		<5.0	<5.0	<5.0	<5.0	*	<5.0	<5.0	<5.0	<5.0
Sodium adsorption ratio		5		<0.10	<0.10	<0.10	<0.10	*	<0.10	<0.10	<0.10	<0.10
Available sulphate - as sulphur	µg/g	NG		<30.6	119	253	219	14.4%	452	258	<15.1	<30.3
Sulphate (in saturated paste) (mass/mass)	mg/kg	NG		80.2	759	1540	761	67.7%	2150	2110	30.4	67.1
Sulphate (in saturated paste)	mg/L	NG		15.0	116	237	163	37.0%	306	277	23.4	15.6
Temperature, oven	°C	NG		<38	<38	<38	<38	*	<38	<38	<38	<38

Accompanying lab reports: **ALS - E02309073**

NWT Tier 1 RL/PL CS/FS	Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/
NWT Tier 1 RL/PL CS/FS	Parkland Land Use for coarse-grained soil/fine-grained soil
<	Highlighted value exceeds NWT Tier 1 RL/PL CS/FS
NG	Less than reported detection limit
*	No guideline
51%	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
	RPD value greater than the target criteria of 50% for soil

Table 5: Summary of Soil Analytical Results - General Parameters

			Sampling Location	TP23-34-0.2	Relative	TP23-35-0.2	TP23-36-0.2	TP23-37-0.1
			Date Sampled	29-Sep-23	Percent	29-Sep-23	29-Sep-23	29-Sep-23
			Lab Sample ID	EO2309073-046	Difference	EO2309073-035	EO2309073-036	EO2309073-037
			Soil Type	Peat		Silt/Peat	Silt	Silt/Peat
			Sample Depth (m)	0-0.2		0-0.2	0-0.2	0-0.1
			Sample Type	Duplicate		Normal	Normal	Normal
Analyte	Unit	Guideline			RPD %			
		NWT Tier 1 RL/PL CS/FS						
Lab Results								
General								
Moisture	% wet	NG	55.1	3.9%	43.2	66.7	46.1	
Available ammonium (as N)	µg/g	NG	27.5	26.3%	22.8	19.9	19.4	
Total carbon (percent)	%	NG	37.8	1.8%	39.3	40.8	41.5	
Inorganic carbon (as CaCO3 equivalent) (percent)	%	NG	6.30	23.6%	7.11	6.32	2.95	
Calcium (in saturated paste)	mg/L	NG	43.6	1.6%	55.7	48.0	15.8	
Calcium (in saturated paste) (mass/mass)	mg/kg	NG	144	27.5%	238	289	81.0	
Inorganic carbon (percent)	%	NG	0.756	23.5%	0.853	0.758	0.354	
Total organic carbon (percent)	%	NG	37.0	2.4%	38.4	40.0	41.1	
Chloride (in saturated paste) (mass/mass)	mg/kg	NG	<66	*	<85	<120	<102	
Chloride (in saturated paste)	mg/L	NG	<20	*	<20	<20	<20	
Conductivity (in saturated paste)	dS/m	2	0.139	7.6%	0.202	0.170	0.078	
Magnesium (in saturated paste)	mg/L	NG	<5.0	*	<5.0	<5.0	<5.0	
Magnesium (in saturated paste) (mass/mass)	mg/kg	NG	<16.6	*	<21.4	<30.1	<25.6	
Moisture	% wet	NG	55.1	3.9%	43.2	66.7	46.1	
Potassium (in saturated paste)	mg/L	NG	<5.0	*	<5.0	<5.0	<5.0	
Potassium (in saturated paste) (mass/mass)	mg/kg	NG	<16.6	*	<21.4	<30.1	<25.6	
Percent saturation	%	NG	331	26.0%	427	602	513	
Sodium (in saturated paste) (mass/mass)	mg/kg	NG	<16.6	*	<21.4	<30.1	<25.6	
Sodium (in saturated paste)	mg/L	NG	<5.0	*	<5.0	<5.0	<5.0	
Sodium adsorption ratio		5	<0.10	*	<0.10	<0.10	<0.10	
Available sulphate - as sulphur	µg/g	NG	<29.6	*	<30.4	<29.6	<29.8	
Sulphate (in saturated paste) (mass/mass)	mg/kg	NG	58.6	13.5%	50.0	141	52.3	
Sulphate (in saturated paste)	mg/L	NG	17.7	12.6%	11.7	23.4	10.2	
Temperature, oven	°C	NG	<38	*	<38	<38	<38	

Accompanying lab reports: **ALS - E02309073**

NWT Tier 1 RL/PL CS/FS	Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/
NWT Tier 1 RL/PL CS/FS	Parkland Land Use for coarse-grained soil/fine-grained soil
<	Highlighted value exceeds NWT Tier 1 RL/PL CS/FS
NG	Less than reported detection limit
*	No guideline
51%	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
	RPD value greater than the target criteria of 50% for soil

Guideline Notes for Reports for 2023-8451 Tin Can Hill Soil Quality Results

1. Notes for Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/ Parkland Land Use and Coarse-grained Soil (NWT Tier 1 RL/PL CS)

General Notes:

Tier 1 criteria-based approach was used. Reference: Table A1 and Table A7, Guideline for Contaminated Site Remediation, November 2003 by Environment Division, Government of the Northwest Territories.

Note 1.1 for Arsenic (inorganic):

The site-specific human health-based soil quality remediation objective for arsenic in Yellowknife area soils for industrial land use is 340 mg/kg and 160 mg/kg for residential.

2. Notes for Northwest Territories Tier 1 Soil Remediation Guidelines for Residential/ Parkland Land Use and Fine-grained Soil (NWT Tier 1 RL/PL FS)

General Notes:

Tier 1 criteria-based approach was used. Reference: Table A1 and Table A7, Guideline for Contaminated Site Remediation, November 2003 by Environment Division, Government of the Northwest Territories.

Table A1 "Summary of Tier 1 levels for PHCs in surface soil" contains multiple guidelines for Fraction 1 (F1-BTEX) and Fraction 2 (F2) petroleum hydrocarbons depending on site specific factors. The most stringent guidelines for fine-grained soil for F1-BTEX and F2 were used in this criteria set.

Note 2.1 for Arsenic (inorganic):

The site-specific human health-based soil quality remediation objective for arsenic in Yellowknife area soils for industrial land use is 340 mg/kg and 160 mg/kg for residential.

Table 6: Summary of Groundwater Analytical Results - Total Metals

Sampling Location Date Sampled Lab Sample ID Sample Type				SW23-01 29-Sep-23 EO2309073-047 Normal	SW23-01 29-Sep-23 EO2309073-049 Duplicate	Relative Percent Difference	SW23-02 29-Sep-23 EO2309073-048 Normal
Analyte	Unit	Guideline				RPD %	
		CCME AL (LT)	CCME AL (ST)				
Lab Results							
pH		6.5 - 9	NG	8.07	8.09	0.2%	8.02
Hardness (as CaCO3), dissolved	mg/L	NG	NG	71.9	73.6	2.3%	301
Total Metals							
Aluminum (total)	mg/L	Calc ^{1.6}	NG	0.0910	0.0926	1.7%	<u>0.783</u>
Antimony (total)	mg/L	NG	NG	0.00017	0.00017	0.0%	0.0205
Arsenic (total)	mg/L	0.0050 ^{1.7}	NG	0.00243	0.00248	2.0%	<u>0.401</u>
Barium (total)	mg/L	NG	NG	0.0363	0.0360	0.8%	0.0698
Beryllium (total)	mg/L	NG	NG	<0.000020	<0.000020	*	0.000031
Bismuth (total)	mg/L	NG	NG	<0.000050	<0.000050	*	<0.000050
Boron (total)	mg/L	1.5 ^{1.8}	29	0.014	0.014	0.0%	0.070
Cadmium (total)	mg/L	Calc ^{1.9}	Calc ^{2.2}	0.0000080	0.0000071	11.9%	0.0000871
Calcium (total)	mg/L	NG	NG	21.8	21.7	0.5%	91.2
Cesium (total)	mg/L	NG	NG	0.000013	0.000012	8.0%	0.000117
Chromium (total)	mg/L	0.0010 ^{1.10}	NG	<u>0.00230</u>	<u>0.00182</u>	23.3%	<u>0.00414</u>
Cobalt (total)	mg/L	NG	NG	<0.00010	<0.00010	*	0.00159
Copper (total)	mg/L	Calc ^{1.11}	NG	0.00147	0.00143	2.8%	<u>0.0410</u>
Iron (total)	mg/L	0.300	NG	0.127	0.113	11.7%	<u>1.28</u>
Lead (total)	mg/L	Calc ^{1.12}	NG	0.000130	0.000130	0.0%	<u>0.00784</u>
Lithium (total)	mg/L	NG	NG	0.0047	0.0039	18.6%	0.0154
Magnesium (total)	mg/L	NG	NG	5.49	5.61	2.2%	24.8
Manganese (total)	mg/L	Calc ^{1.13}	Calc ^{2.3}	0.00476	0.00509	6.7%	0.123
Molybdenum (total)	mg/L	0.073	NG	0.000694	0.000659	5.2%	0.000984
Nickel (total)	mg/L	Calc ^{1.14}	NG	0.00169	0.00152	10.6%	0.00792
Phosphorus (total, by ICPMS/ICPOES)	mg/L	N ^{1.15}	NG	<0.050	<0.050	*	0.266
Potassium (total)	mg/L	NG	NG	1.20	1.22	1.7%	14.1
Rubidium (total)	mg/L	NG	NG	0.00129	0.00131	1.5%	0.0109
Selenium (total)	mg/L	0.0010	NG	0.000168	0.000134	22.5%	0.000220
Silicon (total, as Si)	mg/L	NG	NG	1.16	1.18	1.7%	2.95
Silver (total)	mg/L	0.00025	NG	<0.000010	<0.000010	*	0.000103
Strontium (total)	mg/L	NG	NG	0.110	0.110	0.0%	0.266
Sulphur (total)	mg/L	NG	NG	6.51	6.86	5.2%	76.0
Tellurium (total)	mg/L	NG	NG	<0.00020	<0.00020	*	<0.00020
Thallium (total)	mg/L	0.0008	NG	<0.000010	<0.000010	*	0.000011
Thorium (total)	mg/L	NG	NG	<0.00010	<0.00010	*	0.00010
Tin (total)	mg/L	NG	NG	0.00011	0.00011	0.0%	0.00012
Titanium (total)	mg/L	NG	NG	0.00281	0.00300	6.5%	0.0220
Tungsten (total)	mg/L	NG	NG	<0.00010	<0.00010	*	0.00030
Uranium (total)	mg/L	0.015 ^{1.16}	0.033 ^{2.4}	0.000371	0.000390	5.0%	0.000833
Vanadium (total)	mg/L	NG	NG	<0.00050	0.00067	*	0.00269
Zinc (total)	mg/L	0.0017 ^{1.17}	Calc ^{2.5}	<0.0030	<0.0030	*	<u>0.0224</u>
Zirconium (total)	mg/L	NG	NG	<0.00020	<0.00020	*	<0.00020

Accompanying lab reports: **ALS - E02309073**

CCME AL (LT)	CCME. Canadian water quality guidelines for the protection of freshwater aquatic life, Long-Term Exposure guidelines.
CCME AL (ST)	CCME. Canadian water quality guidelines for the protection of freshwater aquatic life, Short-Term Exposure guidelines.
CCME AL (LT)	Highlighted value exceeds CCME AL (LT)
CCME AL (ST)	Highlighted value exceeds CCME AL (ST)
<	Less than reported detection limit
Calc	Standard dependent on hardness and calculated from a table.
NS	No Standard
	Highlighted value has a detection limit that is greater than standard
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
26%	RPD value greater than the target criteria of 25% for water

Table 7: Summary of Groundwater Analytical Results - Dissolved Metals

Sampling Location Date Sampled Lab Sample ID Sample Type				SW23-01 29-Sep-23 EO2309073-047 Normal	SW23-01 29-Sep-23 EO2309073-049 Duplicate	Relative Percent Difference	SW23-02 29-Sep-23 EO2309073-048 Normal
Analyte	Unit	Guideline				RPD %	
		CCME AL (LT)	CCME AL (ST)				
Lab Results							
pH		6.5 - 9	NG	8.07	8.09	0.2%	8.02
Hardness (as CaCO3), dissolved	mg/L	NG	NG	71.9	73.6	2.3%	301
Dissolved Metals							
Aluminum (dissolved)	mg/L	Calc ^{1.18}	NG	0.0139	0.0144	3.5%	0.0075
Antimony (dissolved)	mg/L	NG	NG	0.00013	0.00013	0.0%	0.0105
Arsenic (dissolved)	mg/L	0.0050 ^{1.19}	NG	0.00200	0.00207	3.4%	<u>0.324</u>
Barium (dissolved)	mg/L	NG	NG	0.0341	0.0343	0.6%	0.0444
Beryllium (dissolved)	mg/L	NG	NG	<0.000020	<0.000020	*	<0.000020
Bismuth (dissolved)	mg/L	NG	NG	<0.000050	<0.000050	*	<0.000050
Boron (dissolved)	mg/L	1.5 ^{1.20}	29	0.018	0.016	11.8%	0.066
Cadmium (dissolved)	mg/L	Calc ^{1.21}	Calc ^{2.6}	<0.0000050	<0.0000050	*	<0.0000050
Calcium (dissolved)	mg/L	NG	NG	20.7	21.3	2.9%	84.1
Cesium (dissolved)	mg/L	NG	NG	<0.000010	<0.000010	*	0.000020
Chromium (dissolved)	mg/L	0.0010 ^{1.22}	NG	<0.00050	<0.00050	*	<0.00050
Cobalt (dissolved)	mg/L	NG	NG	<0.00010	<0.00010	*	<0.00010
Copper (dissolved)	mg/L	Calc ^{1.23}	NG	0.00116	0.00117	0.9%	0.00174
Iron (dissolved)	mg/L	0.300	NG	<0.010	<0.010	*	<0.010
Lead (dissolved)	mg/L	Calc ^{1.24}	NG	<0.000050	<0.000050	*	0.000057
Lithium (dissolved)	mg/L	NG	NG	0.0035	0.0034	2.9%	0.0130
Magnesium (dissolved)	mg/L	NG	NG	4.90	4.95	1.0%	22.1
Manganese (dissolved)	mg/L	Calc ^{1.25}	Calc ^{2.7}	0.00087	0.00086	1.2%	0.0213
Molybdenum (dissolved)	mg/L	0.073	NG	0.000619	0.000570	8.2%	0.000683
Nickel (dissolved)	mg/L	Calc ^{1.26}	NG	0.00088	0.00085	3.5%	0.00174
Phosphorus (dissolved, by ICPMS/ICPOES)	mg/L	N ^{1.27}	NG	<0.050	<0.050	*	<0.050
Potassium (dissolved)	mg/L	NG	NG	1.17	1.17	0.0%	14.0
Rubidium (dissolved)	mg/L	NG	NG	0.00110	0.00113	2.7%	0.00981
Selenium (dissolved)	mg/L	0.0010	NG	0.000142	0.000140	1.4%	0.000050
Silicon (dissolved, as Si)	mg/L	NG	NG	0.993	1.01	1.7%	2.06
Silver (dissolved)	mg/L	0.00025	NG	<0.000010	<0.000010	*	<0.000010
Strontium (dissolved)	mg/L	NG	NG	0.111	0.106	4.6%	0.248
Sulphur (dissolved)	mg/L	NG	NG	6.63	6.44	2.9%	73.6
Tellurium (dissolved)	mg/L	NG	NG	<0.00020	<0.00020	*	<0.00020
Thallium (dissolved)	mg/L	0.0008	NG	<0.000010	<0.000010	*	<0.000010
Thorium (dissolved)	mg/L	NG	NG	<0.00010	<0.00010	*	<0.00010
Tin (dissolved)	mg/L	NG	NG	<0.00010	<0.00010	*	<0.00010
Titanium (dissolved)	mg/L	NG	NG	<0.00030	0.00030	*	<0.00030
Tungsten (dissolved)	mg/L	NG	NG	<0.00010	<0.00010	*	0.00010
Uranium (dissolved)	mg/L	0.015 ^{1.28}	0.033 ^{2.8}	0.000332	0.000312	6.2%	0.000197
Vanadium (dissolved)	mg/L	NG	NG	<0.00050	<0.00050	*	<0.00050
Zinc (dissolved)	mg/L	0.0017 ^{1.29}	Calc ^{2.9}	<0.0010	<0.0010	*	<0.0010
Zirconium (dissolved)	mg/L	NG	NG	<0.00030	<0.00030	*	<0.00030

Accompanying lab reports: ALS - E02309073

CCME AL (LT)	CCME. Canadian water quality guidelines for the protection of freshwater aquatic life, Long-Term Exposure guidelines.
CCME AL (ST)	CCME. Canadian water quality guidelines for the protection of freshwater aquatic life, Short-Term Exposure guidelines.
<u>CCME AL (LT)</u>	Highlighted value exceeds CCME AL (LT)
<u>CCME AL (ST)</u>	Highlighted value exceeds CCME AL (ST)
-	Not analyzed
<	Less than reported detection limit
Calc	Standard dependent on hardness and calculated from a table.
NS	No Standard
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
26%	RPD value greater than the target criteria of 25% for water

Table 8: Summary of Groundwater Analytical Results - Speciated Arsenic

				Sampling Location	SW23-01	SW23-02
				Date Sampled	31-Oct-23	31-Oct-23
				Lab Sample ID	YL2301551-001	YL2301551-002
				Sample Type	Normal	Normal
Analyte	Unit	Guideline				
		CCME AL (LT)	CCME AL (ST)			
Lab Results						
Speciated Metals						
Arsenate [As V]	mg/L	NG	NG	0.000850		0.196
Arsenite [As III]	mg/L	NG	NG	0.000240		<0.00100
Arsenobetaine [AsB], (as As)	mg/L	NG	NG	<0.000050		<0.00250
Dimethylarsinic acid [DMA], (as As)	mg/L	NG	NG	0.000029		<0.00100
Monomethylarsonic acid [MMA], (as As)	mg/L	NG	NG	<0.000020		<0.00124

Accompanying lab reports: **ALS - TL2301551**

CCME AL (LT)	CCME. Canadian water quality guidelines for the protection of freshwater aquatic life, Long-Term Exposure guidelines.
CCME AL (ST)	CCME. Canadian water quality guidelines for the protection of freshwater aquatic life, Short-Term Exposure guidelines.
<u>CCME AL (LT)</u>	Highlighted value exceeds CCME AL (LT)
<u>CCME AL (ST)</u>	Highlighted value exceeds CCME AL (ST)
-	Not analyzed
<	Less than reported detection limit
Calc	Standard dependent on hardness and calculated from a table.
NS	No Standard
	Highlighted value has a detection limit that is greater than standard
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
26%	RPD value greater than the target criteria of 25% for water

Table 9: Summary of Groundwater Analytical Results - General Parameters

Sampling Location Date Sampled Lab Sample ID Sample Type				SW23-01 29-Sep-23 EO2309073-047 Normal	SW23-01 29-Sep-23 EO2309073-049 Duplicate	Relative Percent Difference	SW23-02 29-Sep-23 EO2309073-048 Normal
Analyte	Unit	Guideline				RPD %	
		CCME AL (LT)	CCME AL (ST)				
Lab Results							
General and Inorganic Parameters							
Alkalinity (total, as CaCO3)	mg/L	NG	NG	66.9	68.5	2.4%	83.1
Ammonia (total, as N)	mg/L	Calc ^{1.1}	NG	0.0139	0.0180	*	0.0840
Bicarbonate (HCO3)	mg/L	NG	NG	81.6	83.6	2.4%	101
Dissolved organic carbon	mg/L	NG	NG	4.96	5.68	13.5%	24.7
Total organic carbon	mg/L	NG	NG	5.70	5.64	1.1%	39.8
Carbonate (CO3)	mg/L	NG	NG	<1.0	<1.0	*	<1.0
Chloride	mg/L	120 ^{1.2}	640	5.47	5.46	0.2%	62.6
Conductivity	µS/cm	NG	NG	192	192	0.0%	813
Fluoride	mg/L	0.120 ^{1.3}	NG	0.088	0.088	0.0%	0.228
Hardness (as CaCO3), dissolved	mg/L	NG	NG	71.9	73.6	2.3%	301
Hydroxide (OH)	mg/L	NG	NG	<1.0	<1.0	*	<1.0
Nitrate (as N)	mg/L	3.0 ^{1.4}	124 ^{2.1}	0.030	0.029	3.4%	0.160
Nitrate + Nitrite (as N)	mg/L	3.0 ^{1.5}	NG	0.0300	<0.0300	*	0.160
Nitrite (as N)	mg/L	0.060	NG	<0.010	<0.010	*	<0.010
pH		6.5 - 9	NG	8.07	8.09	0.2%	8.02
Sodium (dissolved)	mg/L	NG	NG	6.54	6.55	0.2%	33.8
Sodium (total)	mg/L	NG	NG	6.57	6.52	0.8%	32.4
Total dissolved solids (computed)	mg/L	NG	NG	104	106	1.9%	499
Sulphate	mg/L	NG	NG	16.9	17.0	0.6%	201
Ion Balance							
Total anions	meq/L	NG	NG	1.85	1.88	1.6%	7.63
Total cations	meq/L	NG	NG	1.75	1.79	2.3%	7.85
Ion balance (% difference, APHA)	%	NG	NG	-2.78	-2.45	12.6%	1.42
Ion balance (cations/anions)	%	NG	NG	94.6	95.2	0.6%	103

Accompanying lab reports: ALS - E02309073

CCME AL (LT)	CCME. Canadian water quality guidelines for the protection of freshwater aquatic life, Long-Term Exposure guidelines.
CCME AL (ST)	CCME. Canadian water quality guidelines for the protection of freshwater aquatic life, Short-Term Exposure guidelines.
CCME AL (LT)	Highlighted value exceeds CCME AL (LT)
CCME AL (ST)	Highlighted value exceeds CCME AL (ST)
-	Not analyzed
<	Less than reported detection limit
Calc	Standard dependent on hardness and calculated from a table.
NS	No Standard
	Highlighted value has a detection limit that is greater than standard
*	RPDs are not calculated when parameter concentrations are within five times the method detection limit.
26%	RPD value greater than the target criteria of 25% for water

Guideline Notes for Reports for 2023-8451 Tin Can Hill Water Quality Results

1. Notes for CCME. Canadian water quality guidelines for the protection of freshwater aquatic life, Long-Term Exposure guidelines. (CCME AL (LT))

General Notes:

The CCME Canadian water quality guidelines for the protection of freshwater aquatic life provide both a Long-Term Exposure guideline, and Short-Term Exposure guideline for some analytes. Only the Long-Term Exposure guidelines are included in this criteria set.

Note 1.1 for Ammonia (total, as N):

The guideline for ammonia varies as a function of pH and temperature. For a pH of 8.0, the standard ranges from 2.33 mg/L for a water temperature of 0 °C down to 0.256 for a water temperature of 30 °C.

Note 1.2 for Chloride:

The Short-Term Exposure Guideline is 640 mg/L. The Long-Term Exposure Guideline is 120 mg/L.

Note 1.3 for Fluoride:

The interim guideline for the protection of freshwater aquatic life for total inorganic fluorides is 0.12 mg/L

Note 1.4 for Nitrate (as N):

The Short-Term Exposure Guideline is 124 mg/L. The Long-Term Exposure Guideline is 3.0 mg/L. The guidelines for nitrate are for protection from direct toxic effects; the guidelines do not consider indirect effects due to eutrophication.

The Long Term guideline is derived from toxicity tests utilizing NaNO3. The Long Term guideline is derived with mostly no- and some low-effect data and are intended to protect against negative effects to aquatic ecosystem structure and function during indefinite exposures (e.g. abide by the guiding principle as per CCME 2007).

Note 1.5 for Nitrate + Nitrite (as N):

Long-Term Exposure Guideline for Nitrate (as N) is 3.0 mg/L

Note 1.6 for Aluminum (total):

The guideline for aluminum is:

5 µg/L when pH is less than 6.5

100 µg/L when pH is greater than or equal to 6.5

Note 1.7 for Arsenic (total):

Guideline is for total arsenic.

Note 1.8 for Boron (total):

The Short-Term Exposure Guideline is 29 mg/L. The Long-Term Exposure Guideline is 1.5 mg/L.

Note 1.9 for Cadmium (total):

The long-term guideline for cadmium is determined on a site-specific basis according to the local water hardness. The guideline for total cadmium in µg/L is determined as follows for long-term exposure:

1. If hardness (as CaCO3) is less than 17 mg/L then maximum is 0.04 µg/L

2. If hardness (as CaCO3) is from 17 to 280 mg/L then maximum is based on equation:

10 raised to the power of {0.83[log(hardness)] - 2.46}

3. If hardness (as CaCO3) is greater than 280 mg/L then maximum is 0.37 µg/L.

Note 1.10 for Chromium (total):

CCME guideline for freshwater aquatic life is 0.0010 mg/L for chromium VI. CCME interim guideline for freshwater aquatic life is 0.0089 mg/L for chromium III. The guideline of 0.0010 mg/L was used, in this report, to identify exceedances for dissolved chromium, and total chromium as a means for determining the potential for exceeding the chromium VI and/or chromium III guidelines.

Note 1.11 for Copper (total):

The guideline for copper in µg/L is determined as follows:

When the water hardness is 0 to < 82 mg/L, the CWQG is 2 µg/L

At hardness ≥82 to ≤180 mg/L the CWQG is calculated using the equation:

e raised to the power of {0.8545[ln(hardness)]-1.465} * 0.2 µg/L

At hardness >180 mg/L, the CWQG is 4 µg/L

Where water hardness is reported as mg/L CaCO3.

If the water hardness is unknown, the CWQG is 2 µg/L

Note 1.12 for Lead (total):

The guideline for lead in µg/L is determined as follows:

When the hardness is 0 to ≤ 60 mg/L, the CWQG is 1 µg/L

At hardness > 60 to ≤ 180 mg/L the CWQG is calculated using the equation:

e raised to the power of {1.273[ln(hardness)] - 4.705}

At hardness >180 mg/L, the CWQG is 7 µg/L

Where water hardness is reported as mg/L CaCO3.

If the water hardness is unknown, the CWQG is 1 µg/L

Note 1.13 for Manganese (total):

The guideline for dissolved manganese varies as a function of pH and hardness (as CaCO3). The guideline for dissolved manganese was used to identify exceedances for total manganese as a means for determining the potential for exceeding the guideline for dissolved manganese.

The lookup table is based on results for “Hardness, Total (total as CaCO3)”. (CCME Update 2019)

Note 1.14 for Nickel (total):

The guideline for nickel in µg/L is determined as follows:

When the water hardness is 0 to ≤ 60 mg/L, the CWQG is 25 µg/L

At hardness > 60 to ≤ 180 mg/L the CWQG is calculated using the equation:

e raised to the power of {0.76[ln(hardness)] + 1.06}

At hardness >180 mg/L, the CWQG is 150 µg/L

Where water hardness is reported as mg/L CaCO3.

If the water hardness is unknown, the CWQG is 25 µg/L

Note 1.15 for Phosphorus (total, by ICPMS/ICPOES):

Canadian Guidance Framework for Phosphorus is for developing phosphorus guidelines (does not provide guidance on other freshwater nutrients). It provides Trigger Ranges for Total Phosphorus (see Guidance Framework for Phosphorus factsheet):

ultra-oligotrophic <4 µg/L;

oligotrophic 4-10 µg/L;

mesotrophic 10-20 µg/L;

meso-eutrophic 20-35 µg/L;

eutrophic 35-100 µg/L;

hyper-eutrophic >100 µg/L

Note 1.16 for Uranium (total):

The Short-Term Exposure Guideline is 33 µg/L. The Long-Term Exposure Guideline is 15 µg/L. The guidelines are for total recoverable, unfiltered analyses.

Note 1.17 for Zinc (total):

The long-term CWQG is for dissolved zinc (µg/L) and is calculated using the following equation: $CWQG = \exp(0.947[\ln(\text{hardness mg}\cdot\text{L}^{-1})] - 0.815[\text{pH}] + 0.398[\ln(\text{DOC mg}\cdot\text{L}^{-1})] + 4.625)$. The CWQG equation is valid between hardness 23.4 and 399 mg CaCO₃·L⁻¹, pH 6.5 and 8.13 and DOC 0.3 to 22.9 mg·L⁻¹.

The guideline value of 1.7 µg/L in this criteria set is based on assumed water quality of 23.4 mg CaCO₃·L⁻¹ hardness, pH of 8.13 and 0.3 mg·L⁻¹ DOC, which are the limits for the equation that provide the most stringent guideline value.

The guideline of 1.7 µg/L was used to identify exceedances for total zinc as a means for determining the potential for exceeding the guideline for dissolved zinc. (CCME Update 2018)

Note 1.18 for Aluminum (dissolved):

The guideline for aluminum is:

5 µg/L when pH is less than 6.5

100 µg/L when pH is greater than or equal to 6.5

Note 1.19 for Arsenic (dissolved):

Guideline is for total arsenic.

Note 1.20 for Boron (dissolved):

The Short-Term Exposure Guideline is 29 mg/L. The Long-Term Exposure Guideline is 1.5 mg/L.

Note 1.21 for Cadmium (dissolved):

The long-term guideline for cadmium is determined on a site-specific basis according to the local water hardness. The guideline for total cadmium in µg/L is determined as follows for long-term exposure:

1. If hardness (as CaCO₃) is less than 17 mg/L then maximum is 0.04 µg/L
2. If hardness (as CaCO₃) is from 17 to 280 mg/L then maximum is based on equation:
 $10 \text{ raised to the power of } \{0.83[\log(\text{hardness})] - 2.46\}$
3. If hardness (as CaCO₃) is greater than 280 mg/L then maximum is 0.37 µg/L.

Note 1.22 for Chromium (dissolved):

CCME guideline for freshwater aquatic life is 0.0010 mg/L for chromium VI. CCME interim guideline for freshwater aquatic life is 0.0089 mg/L for chromium III. The guideline of 0.0010 mg/L was used, in this report, to identify exceedances for dissolved chromium, and total chromium as a means for determining the potential for exceeding the chromium VI and/or chromium III guidelines.

Note 1.23 for Copper (dissolved):

The guideline for copper in µg/L is determined as follows:

When the water hardness is 0 to < 82 mg/L, the CWQG is 2 µg/L

At hardness ≥82 to ≤180 mg/L the CWQG is calculated using the equation:

$e \text{ raised to the power of } \{0.8545[\ln(\text{hardness})] - 1.465\} * 0.2 \text{ µg/L}$

At hardness >180 mg/L, the CWQG is 4 µg/L

Where water hardness is reported as mg/L CaCO₃.

If the water hardness is unknown, the CWQG is 2 µg/L

Note 1.24 for Lead (dissolved):

The guideline for lead in µg/L is determined as follows:

When the hardness is 0 to ≤ 60 mg/L, the CWQG is 1 µg/L

At hardness > 60 to ≤ 180 mg/L the CWQG is calculated using the equation:

$e \text{ raised to the power of } \{1.273[\ln(\text{hardness})] - 4.705\}$

At hardness >180 mg/L, the CWQG is 7 µg/L

Where water hardness is reported as mg/L CaCO₃.

If the water hardness is unknown, the CWQG is 1 µg/L

Note 1.25 for Manganese (dissolved):

The guideline for dissolved manganese varies as a function of pH and hardness (as CaCO₃). The lookup table is based on results for Hardness, Total (dissolved as CaCO₃). / (CCME Update 2019)

Note 1.26 for Nickel (dissolved):

The guideline for nickel in µg/L is determined as follows:

When the water hardness is 0 to ≤ 60 mg/L, the CWQG is 25 µg/L

At hardness > 60 to ≤ 180 mg/L the CWQG is calculated using the equation:

$e \text{ raised to the power of } \{0.76[\ln(\text{hardness})] + 1.06\}$

At hardness >180 mg/L, the CWQG is 150 µg/L

Where water hardness is reported as mg/L CaCO₃.

If the water hardness is unknown, the CWQG is 25 µg/L

Note 1.27 for Phosphorus (dissolved, by ICPMS/ICPOES):

Canadian Guidance Framework for Phosphorus is for developing phosphorus guidelines (does not provide guidance on other freshwater nutrients). It provides Trigger Ranges for Total Phosphorus (see Guidance Framework for Phosphorus factsheet):

ultra-oligotrophic <4 µg/L;

oligotrophic 4-10 µg/L;

mesotrophic 10-20 µg/L;

meso-eutrophic 20-35 µg/L;

eutrophic 35-100 µg/L;

hyper-eutrophic >100 µg/L

Note 1.28 for Uranium (dissolved):

The Short-Term Exposure Guideline is 33 µg/L. The Long-Term Exposure Guideline is 15 µg/L. The guidelines are for total recoverable, unfiltered analyses.

Note 1.29 for Zinc (dissolved):

The long-term CWQG is for dissolved zinc (µg/L) and is calculated using the following equation: $CWQG = \exp(0.947[\ln(\text{hardness mg}\cdot\text{L}^{-1})] - 0.815[\text{pH}] + 0.398[\ln(\text{DOC mg}\cdot\text{L}^{-1})] + 4.625)$. The CWQG equation is valid between hardness 23.4 and 399 mg CaCO₃·L⁻¹, pH 6.5 and 8.13 and DOC 0.3 to 22.9 mg·L⁻¹.

The guideline value of 1.7 µg/L in this criteria set is based on assumed water quality of 23.4 mg CaCO₃·L⁻¹ hardness, pH of 8.13 and 0.3 mg·L⁻¹ DOC, which are the limits for the equation that provide the most stringent guideline value. (CCME Update 2018)

2. Notes for CCME. Canadian water quality guidelines for the protection of freshwater aquatic life, Short-Term Exposure guidelines. (CCME AL (ST))

General Notes:

The CCME Canadian water quality guidelines for the protection of freshwater aquatic life provide both a Long-Term Exposure guideline, and Short-Term Exposure guideline for some analytes. Only the Short-Term Exposure guidelines are included in this criteria set.

Note 2.1 for Nitrate (as N):

The guidelines for nitrate are for protection from direct toxic effects; the guidelines do not consider indirect effects due to eutrophication.

The Short Term guideline is derived from toxicity tests utilizing NaNO₃. The Short Term guideline is derived with severe-effects data (such as lethality) and are not intended to protect all components of aquatic ecosystem structure and function but rather to protect most species against lethality during severe but transient events (e.g. inappropriate application or disposal of the substance of concern).

Note 2.2 for Cadmium (total):

The short-term benchmark for cadmium is determined on a site-specific basis according to the local water hardness. The benchmark for total cadmium in µg/L is determined as follows for short-term exposure:

1. If hardness (as CaCO₃) is less than 5.3 mg/L then maximum is 0.11 µg/L
2. If hardness (as CaCO₃) is from 5.3 to 360 mg/L then maximum is based on equation:
 $10 \text{ raised to the power of } \{1.016[\log(\text{hardness})] - 1.71\}$
3. If hardness (as CaCO₃) is greater than 360 mg/L then maximum is 7.7 µg/L.

Note 2.3 for Manganese (total):

The short-term benchmark for dissolved manganese in µg/L is calculated using the equation: $e \text{ raised to the power of } \{0.878[\ln(\text{hardness})] + 4.76\}$ Where water hardness is reported as mg/L CaCO₃.

The benchmark equation is valid between hardness 25 and 250 mg/L.

When the hardness is 0 to < 25 mg/L, the benchmark is 1,970 µg/L.

At hardness >250 mg/L, the benchmark is 14,882 µg/L.

The guideline for dissolved manganese was used to identify exceedances for total manganese as a means for determining the potential for exceeding the guideline for dissolved manganese.

Note 2.4 for Uranium (total):

The guideline is for total recoverable, unfiltered analyses.

Note 2.5 for Zinc (total):

The guideline does not apply to total zinc. The short-term benchmark equation for dissolved zinc was used to identify exceedances for total zinc, as a means for determining the potential for exceeding the guideline for dissolved zinc. Where guideline users have only water sample concentrations expressed as total zinc, CCME recommends first comparing these samples to the dissolved guideline. Should an exceedance occur, re-sample for a dissolved concentration for direct comparison to the guideline.

The short-term benchmark is for dissolved zinc (µg/L) and is calculated using the following equation: Short-term benchmark= $\exp(0.833[\ln(\text{hardness (as CaCO}_3\text{) mg/L})] + 0.240[\ln(\text{DOC mg/L})] + 0.526)$.

The short-term benchmark equation is valid between hardness (as CaCO₃) 13.8 and 250.5 mg/L and from DOC 0.3 to 17.3 mg/L. If results are outside these equation limits, then the value of the closest equation limit is used in the formula calculation.

Note 2.6 for Cadmium (dissolved):

The short-term benchmark for cadmium is determined on a site-specific basis according to the local water hardness. The benchmark for total cadmium in µg/L is determined as follows for short-term exposure:

1. If hardness (as CaCO₃) is less than 5.3 mg/L then maximum is 0.11 µg/L
2. If hardness (as CaCO₃) is from 5.3 to 360 mg/L then maximum is based on equation:
 $10 \text{ raised to the power of } \{1.016[\log(\text{hardness})] - 1.71\}$
3. If hardness (as CaCO₃) is greater than 360 mg/L then maximum is 7.7 µg/L.

Note 2.7 for Manganese (dissolved):

The short-term benchmark for dissolved manganese in µg/L is calculated using the equation: $e \text{ raised to the power of } \{0.878[\ln(\text{hardness})] + 4.76\}$ Where water hardness is reported as mg/L CaCO₃.

The benchmark equation is valid between hardness 25 and 250 mg/L.

When the hardness is 0 to < 25 mg/L, the benchmark is 1,970 µg/L.

At hardness >250 mg/L, the benchmark is 14,882 µg/L.

Note 2.8 for Uranium (dissolved):

The guideline is for total recoverable, unfiltered analyses.

Note 2.9 for Zinc (dissolved):

The short-term benchmark is for dissolved zinc (µg/L) and is calculated using the following equation: Short-term benchmark= $\exp(0.833[\ln(\text{hardness (as CaCO}_3\text{) mg/L})] + 0.240[\ln(\text{DOC mg/L})] + 0.526)$.

The short-term benchmark equation is valid between hardness (as CaCO₃) 13.8 and 250.5 mg/L and from DOC 0.3 to 17.3 mg/L. If results are outside these equation limits, then the value of the closest equation limit is used in the formula calculation.

APPENDIX C – SITE PHOTOGRAPHS

*Photograph 1: Test pit sampling with trowel.
Location with peat soil.*



Photograph 2: Soil sampling at TP23-05. Rubbish including discarded CD cases in the area.

Photograph 3: Soil sampling with a shovel. Rock outcrops visible on left.



Photograph 4: Soil sampling on the Old Mine Road.



Photograph 5: Surface water sampling from Great Slave Lake.



Photograph 6: Surface water sampling from Rat Lake.

APPENDIX D – LABORATORY ANALYTICAL REPORTS

CERTIFICATE OF ANALYSIS

Work Order	: EO2309073	Page	: 1 of 63
Amendment	: 3		
Client	: Associated Environmental Consultants Inc.	Laboratory	: ALS Environmental - Edmonton
Contact	: Rebekka Lindskoog	Account Manager	: Megha Walia
Address	: 500, 9888 Jasper Avenue Edmonton AB Canada T5J 5C6	Address	: 9450 - 17 Avenue NW Edmonton AB Canada T6N 1M9
Telephone	: 250.938.5528	Telephone	: +1 780 413 5227
Project	: 2023-8451	Date Samples Received	: 04-Oct-2023 16:02
PO	: ----	Date Analysis Commenced	: 05-Oct-2023
C-O-C number	: 20-1013251,253,254,255,252	Issue Date	: 01-Dec-2023 09:12
Sampler	: AARON		
Site	: ----		
Quote number	: EO23-AECI100-011 (IVBA & Arsenic Spec)		
No. of samples received	: 49		
No. of samples analysed	: 49		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
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Amanda Powell		Internal Subcontracting, Luleå
Colby Bingham	Laboratory Supervisor	Inorganics, Saskatoon, Saskatchewan
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Dan Nguyen	Team Leader - Inorganics	Metals, Edmonton, Alberta
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Fahad Husain	Analyst	Inorganics, Edmonton, Alberta
George Huang	Supervisor - Inorganic	Metals, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Metals, Calgary, Alberta
Hedy Lai	Team Leader - Inorganics	Inorganics, Saskatoon, Saskatchewan
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Kevin Baxter	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Kevin Baxter	Team Leader - Inorganics	Metals, Calgary, Alberta
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
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Shruti Mudliar	Lab Analyst	Metals, Edmonton, Alberta
Vishnu Patel		Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

Unit	Description
-	no units
%	percent
°C	degrees celsius
µS/cm	microsiemens per centimetre
dS/m	decisiemens per metre
g	grams
meq/L	milliequivalents per litre
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
mL	millilitres
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	Client Id	Comment
EO2309073-001	TP23-01-0.2	Sample analyzed as received and calcualted to dry for E312A.
EO2309073-017	TP23-17-0.3	Sample analyzed as received and calcualted to dry for E312A.

Qualifiers

Qualifier	Description
-----------	-------------



DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
FR8	As per applicable reference method(s), soil:water ratio for Fixed Ratio Leach was modified to 1:8 due to high soil organic content.
LTIS	Limited sample available for TCLP or SPLP inorganics/SVOCs (<100g). Leachate fluid volume & sample weight were scaled down proportionately to permit analysis. Test results from modified TCLP or SPLP procedures may be unsuitable for regulatory purposes.
SFP	Sample was filtered and preserved at the laboratory.



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	TP23-01-0.2	TP23-02-0.2	TP23-03-0.1	TP23-04-0.1	TP23-05-0.1
Client sampling date / time					27-Sep-2023 13:15	27-Sep-2023 00:00	27-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-001	EO2309073-002	EO2309073-003	EO2309073-004	EO2309073-005
					Result	Result	Result	Result	Result
Sample Preparation									
pH, IVBA Initial	----	EP452/VA	0.01	pH units	----	----	----	----	1.50
Temperature, oven	----	EPP441/SK	1	°C	<38	<38	<38	<38	<38
pH, IVBA final	----	EP452/VA	0.01	pH units	----	----	----	----	1.54
Weight, extraction (dry)	----	EP452/VA	0.01	g	----	----	----	----	0.951
Final volume	----	EP452/VA	1	mL	----	----	----	----	100
Physical Tests									
Moisture	----	E144/VA	0.25	%	16.1	47.0	43.8	38.1	41.7
pH (1:2 soil:CaCl2-aq)	----	E108B/CG	0.10	pH units	6.92	4.83 ^{FR8}	5.11 ^{FR8}	3.75 ^{FR8}	4.37 ^{FR8}
pH (1:2 soil:water)	----	E108/CG	0.10	pH units	7.24	5.38 ^{FR8}	5.66 ^{FR8}	4.37 ^{FR8}	5.11 ^{FR8}
Particle Size									
Sand (>0.075mm)	----	E178/CG	1.0	%	46.8	----	----	----	----
Fines (<0.075mm)	----	E178/CG	1.0	%	53.2	----	----	----	----
Texture class	----	E178/CG	-	-	Fine	----	----	----	----
Organic / Inorganic Carbon									
Carbon, inorganic [IC]	----	E354/SK	0.050	%	0.225	0.391	0.364	0.182	0.242
Carbon, total [TC]	----	E351/SK	0.050	%	7.77	45.6	48.4	46.2	31.2
Carbon, total organic [TOC]	----	EC356/SK	0.050	%	7.54	45.2	48.0	46.0	31.0
Carbon, inorganic [IC], (as CaCO3 equivalent)	----	E354/SK	0.40	%	1.87	3.26	3.03	1.51	2.02
Plant Available Nutrients									
Ammonium, available (as N)	14798-03-9	E312A/SK	1.0	mg/kg	8.9	25.0	19.2	13.6	32.6
Sulfate, available (as S)	14808-79-8	E497.SO4/SK	3.0	mg/kg	<15.0 ^{DLM}	<29.7 ^{DLM}	<30.5 ^{DLM}	<29.7 ^{DLM}	<29.5 ^{DLM}
Saturated Paste Extractables									
Conductivity, saturated paste	----	E102/CG	0.020	dS/m	0.274	0.172	0.113	0.142	0.151
Sodium adsorption ratio [SAR]	----	EC102/CG	0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10
% Saturation	----	E141/CG	1.0	%	75.5	628	688	656	283
Calcium, soluble ion content	7440-70-2	EC485/CG	5.0	mg/kg	51.0	258	176	113	77.5
Calcium, soluble ion content	7440-70-2	E485/CG	5.0	mg/L	67.6	41.1	25.6	17.3	27.4
Magnesium, soluble ion content	7439-95-4	EC485/CG	5.0	mg/kg	6.9	32.0	<34.4	35.4	14.4
Magnesium, soluble ion content	7439-95-4	E485/CG	5.0	mg/L	9.2	5.1	<5.0	5.4	5.1



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-01-0.2	TP23-02-0.2	TP23-03-0.1	TP23-04-0.1	TP23-05-0.1
Client sampling date / time					27-Sep-2023 13:15	27-Sep-2023 00:00	27-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-001	EO2309073-002	EO2309073-003	EO2309073-004	EO2309073-005
					Result	Result	Result	Result	Result
Saturated Paste Extractables									
Potassium, soluble ion content	7440-09-7	EC485/CG	5.0	mg/kg	<5.0	58.4	<34.4	80.0	19.8
Potassium, soluble ion content	7440-09-7	E485/CG	5.0	mg/L	<5.0	9.3	<5.0	12.2	7.0
Sodium, soluble ion content	17341-25-2	EC485/CG	5.0	mg/kg	<5.0	<31.4	<34.4	<32.8	<14.2
Sodium, soluble ion content	17341-25-2	E485/CG	5.0	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0
Chloride, soluble ion content	16887-00-6	EC266A.CI/CG	10	mg/kg	<15	<126	<138	<131	<57
Chloride, soluble ion content	16887-00-6	E266.CI/CG	20	mg/L	<20	<20	<20	<20	<20
Sulfur (as SO ₄), soluble ion content	14808-79-8	EC485/CG	8.0	mg/kg	34.4	179	49.5	112	50.9
Sulfur (as SO ₄), soluble ion content	14808-79-8	E485/CG	6.0	mg/L	45.5	28.5	7.2	17.1	18.0
Acid Base Accounting									
Arsenate [As V]	17428-41-0	OJ-19D/1E	0.01	mg/kg	----	----	----	----	see attached
Arsenite [As III]	22541-54-4	OJ-19D/1E	0.01	mg/kg	----	----	----	----	see attached
Dimethylarsinic acid [DMA], (as As)	75-60-5	OJ-19D/1E	0.01	mg/kg	----	----	----	----	see attached
Monomethylarsonic acid [MMA], (as As)	2163-80-6	OJ-19D/1E	0.02	mg/kg	----	----	----	----	see attached
Metals									
Aluminum	7429-90-5	E440/CG	50	mg/kg	13300	1200	755	2420	11000
Antimony	7440-36-0	E440/CG	0.10	mg/kg	1.14	6.52	3.42	17.1	9.03
Arsenic	7440-38-2	E440B/VA	0.050	mg/kg	----	----	----	----	330
Arsenic	7440-38-2	E440/CG	0.10	mg/kg	49.6	27.4	35.4	98.4	198
Barium	7440-39-3	E440/CG	0.50	mg/kg	93.1	22.5	32.7	51.7	102
Beryllium	7440-41-7	E440/CG	0.10	mg/kg	0.37	<0.19 ^{DLM}	<0.19 ^{DLM}	<0.19 ^{DLM}	0.23
Bismuth	7440-69-9	E440/CG	0.20	mg/kg	<0.37 ^{DLM}	<0.37 ^{DLM}	<0.38 ^{DLM}	<0.38 ^{DLM}	<0.37 ^{DLM}
Boron	7440-42-8	E440/CG	5.0	mg/kg	<9.3 ^{DLM}	<9.3 ^{DLM}	<9.4 ^{DLM}	<9.4 ^{DLM}	<9.3 ^{DLM}
Cadmium	7440-43-9	E440/CG	0.020	mg/kg	0.117	0.293	0.250	0.417	1.10
Calcium	7440-70-2	E440/CG	50	mg/kg	13900	6800	5260	6620	7580
Chromium	7440-47-3	E440/CG	0.50	mg/kg	40.4	1.50	1.20	3.28	32.5
Cobalt	7440-48-4	E440/CG	0.10	mg/kg	13.2	1.67	1.29	6.04	23.5
Copper	7440-50-8	E440/CG	0.50	mg/kg	68.8	12.4	7.71	18.8	30.8
Iron	7439-89-6	E440/CG	50	mg/kg	22100	1360	999	3140	19100
Lead	7439-92-1	E440/CG	0.50	mg/kg	5.80	1.54	<0.94 ^{DLM}	6.11	16.8
Lithium	7439-93-2	E440/CG	2.0	mg/kg	23.3	<3.7 ^{DLM}	<3.8 ^{DLM}	<3.8 ^{DLM}	20.4



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-01-0.2	TP23-02-0.2	TP23-03-0.1	TP23-04-0.1	TP23-05-0.1
Client sampling date / time					27-Sep-2023 13:15	27-Sep-2023 00:00	27-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-001	EO2309073-002	EO2309073-003	EO2309073-004	EO2309073-005
					Result	Result	Result	Result	Result
Metals									
Magnesium	7439-95-4	E440/CG	20	mg/kg	8210	964	1120	984	5760
Manganese	7439-96-5	E440/CG	1.0	mg/kg	404	74.0	71.2	143	1370
Mercury	7439-97-6	E510/CG	0.0050	mg/kg	0.0252	0.0652	0.0390	0.0910	0.0778
Molybdenum	7439-98-7	E440/CG	0.10	mg/kg	0.30	0.49	0.43	0.29	0.31
Nickel	7440-02-0	E440/CG	0.50	mg/kg	33.8	3.05	2.29	8.41	28.8
Phosphorus	7723-14-0	E440/CG	50	mg/kg	594	373	239	646	330
Potassium	7440-09-7	E440/CG	100	mg/kg	1630	220	<190 ^{DLM}	400	470
Selenium	7782-49-2	E440/CG	0.20	mg/kg	0.49	<0.37 ^{DLM}	<0.38 ^{DLM}	<0.38 ^{DLM}	<0.37 ^{DLM}
Silver	7440-22-4	E440/CG	0.10	mg/kg	<0.19 ^{DLM}	<0.19 ^{DLM}	<0.19 ^{DLM}	<0.19 ^{DLM}	<0.19 ^{DLM}
Sodium	7440-23-5	E440/CG	50	mg/kg	178	<93 ^{DLM}	<94 ^{DLM}	<94 ^{DLM}	<93 ^{DLM}
Strontium	7440-24-6	E440/CG	0.50	mg/kg	17.2	13.7	12.8	11.9	15.2
Sulfur	7704-34-9	E440/CG	1000	mg/kg	<1900 ^{DLM}	<1900 ^{DLM}	<1900 ^{DLM}	<1900 ^{DLM}	<1900 ^{DLM}
Thallium	7440-28-0	E440/CG	0.050	mg/kg	0.098	<0.093 ^{DLM}	<0.094 ^{DLM}	<0.094 ^{DLM}	<0.093 ^{DLM}
Tin	7440-31-5	E440/CG	2.0	mg/kg	<3.7 ^{DLM}	<3.7 ^{DLM}	<3.8 ^{DLM}	<3.8 ^{DLM}	<3.7 ^{DLM}
Titanium	7440-32-6	E440/CG	1.0	mg/kg	436	5.6	11.0	23.8	256
Tungsten	7440-33-7	E440/CG	0.50	mg/kg	<0.93 ^{DLM}	<0.93 ^{DLM}	<0.94 ^{DLM}	<0.94 ^{DLM}	<0.93 ^{DLM}
Uranium	7440-61-1	E440/CG	0.050	mg/kg	2.21	0.529	0.331	0.389	0.474
Vanadium	7440-62-2	E440/CG	0.20	mg/kg	41.0	1.78	1.66	4.05	44.3
Zinc	7440-66-6	E440/CG	2.0	mg/kg	40.1	5.8	4.1	20.5	76.5
Zirconium	7440-67-7	E440/CG	1.0	mg/kg	4.4	<1.9 ^{DLM}	<1.9 ^{DLM}	<1.9 ^{DLM}	<1.9 ^{DLM}
Lead	7439-92-1	E440B/VA	0.10	mg/kg	----	----	----	----	28.3
Lead, IVBA (leachate)	7439-92-1	EC452A/VA	10	mg/kg	----	----	----	----	17
Arsenic, IVBA (leachate)	7440-38-2	EC452A/VA	10	mg/kg	----	----	----	----	72
TCLP Metals									
pH, TCLP 1st preliminary	----	EPP444/CG	0.010	pH units	7.88	6.00	6.31	5.10	5.58
pH, TCLP 2nd preliminary	----	EPP444/CG	0.010	pH units	1.36	1.58	1.49	1.36	1.42
pH, TCLP extraction fluid initial	----	EPP444/CG	0.010	pH units	4.90	4.90	4.90	4.90	4.90
pH, TCLP final	----	EPP444/CG	0.010	pH units	5.10	5.14	5.24	5.02	5.02
Antimony, TCLP	7440-36-0	E444/CG	0.10	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic, TCLP	7440-38-2	E444/CG	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	TP23-01-0.2	TP23-02-0.2	TP23-03-0.1	TP23-04-0.1	TP23-05-0.1
(Matrix: Soil/Solid)										
Client sampling date / time										
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-001	EO2309073-002	EO2309073-003	EO2309073-004	EO2309073-005	
					Result	Result	Result	Result	Result	
TCLP Metals										
Barium, TCLP	7440-39-3	E444/CG	2.5	mg/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Beryllium, TCLP	7440-41-7	E444/CG	0.025	mg/L	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Boron, TCLP	7440-42-8	E444/CG	0.50	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium, TCLP	7440-43-9	E444/CG	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Calcium, TCLP	7440-70-2	E444/CG	10	mg/L	148	162	161	46	69	
Chromium, TCLP	7440-47-3	E444/CG	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Cobalt, TCLP	7440-48-4	E444/CG	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Copper, TCLP	7440-50-8	E444/CG	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Iron, TCLP	7439-89-6	E444/CG	5.0	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Lead, TCLP	7439-92-1	E444/CG	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Magnesium, TCLP	7439-95-4	E444/CG	2.5	mg/L	19.5	14.8	19.8	10.5	8.2	
Nickel, TCLP	7440-02-0	E444/CG	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Selenium, TCLP	7782-49-2	E444/CG	0.10	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Silver, TCLP	7440-22-4	E444/CG	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Thallium, TCLP	7440-28-0	E444/CG	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Uranium, TCLP	7440-61-1	E444/CG	0.20	mg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Vanadium, TCLP	7440-62-2	E444/CG	0.15	mg/L	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Zinc, TCLP	7440-66-6	E444/CG	0.50	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Zirconium, TCLP	7440-67-7	E444/CG	10	mg/L	<10	<10	<10	<10	<10	<10
Leachable Metals										
Aluminum, leachable	7429-90-5	E441/VA	0.050	mg/kg	14.5	4.23	2.32	12.9	12.4	
Antimony, leachable	7440-36-0	E441/VA	0.0020	mg/kg	0.0062	0.0046	0.0026	0.0254	0.0252	
Arsenic, leachable	7440-38-2	E441/VA	0.0020	mg/kg	0.173	1.43	0.890	1.52	2.53	
Barium, leachable	7440-39-3	E441/VA	0.010	mg/kg	0.218	0.077	0.076	0.184	0.163	
Beryllium, leachable	7440-41-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Bismuth, leachable	7440-69-9	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Boron, leachable	7440-42-8	E441/VA	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium, leachable	7440-43-9	E441/VA	0.0020	mg/kg	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Calcium, leachable	7440-70-2	E441/VA	0.50	mg/kg	43.3	170	90.3	55.2	36.6	
Chromium, leachable	7440-47-3	E441/VA	0.010	mg/kg	0.014	<0.010	<0.010	0.019	0.027	



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-01-0.2	TP23-02-0.2	TP23-03-0.1	TP23-04-0.1	TP23-05-0.1
Client sampling date / time					27-Sep-2023 13:15	27-Sep-2023 00:00	27-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-001	EO2309073-002	EO2309073-003	EO2309073-004	EO2309073-005
					Result	Result	Result	Result	Result
Leachable Metals									
Cobalt, leachable	7440-48-4	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	0.039	0.021
Copper, leachable	7440-50-8	E441/VA	0.010	mg/kg	0.078	0.048	0.036	0.124	0.080
Iron, leachable	7439-89-6	E441/VA	0.30	mg/kg	9.11	2.03	1.37	11.3	18.7
Lead, IVBA (%)	9439-92-1	EC452/VA	1.0	%	----	----	----	----	59.4
Lead, IVBA (leachate)	7439-92-1	E452/VA	0.10	mg/L	----	----	----	----	0.16
Lead, leachable	7439-92-1	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	0.019	0.020
Lithium, leachable	7439-93-2	E441/VA	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Magnesium, leachable	7439-95-4	E441/VA	1.0	mg/kg	6.5	15.3	10.2	13.0	6.4
Manganese, leachable	7439-96-5	E441/VA	0.010	mg/kg	0.127	0.289	0.098	0.476	0.909
Molybdenum, leachable	7439-98-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Nickel, leachable	7440-02-0	E441/VA	0.010	mg/kg	0.024	0.018	0.015	0.057	0.044
Phosphorus, leachable	7723-14-0	E441/VA	3.0	mg/kg	<3.0	17.4	14.5	11.6	4.2
Potassium, leachable	7440-09-7	E441/VA	0.50	mg/kg	16.0	29.7	16.4	38.5	25.8
Selenium, leachable	7782-49-2	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Silicon, leachable	7440-21-3	E441/VA	0.50	mg/kg	46.0	18.1	23.1	26.1	28.5
Silver, leachable	7440-22-4	E441/VA	0.0010	mg/kg	<0.0010	<0.0010	0.0013	<0.0010	<0.0010
Sodium, leachable	7440-23-5	E441/VA	0.10	mg/kg	3.62	16.4	7.85	7.31	6.71
Strontium, leachable	7440-24-6	E441/VA	0.010	mg/kg	0.054	0.102	0.057	0.075	0.060
Thallium, leachable	7440-28-0	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Tin, leachable	7440-31-5	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium, leachable	7440-61-1	E441/VA	0.00010	mg/kg	0.00096	0.00154	0.00109	0.00156	0.00122
Vanadium, leachable	7440-62-2	E441/VA	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	0.062
Zinc, leachable	7440-66-6	E441/VA	0.050	mg/kg	<0.050	<0.050	<0.050	0.110	0.137
Arsenic, IVBA (%)	7440-38-2	EC452/VA	1.0	%	----	----	----	----	21.7
Arsenic, IVBA (leachate)	7440-38-2	E452/VA	0.10	mg/L	----	----	----	----	0.68

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	TP23-06-0.1	TP23-07-0.1	TP23-08-0.2	TP23-09-0.2	TP23-10-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-006	EO2309073-007	EO2309073-008	EO2309073-009	EO2309073-010
					Result	Result	Result	Result	Result
Sample Preparation									
pH, IVBA Initial	----	EP452/VA	0.01	pH units	1.52	----	1.51	----	----
Temperature, oven	----	EPP441/SK	1	°C	<38	<38	<38	<38	<38
pH, IVBA final	----	EP452/VA	0.01	pH units	1.57	----	1.53	----	----
Weight, extraction (dry)	----	EP452/VA	0.01	g	0.957	----	1.031	----	----
Final volume	----	EP452/VA	1	mL	100	----	100	----	----
Physical Tests									
Moisture	----	E144/VA	0.25	%	50.6	45.1	22.1	40.4	42.3
pH (1:2 soil:CaCl2-aq)	----	E108B/CG	0.10	pH units	5.48 ^{FR8}	5.25 ^{FR8}	4.07 ^{FR8}	3.54 ^{FR8}	5.46 ^{FR8}
pH (1:2 soil:water)	----	E108/CG	0.10	pH units	5.97 ^{FR8}	5.84 ^{FR8}	4.89 ^{FR8}	4.30 ^{FR8}	6.15 ^{FR8}
Organic / Inorganic Carbon									
Carbon, inorganic [IC]	----	E354/SK	0.050	%	0.418	0.456	0.129	0.216	0.539
Carbon, total [TC]	----	E351/SK	0.050	%	42.8	45.3	23.9	47.7	41.6
Carbon, total organic [TOC]	----	EC356/SK	0.050	%	42.4	44.8	23.8	47.5	41.1
Carbon, inorganic [IC], (as CaCO3 equivalent)	----	E354/SK	0.40	%	3.48	3.80	1.07	1.80	4.49
Plant Available Nutrients									
Ammonium, available (as N)	14798-03-9	E312A/SK	1.0	mg/kg	25.5	25.3	8.3	13.7	24.8
Sulfate, available (as S)	14808-79-8	E497.SO4/SK	3.0	mg/kg	<30.2 ^{DLM}	<30.7 ^{DLM}	<29.3 ^{DLM}	<29.6 ^{DLM}	<29.7 ^{DLM}
Saturated Paste Extractables									
Conductivity, saturated paste	----	E102/CG	0.020	dS/m	0.193	0.131	0.136	0.069	0.181
Sodium adsorption ratio [SAR]	----	EC102/CG	0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10
% Saturation	----	E141/CG	1.0	%	672	702	216	711	520
Calcium, soluble ion content	7440-70-2	EC485/CG	5.0	mg/kg	276	191	70.6	71.1	227
Calcium, soluble ion content	7440-70-2	E485/CG	5.0	mg/L	41.0	27.2	32.7	10.0	43.7
Magnesium, soluble ion content	7439-95-4	EC485/CG	5.0	mg/kg	36.3	<35.1	<10.8	<35.6	28.1
Magnesium, soluble ion content	7439-95-4	E485/CG	5.0	mg/L	5.4	<5.0	<5.0	<5.0	5.4
Potassium, soluble ion content	7440-09-7	EC485/CG	5.0	mg/kg	63.8	<35.1	<10.8	<35.6	47.3
Potassium, soluble ion content	7440-09-7	E485/CG	5.0	mg/L	9.5	<5.0	<5.0	<5.0	9.1
Sodium, soluble ion content	17341-25-2	EC485/CG	5.0	mg/kg	<33.6	<35.1	<10.8	<35.6	<26.0
Sodium, soluble ion content	17341-25-2	E485/CG	5.0	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0
Chloride, soluble ion content	16887-00-6	EC266A.Cl/CG	10	mg/kg	<134	<140	<43	<142	<104



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-06-0.1	TP23-07-0.1	TP23-08-0.2	TP23-09-0.2	TP23-10-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-006	EO2309073-007	EO2309073-008	EO2309073-009	EO2309073-010
					Result	Result	Result	Result	Result
Saturated Paste Extractables									
Chloride, soluble ion content	16887-00-6	E266.CI/CG	20	mg/L	<20	<20	<20	<20	<20
Sulfur (as SO ₄), soluble ion content	14808-79-8	EC485/CG	8.0	mg/kg	202	84.2	28.5	51.2	131
Sulfur (as SO ₄), soluble ion content	14808-79-8	E485/CG	6.0	mg/L	30.0	12.0	13.2	7.2	25.2
Acid Base Accounting									
Arsenate [As V]	17428-41-0	OJ-19D/1E	0.01	mg/kg	see attached	----	see attached	----	----
Arsenite [As III]	22541-54-4	OJ-19D/1E	0.01	mg/kg	see attached	----	see attached	----	----
Dimethylarsinic acid [DMA], (as As)	75-60-5	OJ-19D/1E	0.01	mg/kg	see attached	----	see attached	----	----
Monomethylarsonic acid [MMA], (as As)	2163-80-6	OJ-19D/1E	0.02	mg/kg	see attached	----	see attached	----	----
Metals									
Aluminum	7429-90-5	E440/CG	50	mg/kg	1150	1280	10400	257	1840
Antimony	7440-36-0	E440/CG	0.10	mg/kg	27.0	7.45	1.34	1.89	36.0
Arsenic	7440-38-2	E440/CG	0.10	mg/kg	152	31.6	134	39.8	55.6
Barium	7440-39-3	E440/CG	0.50	mg/kg	10.6	37.3	71.2	9.83	30.0
Beryllium	7440-41-7	E440/CG	0.10	mg/kg	<0.19 ^{DLM}	<0.19 ^{DLM}	<0.19 ^{DLM}	<0.19 ^{DLM}	<0.19 ^{DLM}
Bismuth	7440-69-9	E440/CG	0.20	mg/kg	<0.38 ^{DLM}	<0.38 ^{DLM}	<0.37 ^{DLM}	<0.37 ^{DLM}	<0.37 ^{DLM}
Boron	7440-42-8	E440/CG	5.0	mg/kg	<9.4 ^{DLM}	<9.4 ^{DLM}	<9.4 ^{DLM}	<9.4 ^{DLM}	<9.4 ^{DLM}
Cadmium	7440-43-9	E440/CG	0.020	mg/kg	0.104	0.443	0.234	0.118	0.617
Calcium	7440-70-2	E440/CG	50	mg/kg	5760	23200	7270	946	27000
Chromium	7440-47-3	E440/CG	0.50	mg/kg	3.29	1.72	34.9	<0.94 ^{DLM}	3.50
Cobalt	7440-48-4	E440/CG	0.10	mg/kg	1.10	1.84	12.5	0.28	4.14
Copper	7440-50-8	E440/CG	0.50	mg/kg	16.0	14.3	15.9	3.63	32.2
Iron	7439-89-6	E440/CG	50	mg/kg	1970	1170	18100	474	2030
Lead	7439-92-1	E440/CG	0.50	mg/kg	1.76	1.68	9.04	<0.94 ^{DLM}	2.24
Lithium	7439-93-2	E440/CG	2.0	mg/kg	<3.8 ^{DLM}	<3.8 ^{DLM}	17.3	<3.7 ^{DLM}	<3.7 ^{DLM}
Magnesium	7439-95-4	E440/CG	20	mg/kg	1180	1870	4340	282	1520
Manganese	7439-96-5	E440/CG	1.0	mg/kg	72.8	330	191	21.0	476
Mercury	7439-97-6	E510/CG	0.0050	mg/kg	0.0550	0.0865	0.0243	0.0365	0.0482
Molybdenum	7439-98-7	E440/CG	0.10	mg/kg	0.24	0.71	0.34	<0.19 ^{DLM}	0.46
Nickel	7440-02-0	E440/CG	0.50	mg/kg	4.34	5.75	23.0	<0.94 ^{DLM}	12.0
Phosphorus	7723-14-0	E440/CG	50	mg/kg	363	364	201	123	518



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-06-0.1	TP23-07-0.1	TP23-08-0.2	TP23-09-0.2	TP23-10-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-006	EO2309073-007	EO2309073-008	EO2309073-009	EO2309073-010
					Result	Result	Result	Result	Result
Metals									
Potassium	7440-09-7	E440/CG	100	mg/kg	250	<190 ^{DLM}	240	<190 ^{DLM}	290
Selenium	7782-49-2	E440/CG	0.20	mg/kg	<0.38 ^{DLM}	0.43	<0.37 ^{DLM}	<0.37 ^{DLM}	0.42
Silver	7440-22-4	E440/CG	0.10	mg/kg	<0.19 ^{DLM}	<0.19 ^{DLM}	<0.19 ^{DLM}	<0.19 ^{DLM}	<0.19 ^{DLM}
Sodium	7440-23-5	E440/CG	50	mg/kg	<94 ^{DLM}	<94 ^{DLM}	141	<94 ^{DLM}	<94 ^{DLM}
Strontium	7440-24-6	E440/CG	0.50	mg/kg	8.41	25.0	9.29	2.98	19.4
Sulfur	7704-34-9	E440/CG	1000	mg/kg	<1900 ^{DLM}	<1900 ^{DLM}	<1900 ^{DLM}	<1900 ^{DLM}	<1900 ^{DLM}
Thallium	7440-28-0	E440/CG	0.050	mg/kg	<0.094 ^{DLM}	<0.094 ^{DLM}	<0.094 ^{DLM}	<0.094 ^{DLM}	<0.094 ^{DLM}
Tin	7440-31-5	E440/CG	2.0	mg/kg	<3.8 ^{DLM}	<3.8 ^{DLM}	<3.7 ^{DLM}	<3.7 ^{DLM}	<3.7 ^{DLM}
Titanium	7440-32-6	E440/CG	1.0	mg/kg	8.2	7.2	334	5.8	22.8
Tungsten	7440-33-7	E440/CG	0.50	mg/kg	<0.94 ^{DLM}	<0.94 ^{DLM}	<0.94 ^{DLM}	<0.94 ^{DLM}	<0.94 ^{DLM}
Uranium	7440-61-1	E440/CG	0.050	mg/kg	0.122	0.514	0.930	<0.094 ^{DLM}	0.462
Vanadium	7440-62-2	E440/CG	0.20	mg/kg	4.25	2.45	42.4	0.77	3.45
Zinc	7440-66-6	E440/CG	2.0	mg/kg	16.6	16.9	30.4	8.1	25.0
Zirconium	7440-67-7	E440/CG	1.0	mg/kg	<1.9 ^{DLM}	<1.9 ^{DLM}	<1.9 ^{DLM}	<1.9 ^{DLM}	<1.9 ^{DLM}
Lead, IVBA (leachate)	7439-92-1	EC452A/VA	10	mg/kg	14	----	<10	----	----
Arsenic, IVBA (leachate)	7440-38-2	EC452A/VA	10	mg/kg	21	----	58	----	----
TCLP Metals									
pH, TCLP 1st preliminary	----	EPP444/CG	0.010	pH units	6.25	6.38	4.53	5.03	6.42
pH, TCLP 2nd preliminary	----	EPP444/CG	0.010	pH units	1.61	1.69	1.31	1.45	1.63
pH, TCLP extraction fluid initial	----	EPP444/CG	0.010	pH units	4.90	4.90	4.90	4.90	4.90
pH, TCLP final	----	EPP444/CG	0.010	pH units	5.07	5.02	5.00	5.09	5.12
Antimony, TCLP	7440-36-0	E444/CG	0.10	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic, TCLP	7440-38-2	E444/CG	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Barium, TCLP	7440-39-3	E444/CG	2.5	mg/L	<2.5	<2.5	<2.5	<2.5	<2.5
Beryllium, TCLP	7440-41-7	E444/CG	0.025	mg/L	<0.025	<0.025	<0.025	<0.025	<0.025
Boron, TCLP	7440-42-8	E444/CG	0.50	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium, TCLP	7440-43-9	E444/CG	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Calcium, TCLP	7440-70-2	E444/CG	10	mg/L	170	204	64	42	210
Chromium, TCLP	7440-47-3	E444/CG	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25
Cobalt, TCLP	7440-48-4	E444/CG	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-06-0.1	TP23-07-0.1	TP23-08-0.2	TP23-09-0.2	TP23-10-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-006	EO2309073-007	EO2309073-008	EO2309073-009	EO2309073-010
					Result	Result	Result	Result	Result
TCLP Metals									
Copper, TCLP	7440-50-8	E444/CG	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Iron, TCLP	7439-89-6	E444/CG	5.0	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0
Lead, TCLP	7439-92-1	E444/CG	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25
Magnesium, TCLP	7439-95-4	E444/CG	2.5	mg/L	14.3	26.6	7.8	5.6	20.7
Nickel, TCLP	7440-02-0	E444/CG	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25
Selenium, TCLP	7782-49-2	E444/CG	0.10	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Silver, TCLP	7440-22-4	E444/CG	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Thallium, TCLP	7440-28-0	E444/CG	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Uranium, TCLP	7440-61-1	E444/CG	0.20	mg/L	<0.20	<0.20	<0.20	<0.20	<0.20
Vanadium, TCLP	7440-62-2	E444/CG	0.15	mg/L	<0.15	<0.15	<0.15	<0.15	<0.15
Zinc, TCLP	7440-66-6	E444/CG	0.50	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50
Zirconium, TCLP	7440-67-7	E444/CG	10	mg/L	<10	<10	<10	<10	<10
Leachable Metals									
Aluminum, leachable	7429-90-5	E441/VA	0.050	mg/kg	3.89	3.16	7.84	2.37	3.02
Antimony, leachable	7440-36-0	E441/VA	0.0020	mg/kg	0.0226	0.0060	0.0028	<0.0020	0.133
Arsenic, leachable	7440-38-2	E441/VA	0.0020	mg/kg	3.31	1.60	2.22	0.485	5.02
Barium, leachable	7440-39-3	E441/VA	0.010	mg/kg	0.086	0.081	0.096	0.028	0.066
Beryllium, leachable	7440-41-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Bismuth, leachable	7440-69-9	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Boron, leachable	7440-42-8	E441/VA	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium, leachable	7440-43-9	E441/VA	0.0020	mg/kg	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Calcium, leachable	7440-70-2	E441/VA	0.50	mg/kg	193	128	41.0	42.3	173
Chromium, leachable	7440-47-3	E441/VA	0.010	mg/kg	<0.010	<0.010	0.036	<0.010	<0.010
Cobalt, leachable	7440-48-4	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Copper, leachable	7440-50-8	E441/VA	0.010	mg/kg	0.099	0.041	0.038	0.035	0.078
Iron, leachable	7439-89-6	E441/VA	0.30	mg/kg	2.84	1.42	10.4	1.26	2.89
Lead, IVBA (leachate)	7439-92-1	E452/VA	0.10	mg/L	0.13	----	<0.10	----	----
Lead, leachable	7439-92-1	E441/VA	0.010	mg/kg	0.016	<0.010	<0.010	<0.010	<0.010
Lithium, leachable	7439-93-2	E441/VA	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Magnesium, leachable	7439-95-4	E441/VA	1.0	mg/kg	16.8	16.7	5.8	4.3	16.4



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	TP23-06-0.1	TP23-07-0.1	TP23-08-0.2	TP23-09-0.2	TP23-10-0.1
(Matrix: Soil/Solid)										
					Client sampling date / time	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit		EO2309073-006	EO2309073-007	EO2309073-008	EO2309073-009	EO2309073-010
						Result	Result	Result	Result	Result
Leachable Metals										
Manganese, leachable	7439-96-5	E441/VA	0.010	mg/kg		0.267	1.17	0.102	0.016	0.636
Molybdenum, leachable	7439-98-7	E441/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Nickel, leachable	7440-02-0	E441/VA	0.010	mg/kg		0.030	0.018	0.011	<0.010	0.024
Phosphorus, leachable	7723-14-0	E441/VA	3.0	mg/kg		17.8	5.9	5.1	11.6	9.6
Potassium, leachable	7440-09-7	E441/VA	0.50	mg/kg		34.8	10.5	10.3	10.2	21.8
Selenium, leachable	7782-49-2	E441/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Silicon, leachable	7440-21-3	E441/VA	0.50	mg/kg		19.5	14.5	19.7	11.5	10.4
Silver, leachable	7440-22-4	E441/VA	0.0010	mg/kg		0.0016	<0.0010	<0.0010	<0.0010	0.0022
Sodium, leachable	7440-23-5	E441/VA	0.10	mg/kg		9.78	12.9	6.06	5.06	7.01
Strontium, leachable	7440-24-6	E441/VA	0.010	mg/kg		0.107	0.084	0.030	0.036	0.096
Thallium, leachable	7440-28-0	E441/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Tin, leachable	7440-31-5	E441/VA	0.010	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010
Uranium, leachable	7440-61-1	E441/VA	0.00010	mg/kg		0.00137	0.00116	0.00201	0.00032	0.00137
Vanadium, leachable	7440-62-2	E441/VA	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050
Zinc, leachable	7440-66-6	E441/VA	0.050	mg/kg		0.089	<0.050	<0.050	<0.050	<0.050
Arsenic, IVBA (leachate)	7440-38-2	E452/VA	0.10	mg/L		0.20	----	0.60	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	TP23-11-0.1	TP23-12-0.1	TP23-13-0.1	TP23-14-0.1	TP23-15-0.1
(Matrix: Soil/Solid)										
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-011	EO2309073-012	EO2309073-013	EO2309073-014	EO2309073-015	
					Result	Result	Result	Result	Result	
Sample Preparation										
pH, IVBA Initial	---	EP452/VA	0.01	pH units	---	---	---	---	---	1.50
Temperature, oven	---	EPP441/SK	1	°C	<38	<38	<38	<38	<38	<38
pH, IVBA final	---	EP452/VA	0.01	pH units	---	---	---	---	---	1.54
Weight, extraction (dry)	---	EP452/VA	0.01	g	---	---	---	---	---	1.036
Final volume	---	EP452/VA	1	mL	---	---	---	---	---	100
Physical Tests										
Moisture	---	E144/VA	0.25	%	7.72	30.3	34.0	15.3	27.5	
pH (1:2 soil:CaCl2-aq)	---	E108B/CG	0.10	pH units	5.37	4.74 ^{FR8}	3.14 ^{FR8}	4.62 ^{FR8}	4.20 ^{FR8}	
pH (1:2 soil:water)	---	E108/CG	0.10	pH units	6.07	5.45 ^{FR8}	4.15 ^{FR8}	5.36 ^{FR8}	5.01 ^{FR8}	
Particle Size										
Sand (>0.075mm)	---	E178/CG	1.0	%	37.8	----	----	----	----	
Fines (<0.075mm)	---	E178/CG	1.0	%	62.2	----	----	----	----	
Texture class	---	E178/CG	-	-	Fine	----	----	----	----	
Organic / Inorganic Carbon										
Carbon, inorganic [IC]	---	E354/SK	0.050	%	0.073	0.357	0.099	0.305	0.168	
Carbon, total [TC]	---	E351/SK	0.050	%	3.38	36.7	42.3	30.7	23.2	
Carbon, total organic [TOC]	---	EC356/SK	0.050	%	3.31	36.3	42.2	30.4	23.0	
Carbon, inorganic [IC], (as CaCO3 equivalent)	---	E354/SK	0.40	%	0.61	2.98	0.83	2.54	1.40	
Plant Available Nutrients										
Ammonium, available (as N)	14798-03-9	E312A/SK	1.0	mg/kg	<5.4 ^{DLM}	29.3	9.0	34.4	7.0	
Sulfate, available (as S)	14808-79-8	E497.SO4/SK	3.0	mg/kg	<14.9 ^{DLM}	<30.5 ^{DLM}	<30.0 ^{DLM}	<29.8 ^{DLM}	<29.9 ^{DLM}	
Saturated Paste Extractables										
Conductivity, saturated paste	---	E102/CG	0.020	dS/m	0.099	0.102	0.242	0.284	0.119	
Sodium adsorption ratio [SAR]	---	EC102/CG	0.10	-	<0.10	<0.10	<0.10	0.40	<0.10	
% Saturation	---	E141/CG	1.0	%	74.9	644	394	482	447	
Calcium, soluble ion content	7440-70-2	EC485/CG	5.0	mg/kg	16.6	109	96.5	129	106	
Calcium, soluble ion content	7440-70-2	E485/CG	5.0	mg/L	22.1	17.0	24.5	26.7	23.8	
Magnesium, soluble ion content	7439-95-4	EC485/CG	5.0	mg/kg	<5.0	<32.2	41.4	26.0	<22.4	
Magnesium, soluble ion content	7439-95-4	E485/CG	5.0	mg/L	<5.0	<5.0	10.5	5.4	<5.0	
Potassium, soluble ion content	7440-09-7	EC485/CG	5.0	mg/kg	<5.0	41.9	179	76.6	30.8	



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	TP23-11-0.1	TP23-12-0.1	TP23-13-0.1	TP23-14-0.1	TP23-15-0.1
(Matrix: Soil/Solid)					Client sampling date / time	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-011	EO2309073-012	EO2309073-013	EO2309073-014	EO2309073-015	
					Result	Result	Result	Result	Result	
Saturated Paste Extractables										
Potassium, soluble ion content	7440-09-7	E485/CG	5.0	mg/L	<5.0	6.5	45.4	15.9	6.9	
Sodium, soluble ion content	17341-25-2	EC485/CG	5.0	mg/kg	<5.0	<32.2	<19.7	41.4	<22.4	
Sodium, soluble ion content	17341-25-2	E485/CG	5.0	mg/L	<5.0	<5.0	<5.0	8.6	<5.0	
Chloride, soluble ion content	16887-00-6	EC266A.CI/CG	10	mg/kg	<15	<129	83	<96	<89	
Chloride, soluble ion content	16887-00-6	E266.CI/CG	20	mg/L	<20	<20	21	<20	<20	
Sulfur (as SO4), soluble ion content	14808-79-8	EC485/CG	8.0	mg/kg	8.1	75.3	88.6	121	56.3	
Sulfur (as SO4), soluble ion content	14808-79-8	E485/CG	6.0	mg/L	10.8	11.7	22.5	25.2	12.6	
Acid Base Accounting										
Arsenate [As V]	17428-41-0	OJ-19D/1E	0.01	mg/kg	----	----	----	----	see attached	
Arsenite [As III]	22541-54-4	OJ-19D/1E	0.01	mg/kg	----	----	----	----	see attached	
Dimethylarsinic acid [DMA], (as As)	75-60-5	OJ-19D/1E	0.01	mg/kg	----	----	----	----	see attached	
Monomethylarsonic acid [MMA], (as As)	2163-80-6	OJ-19D/1E	0.02	mg/kg	----	----	----	----	see attached	
Metals										
Aluminum	7429-90-5	E440/CG	50	mg/kg	15500	4880	2760	3050	6790	
Antimony	7440-36-0	E440/CG	0.10	mg/kg	2.66	27.4	7.15	9.08	4.16	
Arsenic	7440-38-2	E440B/VA	0.050	mg/kg	----	----	----	----	470	
Arsenic	7440-38-2	E440/CG	0.10	mg/kg	105	124	121	98.3	202	
Barium	7440-39-3	E440/CG	0.50	mg/kg	68.2	54.9	53.2	292	43.8	
Beryllium	7440-41-7	E440/CG	0.10	mg/kg	0.26	0.20	<0.15 ^{DLM}	0.22	0.18	
Bismuth	7440-69-9	E440/CG	0.20	mg/kg	<0.37 ^{DLM}	<0.37 ^{DLM}	<0.30 ^{DLM}	<0.30 ^{DLM}	<0.30 ^{DLM}	
Boron	7440-42-8	E440/CG	5.0	mg/kg	<9.4 ^{DLM}	<9.4 ^{DLM}	<7.5 ^{DLM}	<7.4 ^{DLM}	<7.5 ^{DLM}	
Cadmium	7440-43-9	E440/CG	0.020	mg/kg	0.158	0.360	0.153	1.33	0.927	
Calcium	7440-70-2	E440/CG	50	mg/kg	6100	16600	3120	11900	11000	
Chromium	7440-47-3	E440/CG	0.50	mg/kg	46.9	9.49	9.66	5.41	17.1	
Cobalt	7440-48-4	E440/CG	0.10	mg/kg	12.3	5.32	2.88	40.6	6.92	
Copper	7440-50-8	E440/CG	0.50	mg/kg	15.5	18.4	7.40	35.4	22.7	
Iron	7439-89-6	E440/CG	50	mg/kg	20700	5290	4820	4480	10900	
Lead	7439-92-1	E440/CG	0.50	mg/kg	13.2	30.1	10.9	14.5	4.46	
Lithium	7439-93-2	E440/CG	2.0	mg/kg	25.5	<3.7 ^{DLM}	<3.0 ^{DLM}	<3.0 ^{DLM}	6.9	
Magnesium	7439-95-4	E440/CG	20	mg/kg	6380	1810	1470	1350	2780	



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-11-0.1	TP23-12-0.1	TP23-13-0.1	TP23-14-0.1	TP23-15-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-011	EO2309073-012	EO2309073-013	EO2309073-014	EO2309073-015
					Result	Result	Result	Result	Result
Metals									
Manganese	7439-96-5	E440/CG	1.0	mg/kg	378	786	42.6	3330	376
Mercury	7439-97-6	E510/CG	0.0050	mg/kg	0.0283	0.177	0.0897	0.128	0.0568
Molybdenum	7439-98-7	E440/CG	0.10	mg/kg	0.23	0.29	0.46	0.37	0.20
Nickel	7440-02-0	E440/CG	0.50	mg/kg	30.0	9.91	7.27	26.6	13.0
Phosphorus	7723-14-0	E440/CG	50	mg/kg	250	835	310	705	378
Potassium	7440-09-7	E440/CG	100	mg/kg	320	460	740	510	260
Selenium	7782-49-2	E440/CG	0.20	mg/kg	<0.37 ^{DLM}	<0.37 ^{DLM}	<0.30 ^{DLM}	<0.30 ^{DLM}	<0.30 ^{DLM}
Silver	7440-22-4	E440/CG	0.10	mg/kg	<0.19 ^{DLM}	<0.19 ^{DLM}	<0.15 ^{DLM}	0.25	<0.15 ^{DLM}
Sodium	7440-23-5	E440/CG	50	mg/kg	<94 ^{DLM}	<94 ^{DLM}	<75 ^{DLM}	91	<75 ^{DLM}
Strontium	7440-24-6	E440/CG	0.50	mg/kg	10.5	14.4	8.71	26.9	8.48
Sulfur	7704-34-9	E440/CG	1000	mg/kg	<1900 ^{DLM}	<1900 ^{DLM}	<1500 ^{DLM}	<1500 ^{DLM}	<1500 ^{DLM}
Thallium	7440-28-0	E440/CG	0.050	mg/kg	<0.094 ^{DLM}	<0.094 ^{DLM}	<0.075 ^{DLM}	0.093	<0.075 ^{DLM}
Tin	7440-31-5	E440/CG	2.0	mg/kg	<3.7 ^{DLM}	<3.7 ^{DLM}	4.8	<3.0 ^{DLM}	<3.0 ^{DLM}
Titanium	7440-32-6	E440/CG	1.0	mg/kg	383	42.8	123	54.4	220
Tungsten	7440-33-7	E440/CG	0.50	mg/kg	<0.94 ^{DLM}	<0.94 ^{DLM}	<0.75 ^{DLM}	<0.74 ^{DLM}	<0.75 ^{DLM}
Uranium	7440-61-1	E440/CG	0.050	mg/kg	0.642	1.13	0.437	0.289	0.340
Vanadium	7440-62-2	E440/CG	0.20	mg/kg	42.7	10.7	9.90	7.89	26.3
Zinc	7440-66-6	E440/CG	2.0	mg/kg	86.6	26.3	13.7	94.7	19.2
Zirconium	7440-67-7	E440/CG	1.0	mg/kg	<1.9 ^{DLM}	<1.9 ^{DLM}	<1.5 ^{DLM}	<1.5 ^{DLM}	<1.5 ^{DLM}
Lead	7439-92-1	E440B/VA	0.10	mg/kg	----	----	----	----	12.6
Lead, IVBA (leachate)	7439-92-1	EC452A/VA	10	mg/kg	----	----	----	----	<10
Arsenic, IVBA (leachate)	7440-38-2	EC452A/VA	10	mg/kg	----	----	----	----	140
TCLP Metals									
pH, TCLP 1st preliminary	----	EPP444/CG	0.010	pH units	6.53	5.97	4.15	5.86	5.29
pH, TCLP 2nd preliminary	----	EPP444/CG	0.010	pH units	1.24	1.57	1.34	1.37	1.37
pH, TCLP extraction fluid initial	----	EPP444/CG	0.010	pH units	4.90	4.90	4.90	4.90	4.90
pH, TCLP final	----	EPP444/CG	0.010	pH units	5.16	5.20	4.93	5.00	4.98
Antimony, TCLP	7440-36-0	E444/CG	0.10	mg/L	<0.10	<0.10	<0.20 ^{DLM}	<0.10	<0.10
Arsenic, TCLP	7440-38-2	E444/CG	1.0	mg/L	<1.0	<1.0	<2.0 ^{DLM}	<1.0	<1.0
Barium, TCLP	7440-39-3	E444/CG	2.5	mg/L	<2.5	<2.5	<5.0 ^{DLM}	<2.5	<2.5



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-11-0.1	TP23-12-0.1	TP23-13-0.1	TP23-14-0.1	TP23-15-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-011	EO2309073-012	EO2309073-013	EO2309073-014	EO2309073-015
					Result	Result	Result	Result	Result
TCLP Metals									
Beryllium, TCLP	7440-41-7	E444/CG	0.025	mg/L	<0.025	<0.025	<0.050 ^{DLM}	<0.025	<0.025
Boron, TCLP	7440-42-8	E444/CG	0.50	mg/L	<0.50	<0.50	<1.00 ^{DLM}	<0.50	<0.50
Cadmium, TCLP	7440-43-9	E444/CG	0.050	mg/L	<0.050	<0.050	<0.100 ^{DLM}	<0.050	<0.050
Calcium, TCLP	7440-70-2	E444/CG	10	mg/L	54	147	23	64	86
Chromium, TCLP	7440-47-3	E444/CG	0.25	mg/L	<0.25	<0.25	<0.50 ^{DLM}	<0.25	<0.25
Cobalt, TCLP	7440-48-4	E444/CG	0.050	mg/L	<0.050	<0.050	<0.100 ^{DLM}	<0.050	<0.050
Copper, TCLP	7440-50-8	E444/CG	0.050	mg/L	<0.050	<0.050	<0.100 ^{DLM}	<0.050	<0.050
Iron, TCLP	7439-89-6	E444/CG	5.0	mg/L	<5.0	<5.0	<10.0 ^{DLM}	<5.0	<5.0
Lead, TCLP	7439-92-1	E444/CG	0.25	mg/L	<0.25	<0.25	<0.50 ^{DLM}	<0.25	<0.25
Magnesium, TCLP	7439-95-4	E444/CG	2.5	mg/L	3.6	13.8	8.5	9.2	10.9
Nickel, TCLP	7440-02-0	E444/CG	0.25	mg/L	<0.25	<0.25	<0.50 ^{DLM}	<0.25	<0.25
Selenium, TCLP	7782-49-2	E444/CG	0.10	mg/L	<0.10	<0.10	<0.20 ^{DLM}	<0.10	<0.10
Silver, TCLP	7440-22-4	E444/CG	0.050	mg/L	<0.050	<0.050	<0.100 ^{DLM}	<0.050	<0.050
Thallium, TCLP	7440-28-0	E444/CG	1.0	mg/L	<1.0	<1.0	<2.0 ^{DLM}	<1.0	<1.0
Uranium, TCLP	7440-61-1	E444/CG	0.20	mg/L	<0.20	<0.20	<0.40 ^{DLM}	<0.20	<0.20
Vanadium, TCLP	7440-62-2	E444/CG	0.15	mg/L	<0.15	<0.15	<0.30 ^{DLM}	<0.15	<0.15
Zinc, TCLP	7440-66-6	E444/CG	0.50	mg/L	<0.50	<0.50	<1.00 ^{DLM}	<0.50	<0.50
Zirconium, TCLP	7440-67-7	E444/CG	10	mg/L	<10	<10	<20 ^{DLM}	<10	<10
Leachable Metals									
Aluminum, leachable	7429-90-5	E441/VA	0.050	mg/kg	2.31	6.75	9.90	4.49	5.85
Antimony, leachable	7440-36-0	E441/VA	0.0020	mg/kg	0.0070	0.0154	0.0160	0.0117	0.0045
Arsenic, leachable	7440-38-2	E441/VA	0.0020	mg/kg	0.305	1.49	1.77	1.91	2.22
Barium, leachable	7440-39-3	E441/VA	0.010	mg/kg	0.016	0.060	0.429	0.163	0.037
Beryllium, leachable	7440-41-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Bismuth, leachable	7440-69-9	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Boron, leachable	7440-42-8	E441/VA	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium, leachable	7440-43-9	E441/VA	0.0020	mg/kg	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Calcium, leachable	7440-70-2	E441/VA	0.50	mg/kg	12.7	67.0	89.8	28.1	31.7
Chromium, leachable	7440-47-3	E441/VA	0.010	mg/kg	<0.010	<0.010	0.043	<0.010	0.017
Cobalt, leachable	7440-48-4	E441/VA	0.010	mg/kg	<0.010	0.014	0.034	0.015	<0.010



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-11-0.1	TP23-12-0.1	TP23-13-0.1	TP23-14-0.1	TP23-15-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-011	EO2309073-012	EO2309073-013	EO2309073-014	EO2309073-015
					Result	Result	Result	Result	Result
Leachable Metals									
Copper, leachable	7440-50-8	E441/VA	0.010	mg/kg	<0.010	0.072	0.121	0.026	0.045
Iron, leachable	7439-89-6	E441/VA	0.30	mg/kg	2.98	3.63	10.0	4.66	8.85
Lead, IVBA (%)	9439-92-1	EC452/VA	1.0	%	----	----	----	----	<1.0
Lead, IVBA (leachate)	7439-92-1	E452/VA	0.10	mg/L	----	----	----	----	<0.10
Lead, leachable	7439-92-1	E441/VA	0.010	mg/kg	<0.010	0.011	0.081	<0.010	<0.010
Lithium, leachable	7439-93-2	E441/VA	0.10	mg/kg	<0.10	<0.10	0.15	<0.10	<0.10
Magnesium, leachable	7439-95-4	E441/VA	1.0	mg/kg	1.1	6.9	40.2	5.5	3.7
Manganese, leachable	7439-96-5	E441/VA	0.010	mg/kg	0.042	0.991	0.507	0.581	0.153
Molybdenum, leachable	7439-98-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Nickel, leachable	7440-02-0	E441/VA	0.010	mg/kg	<0.010	0.023	0.091	0.019	0.010
Phosphorus, leachable	7723-14-0	E441/VA	3.0	mg/kg	<3.0	8.1	10.3	8.7	<3.0
Potassium, leachable	7440-09-7	E441/VA	0.50	mg/kg	1.27	18.3	259	17.0	9.82
Selenium, leachable	7782-49-2	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Silicon, leachable	7440-21-3	E441/VA	0.50	mg/kg	5.12	17.4	22.3	14.0	11.6
Silver, leachable	7440-22-4	E441/VA	0.0010	mg/kg	<0.0010	0.0013	<0.0010	<0.0010	<0.0010
Sodium, leachable	7440-23-5	E441/VA	0.10	mg/kg	2.00	7.92	9.79	22.4	5.55
Strontium, leachable	7440-24-6	E441/VA	0.010	mg/kg	0.012	0.043	0.161	0.048	0.017
Thallium, leachable	7440-28-0	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Tin, leachable	7440-31-5	E441/VA	0.010	mg/kg	<0.010	<0.010	0.014	<0.010	<0.010
Uranium, leachable	7440-61-1	E441/VA	0.00010	mg/kg	0.00038	0.00337	0.00280	0.00051	0.00060
Vanadium, leachable	7440-62-2	E441/VA	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Zinc, leachable	7440-66-6	E441/VA	0.050	mg/kg	<0.050	<0.050	0.130	0.098	<0.050
Arsenic, IVBA (%)	7440-38-2	EC452/VA	1.0	%	----	----	----	----	29.8
Arsenic, IVBA (leachate)	7440-38-2	E452/VA	0.10	mg/L	----	----	----	----	1.45

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	TP23-16-0.1	TP23-17-0.3	TP23-18-0.1	TP23-19-0.1	TP23-20-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-016	EO2309073-017	EO2309073-018	EO2309073-019	EO2309073-020
					Result	Result	Result	Result	Result
Sample Preparation									
pH, IVBA Initial	----	EP452/VA	0.01	pH units	----	----	1.52	----	1.52
Temperature, oven	----	EPP441/SK	1	°C	<38	<38	<38	<38	<38
pH, IVBA final	----	EP452/VA	0.01	pH units	----	----	1.54	----	1.54
Weight, extraction (dry)	----	EP452/VA	0.01	g	----	----	1.011	----	0.992
Final volume	----	EP452/VA	1	mL	----	----	100	----	100
Physical Tests									
Moisture	----	E144/VA	0.25	%	41.3	71.4	35.1	40.0	16.1
pH (1:2 soil:CaCl2-aq)	----	E108B/CG	0.10	pH units	6.15 ^{FR8}	6.38 ^{FR8}	3.75 ^{FR8}	5.99 ^{FR8}	5.02 ^{FR8}
pH (1:2 soil:water)	----	E108/CG	0.10	pH units	6.78 ^{FR8}	6.94 ^{FR8}	4.52 ^{FR8}	6.34 ^{FR8}	5.68 ^{FR8}
Organic / Inorganic Carbon									
Carbon, inorganic [IC]	----	E354/SK	0.050	%	0.635	0.713	0.215	0.458	0.213
Carbon, total [TC]	----	E351/SK	0.050	%	39.3	39.0	41.2	34.6	22.0
Carbon, total organic [TOC]	----	EC356/SK	0.050	%	38.7	38.3	41.0	34.1	21.8
Carbon, inorganic [IC], (as CaCO3 equivalent)	----	E354/SK	0.40	%	5.30	5.95	1.79	3.82	1.78
Plant Available Nutrients									
Ammonium, available (as N)	14798-03-9	E312A/SK	1.0	mg/kg	25.7	24.4	31.1	27.8	12.4
Sulfate, available (as S)	14808-79-8	E497.SO4/SK	3.0	mg/kg	<30.6 ^{DLM}	62.7	44.4	33.5	<30.8 ^{DLM}
Saturated Paste Extractables									
Conductivity, saturated paste	----	E102/CG	0.020	dS/m	0.174	0.160	0.150	0.257	0.192
Sodium adsorption ratio [SAR]	----	EC102/CG	0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10
% Saturation	----	E141/CG	1.0	%	499	530	701	556	408
Calcium, soluble ion content	7440-70-2	EC485/CG	5.0	mg/kg	237	227	236	372	153
Calcium, soluble ion content	7440-70-2	E485/CG	5.0	mg/L	47.5	42.9	33.7	67.0	37.6
Magnesium, soluble ion content	7439-95-4	EC485/CG	5.0	mg/kg	26.4	<26.5	<35.0	35.0	40.8
Magnesium, soluble ion content	7439-95-4	E485/CG	5.0	mg/L	5.3	<5.0	5.0	6.3	10.0
Potassium, soluble ion content	7440-09-7	EC485/CG	5.0	mg/kg	26.9	<26.5	50.5	85.6	71.8
Potassium, soluble ion content	7440-09-7	E485/CG	5.0	mg/L	5.4	<5.0	7.2	15.4	17.6
Sodium, soluble ion content	17341-25-2	EC485/CG	5.0	mg/kg	<24.9	<26.5	<35.0	<27.8	<20.4
Sodium, soluble ion content	17341-25-2	E485/CG	5.0	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0
Chloride, soluble ion content	16887-00-6	EC266A.Cl/CG	10	mg/kg	<100	<106	<140	<111	<82



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)					Client sample ID	TP23-16-0.1	TP23-17-0.3	TP23-18-0.1	TP23-19-0.1	TP23-20-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-016	EO2309073-017	EO2309073-018	EO2309073-019	EO2309073-020	
					Result	Result	Result	Result	Result	
Saturated Paste Extractables										
Chloride, soluble ion content	16887-00-6	E266.CI/CG	20	mg/L	<20	<20	<20	<20	<20	
Sulfur (as SO4), soluble ion content	14808-79-8	EC485/CG	8.0	mg/kg	67.4	168	200	177	91.8	
Sulfur (as SO4), soluble ion content	14808-79-8	E485/CG	6.0	mg/L	13.5	31.8	28.5	31.8	22.5	
Acid Base Accounting										
Arsenate [As V]	17428-41-0	OJ-19D/1E	0.01	mg/kg	----	----	see attached	----	see attached	
Arsenite [As III]	22541-54-4	OJ-19D/1E	0.01	mg/kg	----	----	see attached	----	see attached	
Dimethylarsinic acid [DMA], (as As)	75-60-5	OJ-19D/1E	0.01	mg/kg	----	----	see attached	----	see attached	
Monomethylarsonic acid [MMA], (as As)	2163-80-6	OJ-19D/1E	0.02	mg/kg	----	----	see attached	----	see attached	
Metals										
Aluminum	7429-90-5	E440/CG	50	mg/kg	1070	1120	3000	3100	8100	
Antimony	7440-36-0	E440/CG	0.10	mg/kg	2.84	3.11	16.9	12.2	15.7	
Arsenic	7440-38-2	E440B/VA	0.050	mg/kg	----	----	1190	----	446	
Arsenic	7440-38-2	E440/CG	0.10	mg/kg	29.8	9.77	353	81.4	301	
Barium	7440-39-3	E440/CG	0.50	mg/kg	84.5	80.7	112	31.0	212	
Beryllium	7440-41-7	E440/CG	0.10	mg/kg	<0.15 ^{DLM}	<0.15 ^{DLM}	<0.15 ^{DLM}	<0.15 ^{DLM}	0.23	
Bismuth	7440-69-9	E440/CG	0.20	mg/kg	<0.30 ^{DLM}	<0.30 ^{DLM}	<0.30 ^{DLM}	<0.30 ^{DLM}	<0.30 ^{DLM}	
Boron	7440-42-8	E440/CG	5.0	mg/kg	9.1	22.6	<7.5 ^{DLM}	<7.4 ^{DLM}	<7.4 ^{DLM}	
Cadmium	7440-43-9	E440/CG	0.020	mg/kg	0.417	0.308	0.465	0.244	0.641	
Calcium	7440-70-2	E440/CG	50	mg/kg	39200	46500	7560	19700	12400	
Chromium	7440-47-3	E440/CG	0.50	mg/kg	1.99	2.49	9.02	11.0	23.4	
Cobalt	7440-48-4	E440/CG	0.10	mg/kg	1.92	1.42	4.40	4.25	13.8	
Copper	7440-50-8	E440/CG	0.50	mg/kg	15.1	21.2	20.3	28.0	25.9	
Iron	7439-89-6	E440/CG	50	mg/kg	1380	1180	5280	5390	13400	
Lead	7439-92-1	E440/CG	0.50	mg/kg	2.11	1.06	21.0	19.2	37.9	
Lithium	7439-93-2	E440/CG	2.0	mg/kg	<3.0 ^{DLM}	<3.0 ^{DLM}	<3.0 ^{DLM}	4.2	10.7	
Magnesium	7439-95-4	E440/CG	20	mg/kg	1540	1430	1880	2300	4780	
Manganese	7439-96-5	E440/CG	1.0	mg/kg	365	332	201	172	1740	
Mercury	7439-97-6	E510/CG	0.0050	mg/kg	0.0555	0.0427	0.143	0.0872	0.139	
Molybdenum	7439-98-7	E440/CG	0.10	mg/kg	0.51	0.33	0.39	1.54	0.58	
Nickel	7440-02-0	E440/CG	0.50	mg/kg	5.45	7.76	13.0	13.5	26.4	



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-16-0.1	TP23-17-0.3	TP23-18-0.1	TP23-19-0.1	TP23-20-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-016	EO2309073-017	EO2309073-018	EO2309073-019	EO2309073-020
					Result	Result	Result	Result	Result
Metals									
Phosphorus	7723-14-0	E440/CG	50	mg/kg	407	565	490	449	601
Potassium	7440-09-7	E440/CG	100	mg/kg	210	<150 ^{DLM}	660	410	840
Selenium	7782-49-2	E440/CG	0.20	mg/kg	0.49	1.14	<0.30 ^{DLM}	<0.30 ^{DLM}	<0.30 ^{DLM}
Silver	7440-22-4	E440/CG	0.10	mg/kg	<0.15 ^{DLM}	<0.15 ^{DLM}	<0.15 ^{DLM}	<0.15 ^{DLM}	0.28
Sodium	7440-23-5	E440/CG	50	mg/kg	<74 ^{DLM}	<75 ^{DLM}	<75 ^{DLM}	<74 ^{DLM}	<74 ^{DLM}
Strontium	7440-24-6	E440/CG	0.50	mg/kg	29.1	37.4	15.7	13.1	24.7
Sulfur	7704-34-9	E440/CG	1000	mg/kg	<1500 ^{DLM}	2800	<1500 ^{DLM}	<1500 ^{DLM}	<1500 ^{DLM}
Thallium	7440-28-0	E440/CG	0.050	mg/kg	<0.074 ^{DLM}	<0.075 ^{DLM}	<0.075 ^{DLM}	<0.074 ^{DLM}	0.093
Tin	7440-31-5	E440/CG	2.0	mg/kg	<3.0 ^{DLM}	<3.0 ^{DLM}	<3.0 ^{DLM}	<3.0 ^{DLM}	4.5
Titanium	7440-32-6	E440/CG	1.0	mg/kg	36.2	23.9	111	75.4	222
Tungsten	7440-33-7	E440/CG	0.50	mg/kg	<0.74 ^{DLM}	<0.75 ^{DLM}	<0.75 ^{DLM}	<0.74 ^{DLM}	<0.74 ^{DLM}
Uranium	7440-61-1	E440/CG	0.050	mg/kg	3.70	5.11	0.308	0.336	0.473
Vanadium	7440-62-2	E440/CG	0.20	mg/kg	3.81	3.44	9.84	9.73	26.0
Zinc	7440-66-6	E440/CG	2.0	mg/kg	30.9	9.7	23.4	21.2	59.7
Zirconium	7440-67-7	E440/CG	1.0	mg/kg	<1.5 ^{DLM}	<1.5 ^{DLM}	<1.5 ^{DLM}	<1.5 ^{DLM}	<1.5 ^{DLM}
Lead	7439-92-1	E440B/VA	0.10	mg/kg	----	----	48.0	----	26.8
Lead, IVBA (leachate)	7439-92-1	EC452A/VA	10	mg/kg	----	----	35	----	14
Arsenic, IVBA (leachate)	7440-38-2	EC452A/VA	10	mg/kg	----	----	66	----	113
TCLP Metals									
pH, TCLP 1st preliminary	----	EPP444/CG	0.010	pH units	7.05	----	----	----	----
pH, TCLP 1st preliminary	----	EPP444/EO	0.010	pH units	----	7.82	4.83 ^{LTIS}	7.05 ^{LTIS}	6.25 ^{LTIS}
pH, TCLP 2nd preliminary	----	EPP444/CG	0.010	pH units	1.88	----	----	----	----
pH, TCLP 2nd preliminary	----	EPP444/EO	0.010	pH units	----	1.67	----	2.39 ^{LTIS}	1.46 ^{LTIS}
pH, TCLP extraction fluid initial	----	EPP444/CG	0.010	pH units	4.90	----	----	----	----
pH, TCLP extraction fluid initial	----	EPP444/EO	0.010	pH units	----	4.94	4.94	4.94	4.94
pH, TCLP final	----	EPP444/CG	0.010	pH units	5.24	----	----	----	----
pH, TCLP final	----	EPP444/EO	0.010	pH units	----	5.10	4.85 ^{LTIS}	5.09 ^{LTIS}	4.99 ^{LTIS}
Antimony, TCLP	7440-36-0	E444/CG	0.10	mg/L	<0.10	----	----	----	----
Antimony, TCLP	7440-36-0	E444/EO	0.10	mg/L	----	<0.10	<0.10	<0.10	<0.10
Arsenic, TCLP	7440-38-2	E444/CG	1.0	mg/L	<1.0	----	----	----	----



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	TP23-16-0.1	TP23-17-0.3	TP23-18-0.1	TP23-19-0.1	TP23-20-0.1
(Matrix: Soil/Solid)										
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-016	EO2309073-017	EO2309073-018	EO2309073-019	EO2309073-020	
					Result	Result	Result	Result	Result	
TCLP Metals										
Arsenic, TCLP	7440-38-2	E444/EO	1.0	mg/L	----	<1.0	<1.0	<1.0	<1.0	
Barium, TCLP	7440-39-3	E444/CG	2.5	mg/L	<2.5	----	----	----	----	
Barium, TCLP	7440-39-3	E444/EO	2.5	mg/L	----	<2.5	<2.5	<2.5	<2.5	
Beryllium, TCLP	7440-41-7	E444/CG	0.025	mg/L	<0.025	----	----	----	----	
Beryllium, TCLP	7440-41-7	E444/EO	0.025	mg/L	----	<0.025	<0.025	<0.025	<0.025	
Boron, TCLP	7440-42-8	E444/CG	0.50	mg/L	<0.50	----	----	----	----	
Boron, TCLP	7440-42-8	E444/EO	0.50	mg/L	----	<0.50	<0.50	<0.50	<0.50	
Cadmium, TCLP	7440-43-9	E444/CG	0.050	mg/L	<0.050	----	----	----	----	
Cadmium, TCLP	7440-43-9	E444/EO	0.050	mg/L	----	<0.050	<0.050	<0.050	<0.050	
Calcium, TCLP	7440-70-2	E444/CG	10	mg/L	273	----	----	----	----	
Calcium, TCLP	7440-70-2	E444/EO	10	mg/L	----	173	23	239	87	
Chromium, TCLP	7440-47-3	E444/CG	0.25	mg/L	<0.25	----	----	----	----	
Chromium, TCLP	7440-47-3	E444/EO	0.25	mg/L	----	<0.25	<0.25	<0.25	<0.25	
Cobalt, TCLP	7440-48-4	E444/CG	0.050	mg/L	<0.050	----	----	----	----	
Cobalt, TCLP	7440-48-4	E444/EO	0.050	mg/L	----	<0.050	<0.050	<0.050	<0.050	
Copper, TCLP	7440-50-8	E444/CG	0.050	mg/L	<0.050	----	----	----	----	
Copper, TCLP	7440-50-8	E444/EO	0.050	mg/L	----	<0.050	<0.050	<0.050	<0.050	
Iron, TCLP	7439-89-6	E444/CG	5.0	mg/L	<5.0	----	----	----	----	
Iron, TCLP	7439-89-6	E444/EO	5.0	mg/L	----	<5.0	<5.0	<5.0	<5.0	
Lead, TCLP	7439-92-1	E444/CG	0.25	mg/L	<0.25	----	----	----	----	
Lead, TCLP	7439-92-1	E444/EO	0.25	mg/L	----	<0.25	<0.25	<0.25	<0.25	
Magnesium, TCLP	7439-95-4	E444/CG	2.5	mg/L	23.8	----	----	----	----	
Magnesium, TCLP	7439-95-4	E444/EO	2.5	mg/L	----	10.5	11.4	14.2	16.2	
Nickel, TCLP	7440-02-0	E444/CG	0.25	mg/L	<0.25	----	----	----	----	
Nickel, TCLP	7440-02-0	E444/EO	0.25	mg/L	----	<0.25	<0.25	<0.25	<0.25	
Selenium, TCLP	7782-49-2	E444/CG	0.10	mg/L	<0.10	----	----	----	----	
Selenium, TCLP	7782-49-2	E444/EO	0.10	mg/L	----	<0.10	<0.10	<0.10	<0.10	
Silver, TCLP	7440-22-4	E444/CG	0.050	mg/L	<0.050	----	----	----	----	
Silver, TCLP	7440-22-4	E444/EO	0.050	mg/L	----	<0.050	<0.050	<0.050	<0.050	
Thallium, TCLP	7440-28-0	E444/CG	1.0	mg/L	<1.0	----	----	----	----	



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)					Client sample ID	TP23-16-0.1	TP23-17-0.3	TP23-18-0.1	TP23-19-0.1	TP23-20-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-016	EO2309073-017	EO2309073-018	EO2309073-019	EO2309073-020	
					Result	Result	Result	Result	Result	
TCLP Metals										
Thallium, TCLP	7440-28-0	E444/EO	1.0	mg/L	----	<1.0	<1.0	<1.0	<1.0	
Uranium, TCLP	7440-61-1	E444/CG	0.20	mg/L	<0.20	----	----	----	----	
Uranium, TCLP	7440-61-1	E444/EO	0.20	mg/L	----	<0.20	<0.20	<0.20	<0.20	
Vanadium, TCLP	7440-62-2	E444/CG	0.15	mg/L	<0.15	----	----	----	----	
Vanadium, TCLP	7440-62-2	E444/EO	0.15	mg/L	----	<0.15	<0.15	<0.15	<0.15	
Zinc, TCLP	7440-66-6	E444/CG	0.50	mg/L	<0.50	----	----	----	----	
Zinc, TCLP	7440-66-6	E444/EO	0.50	mg/L	----	<0.50	<0.50	<0.50	<0.50	
Zirconium, TCLP	7440-67-7	E444/CG	10	mg/L	<10	----	----	----	----	
Zirconium, TCLP	7440-67-7	E444/EO	10	mg/L	----	<10	<10	<10	<10	
Leachable Metals										
Aluminum, leachable	7429-90-5	E441/VA	0.050	mg/kg	1.49	2.21	13.8	7.81	17.8	
Antimony, leachable	7440-36-0	E441/VA	0.0020	mg/kg	0.0116	0.0474	0.145	0.0340	0.0137	
Arsenic, leachable	7440-38-2	E441/VA	0.0020	mg/kg	2.07	2.47	8.68	4.01	1.49	
Barium, leachable	7440-39-3	E441/VA	0.010	mg/kg	0.176	0.183	0.355	0.138	0.240	
Beryllium, leachable	7440-41-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Bismuth, leachable	7440-69-9	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Boron, leachable	7440-42-8	E441/VA	0.50	mg/kg	<0.50	0.93	<0.50	<0.50	<0.50	
Cadmium, leachable	7440-43-9	E441/VA	0.0020	mg/kg	<0.0020	<0.0020	<0.0020	0.0020	<0.0020	
Calcium, leachable	7440-70-2	E441/VA	0.50	mg/kg	252	281	96.6	265	32.1	
Chromium, leachable	7440-47-3	E441/VA	0.010	mg/kg	<0.010	<0.010	0.065	0.015	0.025	
Cobalt, leachable	7440-48-4	E441/VA	0.010	mg/kg	<0.010	0.018	0.041	0.015	0.018	
Copper, leachable	7440-50-8	E441/VA	0.010	mg/kg	0.051	0.086	0.110	0.130	0.035	
Iron, leachable	7439-89-6	E441/VA	0.30	mg/kg	0.96	1.14	13.2	6.78	21.7	
Lead, IVBA (%)	9439-92-1	EC452/VA	1.0	%	----	----	72.1	----	52.7	
Lead, IVBA (leachate)	7439-92-1	E452/VA	0.10	mg/L	----	----	0.35	----	0.14	
Lead, leachable	7439-92-1	E441/VA	0.010	mg/kg	<0.010	<0.010	0.112	0.033	0.015	
Lithium, leachable	7439-93-2	E441/VA	0.10	mg/kg	<0.10	<0.10	0.10	<0.10	<0.10	
Magnesium, leachable	7439-95-4	E441/VA	1.0	mg/kg	20.4	17.9	40.5	18.9	11.5	
Manganese, leachable	7439-96-5	E441/VA	0.010	mg/kg	0.403	2.28	1.76	0.422	0.890	
Molybdenum, leachable	7439-98-7	E441/VA	0.010	mg/kg	<0.010	0.016	<0.010	0.014	<0.010	



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	TP23-16-0.1	TP23-17-0.3	TP23-18-0.1	TP23-19-0.1	TP23-20-0.1
(Matrix: Soil/Solid)										
					Client sampling date / time	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-016	EO2309073-017	EO2309073-018	EO2309073-019	EO2309073-020	
					Result	Result	Result	Result	Result	
Leachable Metals										
Nickel, leachable	7440-02-0	E441/VA	0.010	mg/kg	0.020	0.029	0.082	0.065	0.035	
Phosphorus, leachable	7723-14-0	E441/VA	3.0	mg/kg	10.6	5.1	10.9	22.5	<3.0	
Potassium, leachable	7440-09-7	E441/VA	0.50	mg/kg	17.3	2.20	165	57.6	17.7	
Selenium, leachable	7782-49-2	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Silicon, leachable	7440-21-3	E441/VA	0.50	mg/kg	9.05	23.1	23.7	30.3	36.6	
Silver, leachable	7440-22-4	E441/VA	0.0010	mg/kg	0.0016	<0.0010	<0.0010	0.0023	<0.0010	
Sodium, leachable	7440-23-5	E441/VA	0.10	mg/kg	7.54	6.24	5.94	9.08	4.16	
Strontium, leachable	7440-24-6	E441/VA	0.010	mg/kg	0.138	0.182	0.136	0.143	0.054	
Thallium, leachable	7440-28-0	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Tin, leachable	7440-31-5	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Uranium, leachable	7440-61-1	E441/VA	0.00010	mg/kg	0.00376	0.00421	0.00119	0.00176	0.00086	
Vanadium, leachable	7440-62-2	E441/VA	0.050	mg/kg	<0.050	<0.050	0.055	<0.050	0.058	
Zinc, leachable	7440-66-6	E441/VA	0.050	mg/kg	0.059	0.053	0.135	0.086	<0.050	
Arsenic, IVBA (%)	7440-38-2	EC452/VA	1.0	%	----	----	5.6	----	25.3	
Arsenic, IVBA (leachate)	7440-38-2	E452/VA	0.10	mg/L	----	----	0.67	----	1.12	

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-21-0.3	TP23-22-0.2	TP23-23-0.1	TP23-24-0.2	TP23-25-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-021	EO2309073-022	EO2309073-023	EO2309073-024	EO2309073-025
					Result	Result	Result	Result	Result
Sample Preparation									
pH, IVBA Initial	--- EP452/VA		0.01	pH units	---	---	1.51	---	---
Temperature, oven	--- EPP441/SK		1	°C	<38	<38	<38	<38	<38
pH, IVBA final	--- EP452/VA		0.01	pH units	---	---	1.55	---	---
Weight, extraction (dry)	--- EP452/VA		0.01	g	---	---	1.034	---	---
Final volume	--- EP452/VA		1	mL	---	---	100	---	---
Physical Tests									
Moisture	--- E144/VA		0.25	%	14.2	12.7	18.9	39.7	43.3
pH (1:2 soil:CaCl2-aq)	--- E108B/CG		0.10	pH units	6.69	7.16	5.34 ^{FR8}	5.52 ^{FR8}	5.99 ^{FR8}
pH (1:2 soil:water)	--- E108/CG		0.10	pH units	7.25	7.81	6.04 ^{FR8}	5.99 ^{FR8}	6.44 ^{FR8}
Particle Size									
Sand (>0.075mm)	--- E178/CG		1.0	%	16.0	17.3	---	---	---
Fines (<0.075mm)	--- E178/CG		1.0	%	84.0	82.7	---	---	---
Texture class	--- E178/CG		-	-	Fine	Fine	---	---	---
Organic / Inorganic Carbon									
Carbon, inorganic [IC]	--- E354/SK		0.050	%	0.183	0.136	0.182	0.468	0.656
Carbon, total [TC]	--- E351/SK		0.050	%	7.33	1.74	12.5	44.1	41.4
Carbon, total organic [TOC]	--- EC356/SK		0.050	%	7.15	1.60	12.3	43.6	40.7
Carbon, inorganic [IC], (as CaCO3 equivalent)	--- E354/SK		0.40	%	1.52	1.13	1.51	3.90	5.46
Plant Available Nutrients									
Ammonium, available (as N)	14798-03-9 E312A/SK		1.0	mg/kg	<6.6 ^{DLM}	<5.7 ^{DLM}	<6.3 ^{DLM}	19.5	22.9
Sulfate, available (as S)	14808-79-8 E497.SO4/SK		3.0	mg/kg	39.2	7.4	<29.9 ^{DLM}	<30.0 ^{DLM}	<29.8 ^{DLM}
Saturated Paste Extractables									
Conductivity, saturated paste	--- E102/CG		0.020	dS/m	0.541	0.251	0.140	0.184	0.218
Sodium adsorption ratio [SAR]	--- EC102/CG		0.10	-	0.14	0.18	<0.10	<0.10	<0.10
% Saturation	--- E141/CG		1.0	%	49.4	44.6	624	564	335
Calcium, soluble ion content	7440-70-2 EC485/CG		5.0	mg/kg	48.7	23.7	166	224	216
Calcium, soluble ion content	7440-70-2 E485/CG		5.0	mg/L	98.6	53.2	26.6	39.8	64.4
Magnesium, soluble ion content	7439-95-4 EC485/CG		5.0	mg/kg	8.0	<5.0	50.5	33.3	24.8
Magnesium, soluble ion content	7439-95-4 E485/CG		5.0	mg/L	16.2	7.7	8.1	5.9	7.4
Potassium, soluble ion content	7440-09-7 EC485/CG		5.0	mg/kg	<5.0	<5.0	49.9	104	17.4



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-21-0.3	TP23-22-0.2	TP23-23-0.1	TP23-24-0.2	TP23-25-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-021	EO2309073-022	EO2309073-023	EO2309073-024	EO2309073-025
					Result	Result	Result	Result	Result
Saturated Paste Extractables									
Potassium, soluble ion content	7440-09-7	E485/CG	5.0	mg/L	<5.0	<5.0	8.0	18.4	5.2
Sodium, soluble ion content	17341-25-2	EC485/CG	5.0	mg/kg	<5.0	<5.0	<31.2	<28.2	<16.8
Sodium, soluble ion content	17341-25-2	E485/CG	5.0	mg/L	5.9	5.2	<5.0	<5.0	<5.0
Chloride, soluble ion content	16887-00-6	EC266A.CI/CG	10	mg/kg	<10	<10	<125	<113	<67
Chloride, soluble ion content	16887-00-6	E266.CI/CG	20	mg/L	<20	<20	<20	<20	<20
Sulfur (as SO ₄), soluble ion content	14808-79-8	EC485/CG	8.0	mg/kg	76.6	20.4	74.9	94.8	77.4
Sulfur (as SO ₄), soluble ion content	14808-79-8	E485/CG	6.0	mg/L	155	45.8	12.0	16.8	23.1
Acid Base Accounting									
Arsenate [As V]	17428-41-0	OJ-19D/1E	0.01	mg/kg	----	----	see attached	----	----
Arsenite [As III]	22541-54-4	OJ-19D/1E	0.01	mg/kg	----	----	see attached	----	----
Dimethylarsinic acid [DMA], (as As)	75-60-5	OJ-19D/1E	0.01	mg/kg	----	----	see attached	----	----
Monomethylarsonic acid [MMA], (as As)	2163-80-6	OJ-19D/1E	0.02	mg/kg	----	----	see attached	----	----
Metals									
Aluminum	7429-90-5	E440/CG	50	mg/kg	18700	20400	9330	1090	1110
Antimony	7440-36-0	E440/CG	0.10	mg/kg	1.72	0.52	12.0	10.8	3.83
Arsenic	7440-38-2	E440B/VA	0.050	mg/kg	----	----	291	----	----
Arsenic	7440-38-2	E440/CG	0.10	mg/kg	21.4	16.2	248	43.2	18.8
Barium	7440-39-3	E440/CG	0.50	mg/kg	169	192	2770	51.3	71.3
Beryllium	7440-41-7	E440/CG	0.10	mg/kg	0.64	0.78	0.15	<0.15 ^{DLM}	<0.15 ^{DLM}
Bismuth	7440-69-9	E440/CG	0.20	mg/kg	0.29	0.28	<0.30 ^{DLM}	<0.30 ^{DLM}	<0.30 ^{DLM}
Boron	7440-42-8	E440/CG	5.0	mg/kg	8.4	10.4	<7.4 ^{DLM}	8.5	10.2
Cadmium	7440-43-9	E440/CG	0.020	mg/kg	0.139	0.064	1.02	1.05	0.333
Calcium	7440-70-2	E440/CG	50	mg/kg	8030	7250	10700	21800	43900
Chromium	7440-47-3	E440/CG	0.50	mg/kg	56.3	51.3	34.5	2.73	1.81
Cobalt	7440-48-4	E440/CG	0.10	mg/kg	11.0	11.0	12.4	2.62	2.40
Copper	7440-50-8	E440/CG	0.50	mg/kg	31.6	22.3	35.3	18.6	13.6
Iron	7439-89-6	E440/CG	50	mg/kg	24700	27100	17000	1460	977
Lead	7439-92-1	E440/CG	0.50	mg/kg	7.17	7.80	112	9.96	1.49
Lithium	7439-93-2	E440/CG	2.0	mg/kg	32.0	33.6	15.5	<3.0 ^{DLM}	<3.0 ^{DLM}
Magnesium	7439-95-4	E440/CG	20	mg/kg	9290	9650	6540	1300	1870



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	TP23-21-0.3	TP23-22-0.2	TP23-23-0.1	TP23-24-0.2	TP23-25-0.1
(Matrix: Soil/Solid)										
					Client sampling date / time	28-Sep-2023 00:00	28-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-021	EO2309073-022	EO2309073-023	EO2309073-024	EO2309073-025	
					Result	Result	Result	Result	Result	
Metals										
Manganese	7439-96-5	E440/CG	1.0	mg/kg	236	376	531	408	687	
Mercury	7439-97-6	E510/CG	0.0050	mg/kg	0.0134	0.0102	0.108	0.119	0.0605	
Molybdenum	7439-98-7	E440/CG	0.10	mg/kg	0.84	0.50	0.39	0.92	0.57	
Nickel	7440-02-0	E440/CG	0.50	mg/kg	34.1	31.3	25.2	9.64	6.28	
Phosphorus	7723-14-0	E440/CG	50	mg/kg	500	480	460	630	699	
Potassium	7440-09-7	E440/CG	100	mg/kg	3090	3740	470	600	180	
Selenium	7782-49-2	E440/CG	0.20	mg/kg	0.27	<0.20	0.31	<0.30 ^{DLM}	0.56	
Silver	7440-22-4	E440/CG	0.10	mg/kg	<0.10	<0.10	0.24	<0.15 ^{DLM}	<0.15 ^{DLM}	
Sodium	7440-23-5	E440/CG	50	mg/kg	306	347	87	<74 ^{DLM}	<74 ^{DLM}	
Strontium	7440-24-6	E440/CG	0.50	mg/kg	26.0	34.1	74.6	29.8	44.5	
Sulfur	7704-34-9	E440/CG	1000	mg/kg	<1000	<1000	<1500 ^{DLM}	<1500 ^{DLM}	1700	
Thallium	7440-28-0	E440/CG	0.050	mg/kg	0.204	0.210	<0.074 ^{DLM}	<0.074 ^{DLM}	<0.074 ^{DLM}	
Tin	7440-31-5	E440/CG	2.0	mg/kg	<2.0	<2.0	<3.0 ^{DLM}	<3.0 ^{DLM}	<3.0 ^{DLM}	
Titanium	7440-32-6	E440/CG	1.0	mg/kg	810	757	374	23.6	9.2	
Tungsten	7440-33-7	E440/CG	0.50	mg/kg	<0.50	<0.50	<0.74 ^{DLM}	<0.74 ^{DLM}	<0.74 ^{DLM}	
Uranium	7440-61-1	E440/CG	0.050	mg/kg	3.27	1.17	0.763	0.687	0.764	
Vanadium	7440-62-2	E440/CG	0.20	mg/kg	55.1	50.6	42.8	5.58	1.45	
Zinc	7440-66-6	E440/CG	2.0	mg/kg	53.6	50.2	768	60.9	33.0	
Zirconium	7440-67-7	E440/CG	1.0	mg/kg	20.3	18.8	<1.5 ^{DLM}	<1.5 ^{DLM}	<1.5 ^{DLM}	
Lead	7439-92-1	E440B/VA	0.10	mg/kg	----	----	68.9	----	----	
Lead, IVBA (leachate)	7439-92-1	EC452A/VA	10	mg/kg	----	----	54	----	----	
Arsenic, IVBA (leachate)	7440-38-2	EC452A/VA	10	mg/kg	----	----	70	----	----	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/CG	0.010	pH units	8.03	8.36	----	----	----	
pH, TCLP 1st preliminary	----	EPP444/EO	0.010	pH units	----	----	6.48	6.73 ^{LTIS}	6.97 ^{LTIS}	
pH, TCLP 2nd preliminary	----	EPP444/CG	0.010	pH units	1.39	1.39	----	----	----	
pH, TCLP 2nd preliminary	----	EPP444/EO	0.010	pH units	----	----	1.38	1.77 ^{LTIS}	2.57 ^{LTIS}	
pH, TCLP extraction fluid initial	----	EPP444/CG	0.010	pH units	4.94	4.94	----	----	----	
pH, TCLP extraction fluid initial	----	EPP444/EO	0.010	pH units	----	----	4.94	4.94	4.94	
pH, TCLP final	----	EPP444/CG	0.010	pH units	6.78	6.19	----	----	----	



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	TP23-21-0.3	TP23-22-0.2	TP23-23-0.1	TP23-24-0.2	TP23-25-0.1
(Matrix: Soil/Solid)					Client sampling date / time	28-Sep-2023 00:00	28-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-021	EO2309073-022	EO2309073-023	EO2309073-024	EO2309073-025	
					Result	Result	Result	Result	Result	
TCLP Metals										
pH, TCLP final	----	EPP444/EO	0.010	pH units	----	----	5.02	5.02 ^{LTIS}	5.10 ^{LTIS}	
Antimony, TCLP	7440-36-0	E444/CG	0.10	mg/L	<0.10	<0.10	----	----	----	
Antimony, TCLP	7440-36-0	E444/EO	0.10	mg/L	----	----	<0.10	<0.10	<0.10	
Arsenic, TCLP	7440-38-2	E444/CG	1.0	mg/L	<1.0	<1.0	----	----	----	
Arsenic, TCLP	7440-38-2	E444/EO	1.0	mg/L	----	----	<1.0	<1.0	<1.0	
Barium, TCLP	7440-39-3	E444/CG	2.5	mg/L	<2.5	<2.5	----	----	----	
Barium, TCLP	7440-39-3	E444/EO	2.5	mg/L	----	----	<2.5	<2.5	<2.5	
Beryllium, TCLP	7440-41-7	E444/CG	0.025	mg/L	<0.025	<0.025	----	----	----	
Beryllium, TCLP	7440-41-7	E444/EO	0.025	mg/L	----	----	<0.025	<0.025	<0.025	
Boron, TCLP	7440-42-8	E444/CG	0.50	mg/L	<0.50	<0.50	----	----	----	
Boron, TCLP	7440-42-8	E444/EO	0.50	mg/L	----	----	<0.50	<0.50	<0.50	
Cadmium, TCLP	7440-43-9	E444/CG	0.050	mg/L	<0.050	<0.050	----	----	----	
Cadmium, TCLP	7440-43-9	E444/EO	0.050	mg/L	----	----	<0.050	<0.050	<0.050	
Calcium, TCLP	7440-70-2	E444/CG	10	mg/L	70	97	----	----	----	
Calcium, TCLP	7440-70-2	E444/EO	10	mg/L	----	----	81	176	250	
Chromium, TCLP	7440-47-3	E444/CG	0.25	mg/L	<0.25	<0.25	----	----	----	
Chromium, TCLP	7440-47-3	E444/EO	0.25	mg/L	----	----	<0.25	<0.25	<0.25	
Cobalt, TCLP	7440-48-4	E444/CG	0.050	mg/L	<0.050	<0.050	----	----	----	
Cobalt, TCLP	7440-48-4	E444/EO	0.050	mg/L	----	----	<0.050	<0.050	<0.050	
Copper, TCLP	7440-50-8	E444/CG	0.050	mg/L	<0.050	<0.050	----	----	----	
Copper, TCLP	7440-50-8	E444/EO	0.050	mg/L	----	----	<0.050	<0.050	<0.050	
Iron, TCLP	7439-89-6	E444/CG	5.0	mg/L	<5.0	<5.0	----	----	----	
Iron, TCLP	7439-89-6	E444/EO	5.0	mg/L	----	----	<5.0	<5.0	<5.0	
Lead, TCLP	7439-92-1	E444/CG	0.25	mg/L	<0.25	<0.25	----	----	----	
Lead, TCLP	7439-92-1	E444/EO	0.25	mg/L	----	----	<0.25	<0.25	<0.25	
Magnesium, TCLP	7439-95-4	E444/CG	2.5	mg/L	10.9	15.0	----	----	----	
Magnesium, TCLP	7439-95-4	E444/EO	2.5	mg/L	----	----	21.9	17.1	22.8	
Nickel, TCLP	7440-02-0	E444/CG	0.25	mg/L	<0.25	<0.25	----	----	----	
Nickel, TCLP	7440-02-0	E444/EO	0.25	mg/L	----	----	<0.25	<0.25	<0.25	
Selenium, TCLP	7782-49-2	E444/CG	0.10	mg/L	<0.10	<0.10	----	----	----	



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-21-0.3	TP23-22-0.2	TP23-23-0.1	TP23-24-0.2	TP23-25-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-021	EO2309073-022	EO2309073-023	EO2309073-024	EO2309073-025
					Result	Result	Result	Result	Result
TCLP Metals									
Selenium, TCLP	7782-49-2	E444/EO	0.10	mg/L	----	----	<0.10	<0.10	<0.10
Silver, TCLP	7440-22-4	E444/CG	0.050	mg/L	<0.050	<0.050	----	----	----
Silver, TCLP	7440-22-4	E444/EO	0.050	mg/L	----	----	<0.050	<0.050	<0.050
Thallium, TCLP	7440-28-0	E444/CG	1.0	mg/L	<1.0	<1.0	----	----	----
Thallium, TCLP	7440-28-0	E444/EO	1.0	mg/L	----	----	<1.0	<1.0	<1.0
Uranium, TCLP	7440-61-1	E444/CG	0.20	mg/L	<0.20	<0.20	----	----	----
Uranium, TCLP	7440-61-1	E444/EO	0.20	mg/L	----	----	<0.20	<0.20	<0.20
Vanadium, TCLP	7440-62-2	E444/CG	0.15	mg/L	<0.15	<0.15	----	----	----
Vanadium, TCLP	7440-62-2	E444/EO	0.15	mg/L	----	----	<0.15	<0.15	<0.15
Zinc, TCLP	7440-66-6	E444/CG	0.50	mg/L	<0.50	<0.50	----	----	----
Zinc, TCLP	7440-66-6	E444/EO	0.50	mg/L	----	----	1.37	<0.50	<0.50
Zirconium, TCLP	7440-67-7	E444/CG	10	mg/L	<10	<10	----	----	----
Zirconium, TCLP	7440-67-7	E444/EO	10	mg/L	----	----	<10	<10	<10
Leachable Metals									
Aluminum, leachable	7429-90-5	E441/VA	0.050	mg/kg	39.3	54.6	8.48	6.50	1.10
Antimony, leachable	7440-36-0	E441/VA	0.0020	mg/kg	0.0053	0.0032	0.0286	0.0103	0.0162
Arsenic, leachable	7440-38-2	E441/VA	0.0020	mg/kg	0.0594	0.174	1.79	3.56	2.20
Barium, leachable	7440-39-3	E441/VA	0.010	mg/kg	0.720	1.25	0.439	0.147	0.115
Beryllium, leachable	7440-41-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Bismuth, leachable	7440-69-9	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Boron, leachable	7440-42-8	E441/VA	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium, leachable	7440-43-9	E441/VA	0.0020	mg/kg	<0.0020	<0.0020	<0.0020	0.0024	<0.0020
Calcium, leachable	7440-70-2	E441/VA	0.50	mg/kg	49.3	53.9	52.3	182	300
Chromium, leachable	7440-47-3	E441/VA	0.010	mg/kg	0.047	0.055	0.022	<0.010	<0.010
Cobalt, leachable	7440-48-4	E441/VA	0.010	mg/kg	0.011	0.013	0.010	<0.010	<0.010
Copper, leachable	7440-50-8	E441/VA	0.010	mg/kg	0.149	0.083	0.107	0.070	0.042
Iron, leachable	7439-89-6	E441/VA	0.30	mg/kg	31.6	35.6	10.8	3.92	0.60
Lead, IVBA (%)	9439-92-1	EC452/VA	1.0	%	----	----	78.6	----	----
Lead, IVBA (leachate)	7439-92-1	E452/VA	0.10	mg/L	----	----	0.56	----	----
Lead, leachable	7439-92-1	E441/VA	0.010	mg/kg	0.055	0.049	0.038	<0.010	<0.010



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-21-0.3	TP23-22-0.2	TP23-23-0.1	TP23-24-0.2	TP23-25-0.1
Client sampling date / time					28-Sep-2023 00:00	28-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-021	EO2309073-022	EO2309073-023	EO2309073-024	EO2309073-025
					Result	Result	Result	Result	Result
Leachable Metals									
Lithium, leachable	7439-93-2	E441/VA	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Magnesium, leachable	7439-95-4	E441/VA	1.0	mg/kg	12.0	14.7	22.0	19.9	29.1
Manganese, leachable	7439-96-5	E441/VA	0.010	mg/kg	0.173	0.349	0.266	0.362	0.364
Molybdenum, leachable	7439-98-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Nickel, leachable	7440-02-0	E441/VA	0.010	mg/kg	0.041	0.047	0.035	0.039	0.019
Phosphorus, leachable	7723-14-0	E441/VA	3.0	mg/kg	<3.0	<3.0	3.2	39.7	7.5
Potassium, leachable	7440-09-7	E441/VA	0.50	mg/kg	14.8	18.5	14.4	70.6	12.0
Selenium, leachable	7782-49-2	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Silicon, leachable	7440-21-3	E441/VA	0.50	mg/kg	110	142	17.8	25.1	12.6
Silver, leachable	7440-22-4	E441/VA	0.0010	mg/kg	<0.0010	<0.0010	<0.0010	0.0021	0.0011
Sodium, leachable	7440-23-5	E441/VA	0.10	mg/kg	9.46	11.2	5.52	14.0	6.16
Strontium, leachable	7440-24-6	E441/VA	0.010	mg/kg	0.138	0.178	0.058	0.195	0.232
Thallium, leachable	7440-28-0	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Tin, leachable	7440-31-5	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium, leachable	7440-61-1	E441/VA	0.00010	mg/kg	0.00661	0.00525	0.00144	0.00226	0.00134
Vanadium, leachable	7440-62-2	E441/VA	0.050	mg/kg	0.146	0.145	<0.050	<0.050	<0.050
Zinc, leachable	7440-66-6	E441/VA	0.050	mg/kg	0.057	0.087	1.12	0.138	0.056
Arsenic, IVBA (%)	7440-38-2	EC452/VA	1.0	%	----	----	23.9	----	----
Arsenic, IVBA (leachate)	7440-38-2	E452/VA	0.10	mg/L	----	----	0.72	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	TP23-26-02	TP23-27-0.1	TP23-28-0.2	TP23-29-0.3	TP23-30-0.4
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-026	EO2309073-027	EO2309073-028	EO2309073-029	EO2309073-030
					Result	Result	Result	Result	Result
Sample Preparation									
pH, IVBA Initial	----	EP452/VA	0.01	pH units	----	1.54	----	----	----
Temperature, oven	----	EPP441/SK	1	°C	<38	<38	<38	<38	<38
pH, IVBA final	----	EP452/VA	0.01	pH units	----	1.55	----	----	----
Weight, extraction (dry)	----	EP452/VA	0.01	g	----	1.000	----	----	----
Final volume	----	EP452/VA	1	mL	----	100	----	----	----
Physical Tests									
Moisture	----	E144/VA	0.25	%	58.4	40.4	44.3	75.2	72.3
pH (1:2 soil:CaCl2-aq)	----	E108B/CG	0.10	pH units	6.19 ^{FR8}	4.36 ^{FR8}	5.23 ^{FR8}	5.85 ^{FR8}	6.09 ^{FR8}
pH (1:2 soil:water)	----	E108/CG	0.10	pH units	6.69 ^{FR8}	4.85 ^{FR8}	5.71 ^{FR8}	6.25 ^{FR8}	6.45 ^{FR8}
Organic / Inorganic Carbon									
Carbon, inorganic [IC]	----	E354/SK	0.050	%	0.736	0.380	0.648	0.650	0.704
Carbon, total [TC]	----	E351/SK	0.050	%	39.2	27.3	42.7	41.6	39.2
Carbon, total organic [TOC]	----	EC356/SK	0.050	%	38.5	26.9	42.0	41.0	38.5
Carbon, inorganic [IC], (as CaCO3 equivalent)	----	E354/SK	0.40	%	6.14	3.16	5.40	5.42	5.87
Plant Available Nutrients									
Ammonium, available (as N)	14798-03-9	E312A/SK	1.0	mg/kg	21.9	24.8	30.9	18.7	23.0
Sulfate, available (as S)	14808-79-8	E497.SO4/SK	3.0	mg/kg	82.0	<29.6 ^{DLM}	<30.6 ^{DLM}	119	253
Saturated Paste Extractables									
Conductivity, saturated paste	----	E102/CG	0.020	dS/m	0.285	0.237	0.164	0.297	0.571
Sodium adsorption ratio [SAR]	----	EC102/CG	0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10
% Saturation	----	E141/CG	1.0	%	448	707	535	654	649
Calcium, soluble ion content	7440-70-2	EC485/CG	5.0	mg/kg	361	366	239	526	720
Calcium, soluble ion content	7440-70-2	E485/CG	5.0	mg/L	80.6	51.7	44.6	80.4	111
Magnesium, soluble ion content	7439-95-4	EC485/CG	5.0	mg/kg	35.8	60.1	<26.8	39.2	68.8
Magnesium, soluble ion content	7439-95-4	E485/CG	5.0	mg/L	8.0	8.5	<5.0	6.0	10.6
Potassium, soluble ion content	7440-09-7	EC485/CG	5.0	mg/kg	<22.4	185	43.9	<32.7	<32.4
Potassium, soluble ion content	7440-09-7	E485/CG	5.0	mg/L	<5.0	26.2	8.2	<5.0	<5.0
Sodium, soluble ion content	17341-25-2	EC485/CG	5.0	mg/kg	<22.4	<35.3	<26.8	<32.7	<32.4
Sodium, soluble ion content	17341-25-2	E485/CG	5.0	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0
Chloride, soluble ion content	16887-00-6	EC266A.Cl/CG	10	mg/kg	<90	<141	<107	<131	<130



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-26-02	TP23-27-0.1	TP23-28-0.2	TP23-29-0.3	TP23-30-0.4
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-026	EO2309073-027	EO2309073-028	EO2309073-029	EO2309073-030
					Result	Result	Result	Result	Result
Saturated Paste Extractables									
Chloride, soluble ion content	16887-00-6	E266.CI/CG	20	mg/L	<20	<20	<20	<20	<20
Sulfur (as SO ₄), soluble ion content	14808-79-8	EC485/CG	8.0	mg/kg	366	178	80.2	759	1540
Sulfur (as SO ₄), soluble ion content	14808-79-8	E485/CG	6.0	mg/L	81.8	25.2	15.0	116	237
Metals									
Aluminum	7429-90-5	E440/CG	50	mg/kg	1700	933	1140	860	1440
Antimony	7440-36-0	E440/CG	0.10	mg/kg	3.93	14.8	6.91	12.4	8.32
Arsenic	7440-38-2	E440B/VA	0.050	mg/kg	----	260	----	----	----
Arsenic	7440-38-2	E440/CG	0.10	mg/kg	41.9	131	15.0	37.0	61.7
Barium	7440-39-3	E440/CG	0.50	mg/kg	126	81.3	59.2	42.5	66.7
Beryllium	7440-41-7	E440/CG	0.10	mg/kg	<0.15 ^{DLM}	<0.15 ^{DLM}	<0.15 ^{DLM}	<0.15 ^{DLM}	<0.15 ^{DLM}
Bismuth	7440-69-9	E440/CG	0.20	mg/kg	<0.30 ^{DLM}	<0.30 ^{DLM}	<0.30 ^{DLM}	<0.30 ^{DLM}	<0.30 ^{DLM}
Boron	7440-42-8	E440/CG	5.0	mg/kg	13.6	<7.5 ^{DLM}	8.5	25.3	19.3
Cadmium	7440-43-9	E440/CG	0.020	mg/kg	0.472	1.02	0.654	0.415	0.278
Calcium	7440-70-2	E440/CG	50	mg/kg	52000	11800	35500	28800	40400
Chromium	7440-47-3	E440/CG	0.50	mg/kg	2.35	2.79	2.17	1.98	2.77
Cobalt	7440-48-4	E440/CG	0.10	mg/kg	3.36	2.32	1.93	3.27	3.72
Copper	7440-50-8	E440/CG	0.50	mg/kg	25.8	8.17	145	76.7	39.2
Iron	7439-89-6	E440/CG	50	mg/kg	1120	1660	1020	1610	2370
Lead	7439-92-1	E440/CG	0.50	mg/kg	0.99	13.2	3.80	10.5	4.53
Lithium	7439-93-2	E440/CG	2.0	mg/kg	<3.0 ^{DLM}	<3.0 ^{DLM}	<3.0 ^{DLM}	<3.0 ^{DLM}	<3.0 ^{DLM}
Magnesium	7439-95-4	E440/CG	20	mg/kg	1770	975	844	1070	1440
Manganese	7439-96-5	E440/CG	1.0	mg/kg	2080	335	235	40.9	215
Mercury	7439-97-6	E510/CG	0.0050	mg/kg	0.0601	0.154	0.0901	0.0664	0.0669
Molybdenum	7439-98-7	E440/CG	0.10	mg/kg	0.65	0.89	0.41	1.28	0.63
Nickel	7440-02-0	E440/CG	0.50	mg/kg	14.9	3.90	35.0	16.8	12.9
Phosphorus	7723-14-0	E440/CG	50	mg/kg	636	579	420	339	578
Potassium	7440-09-7	E440/CG	100	mg/kg	180	700	300	<150 ^{DLM}	<150 ^{DLM}
Selenium	7782-49-2	E440/CG	0.20	mg/kg	0.69	<0.30 ^{DLM}	1.54	1.31	0.75
Silver	7440-22-4	E440/CG	0.10	mg/kg	<0.15 ^{DLM}	0.16	<0.15 ^{DLM}	<0.15 ^{DLM}	<0.15 ^{DLM}
Sodium	7440-23-5	E440/CG	50	mg/kg	<74 ^{DLM}	<75 ^{DLM}	<75 ^{DLM}	<74 ^{DLM}	<74 ^{DLM}



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	TP23-26-02	TP23-27-0.1	TP23-28-0.2	TP23-29-0.3	TP23-30-0.4
(Matrix: Soil/Solid)					Client sampling date / time	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-026	EO2309073-027	EO2309073-028	EO2309073-029	EO2309073-030	
					Result	Result	Result	Result	Result	
Metals										
Strontium	7440-24-6	E440/CG	0.50	mg/kg	56.0	26.1	28.6	33.5	42.5	
Sulfur	7704-34-9	E440/CG	1000	mg/kg	1700	<1500 ^{DLM}	<1500 ^{DLM}	7400	5100	
Thallium	7440-28-0	E440/CG	0.050	mg/kg	<0.074 ^{DLM}	<0.075 ^{DLM}	<0.075 ^{DLM}	<0.074 ^{DLM}	<0.074 ^{DLM}	
Tin	7440-31-5	E440/CG	2.0	mg/kg	<3.0 ^{DLM}	<3.0 ^{DLM}	<3.0 ^{DLM}	<3.0 ^{DLM}	<3.0 ^{DLM}	
Titanium	7440-32-6	E440/CG	1.0	mg/kg	22.2	26.6	14.8	23.5	28.3	
Tungsten	7440-33-7	E440/CG	0.50	mg/kg	<0.74 ^{DLM}	<0.75 ^{DLM}	<0.75 ^{DLM}	<0.74 ^{DLM}	<0.74 ^{DLM}	
Uranium	7440-61-1	E440/CG	0.050	mg/kg	0.824	1.06	4.44	5.97	2.93	
Vanadium	7440-62-2	E440/CG	0.20	mg/kg	1.73	4.59	4.30	4.08	3.81	
Zinc	7440-66-6	E440/CG	2.0	mg/kg	57.0	49.4	60.4	28.8	26.3	
Zirconium	7440-67-7	E440/CG	1.0	mg/kg	<1.5 ^{DLM}	<1.5 ^{DLM}	<1.5 ^{DLM}	<1.5 ^{DLM}	<1.5 ^{DLM}	
Lead	7439-92-1	E440B/VA	0.10	mg/kg	----	14.0	----	----	----	
Lead, IVBA (leachate)	7439-92-1	EC452A/VA	10	mg/kg	----	<10	----	----	----	
Arsenic, IVBA (leachate)	7440-38-2	EC452A/VA	10	mg/kg	----	100	----	----	----	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/EO	0.010	pH units	6.90	5.99 ^{LTIS}	6.18 ^{LTIS}	6.62	6.85	
pH, TCLP 2nd preliminary	----	EPP444/EO	0.010	pH units	2.20	1.87 ^{LTIS}	1.78 ^{LTIS}	1.76	1.78	
pH, TCLP extraction fluid initial	----	EPP444/EO	0.010	pH units	4.94	4.93 ^{LTIS}	4.93 ^{LTIS}	4.93	4.93	
pH, TCLP final	----	EPP444/EO	0.010	pH units	5.11	5.03 ^{LTIS}	5.05 ^{LTIS}	5.08	5.06	
Antimony, TCLP	7440-36-0	E444/EO	0.10	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	
Arsenic, TCLP	7440-38-2	E444/EO	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Barium, TCLP	7440-39-3	E444/EO	2.5	mg/L	<2.5	<2.5	<2.5	<2.5	<2.5	
Beryllium, TCLP	7440-41-7	E444/EO	0.025	mg/L	<0.025	<0.025	<0.025	<0.025	<0.025	
Boron, TCLP	7440-42-8	E444/EO	0.50	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
Cadmium, TCLP	7440-43-9	E444/EO	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Calcium, TCLP	7440-70-2	E444/EO	10	mg/L	232	142	193	136	159	
Chromium, TCLP	7440-47-3	E444/EO	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25	
Cobalt, TCLP	7440-48-4	E444/EO	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Copper, TCLP	7440-50-8	E444/EO	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Iron, TCLP	7439-89-6	E444/EO	5.0	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0	
Lead, TCLP	7439-92-1	E444/EO	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25	



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-26-02	TP23-27-0.1	TP23-28-0.2	TP23-29-0.3	TP23-30-0.4
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-026	EO2309073-027	EO2309073-028	EO2309073-029	EO2309073-030
					Result	Result	Result	Result	Result
TCLP Metals									
Magnesium, TCLP	7439-95-4	E444/EO	2.5	mg/L	16.8	19.6	11.1	6.9	9.9
Nickel, TCLP	7440-02-0	E444/EO	0.25	mg/L	<0.25	<0.25	<0.25	<0.25	<0.25
Selenium, TCLP	7782-49-2	E444/EO	0.10	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Silver, TCLP	7440-22-4	E444/EO	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Thallium, TCLP	7440-28-0	E444/EO	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Uranium, TCLP	7440-61-1	E444/EO	0.20	mg/L	<0.20	<0.20	<0.20	<0.20	<0.20
Vanadium, TCLP	7440-62-2	E444/EO	0.15	mg/L	<0.15	<0.15	<0.15	<0.15	<0.15
Zinc, TCLP	7440-66-6	E444/EO	0.50	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50
Zirconium, TCLP	7440-67-7	E444/EO	10	mg/L	<10	<10	<10	<10	<10
Leachable Metals									
Aluminum, leachable	7429-90-5	E441/VA	0.050	mg/kg	1.20	3.70	1.60	1.03	0.922
Antimony, leachable	7440-36-0	E441/VA	0.0020	mg/kg	0.0143	0.0140	0.0200	0.0669	0.0488
Arsenic, leachable	7440-38-2	E441/VA	0.0020	mg/kg	3.07	4.22	1.17	12.9	10.8
Barium, leachable	7440-39-3	E441/VA	0.010	mg/kg	0.152	0.393	0.112	0.166	0.183
Beryllium, leachable	7440-41-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Bismuth, leachable	7440-69-9	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Boron, leachable	7440-42-8	E441/VA	0.50	mg/kg	<0.50	<0.50	<0.50	2.14	0.88
Cadmium, leachable	7440-43-9	E441/VA	0.0020	mg/kg	<0.0020	0.0025	<0.0020	<0.0020	<0.0020
Calcium, leachable	7440-70-2	E441/VA	0.50	mg/kg	336	205	203	375	408
Chromium, leachable	7440-47-3	E441/VA	0.010	mg/kg	<0.010	0.012	<0.010	<0.010	<0.010
Cobalt, leachable	7440-48-4	E441/VA	0.010	mg/kg	<0.010	0.016	<0.010	0.016	0.014
Copper, leachable	7440-50-8	E441/VA	0.010	mg/kg	0.034	0.076	0.302	0.227	0.079
Iron, leachable	7439-89-6	E441/VA	0.30	mg/kg	0.55	3.72	1.42	0.91	1.16
Lead, IVBA (%)	9439-92-1	EC452/VA	1.0	%	----	<1.0	----	----	----
Lead, IVBA (leachate)	7439-92-1	E452/VA	0.10	mg/L	----	<0.10	----	----	----
Lead, leachable	7439-92-1	E441/VA	0.010	mg/kg	<0.010	0.012	0.017	<0.010	<0.010
Lithium, leachable	7439-93-2	E441/VA	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Magnesium, leachable	7439-95-4	E441/VA	1.0	mg/kg	24.7	31.8	11.4	20.3	27.5
Manganese, leachable	7439-96-5	E441/VA	0.010	mg/kg	0.701	1.47	0.375	0.126	0.503
Molybdenum, leachable	7439-98-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	0.054	0.010



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)					Client sample ID	TP23-26-02	TP23-27-0.1	TP23-28-0.2	TP23-29-0.3	TP23-30-0.4
					Client sampling date / time	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-026	EO2309073-027	EO2309073-028	EO2309073-029	EO2309073-030	
					Result	Result	Result	Result	Result	
Leachable Metals										
Nickel, leachable	7440-02-0	E441/VA	0.010	mg/kg	0.021	0.033	0.066	0.064	0.029	
Phosphorus, leachable	7723-14-0	E441/VA	3.0	mg/kg	3.4	21.2	9.6	3.3	3.6	
Potassium, leachable	7440-09-7	E441/VA	0.50	mg/kg	5.92	90.5	23.8	1.58	3.43	
Selenium, leachable	7782-49-2	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Silicon, leachable	7440-21-3	E441/VA	0.50	mg/kg	7.34	25.3	14.8	29.9	7.39	
Silver, leachable	7440-22-4	E441/VA	0.0010	mg/kg	<0.0010	<0.0010	0.0013	<0.0010	<0.0010	
Sodium, leachable	7440-23-5	E441/VA	0.10	mg/kg	15.9	26.7	9.68	13.0	15.1	
Strontium, leachable	7440-24-6	E441/VA	0.010	mg/kg	0.276	0.340	0.112	0.362	0.346	
Thallium, leachable	7440-28-0	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Tin, leachable	7440-31-5	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Uranium, leachable	7440-61-1	E441/VA	0.00010	mg/kg	0.00075	0.00656	0.00276	0.00544	0.00177	
Vanadium, leachable	7440-62-2	E441/VA	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	
Zinc, leachable	7440-66-6	E441/VA	0.050	mg/kg	<0.050	0.125	0.178	0.064	<0.050	
Arsenic, IVBA (%)	7440-38-2	EC452/VA	1.0	%	----	38.5	----	----	----	
Arsenic, IVBA (leachate)	7440-38-2	E452/VA	0.10	mg/L	----	1.00	----	----	----	

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)					Client sample ID	TP23-31-0.3	TP23-32-0.3	TP23-33-0.1	TP23-34-0.2	TP23-35-0.2
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-031	EO2309073-032	EO2309073-033	EO2309073-034	EO2309073-035	
					Result	Result	Result	Result	Result	
Sample Preparation										
Temperature, oven	----	EPP441/SK	1	°C	<38	<38	<38	<38	<38	
Physical Tests										
Moisture	----	E144/VA	0.25	%	74.3	74.0	24.0	53.0	43.2	
pH (1:2 soil:CaCl2-aq)	----	E108B/CG	0.10	pH units	6.02 ^{FR8}	6.12 ^{FR8}	6.45 ^{FR8}	5.84 ^{FR8}	6.41 ^{FR8}	
pH (1:2 soil:water)	----	E108/CG	0.10	pH units	6.36 ^{FR8}	6.42 ^{FR8}	6.93	6.52 ^{FR8}	6.85 ^{FR8}	
Organic / Inorganic Carbon										
Carbon, inorganic [IC]	----	E354/SK	0.050	%	0.576	0.644	0.351	0.597	0.853	
Carbon, total [TC]	----	E351/SK	0.050	%	37.4	39.1	13.7	38.5	39.3	
Carbon, total organic [TOC]	----	EC356/SK	0.050	%	36.8	38.4	13.3	37.9	38.4	
Carbon, inorganic [IC], (as CaCO3 equivalent)	----	E354/SK	0.40	%	4.80	5.37	2.92	4.97	7.11	
Plant Available Nutrients										
Ammonium, available (as N)	14798-03-9	E312A/SK	1.0	mg/kg	14.0	17.3	10.3	21.1	22.8	
Sulfate, available (as S)	14808-79-8	E497.SO4/SK	3.0	mg/kg	452	258	<15.1 ^{DLM}	<30.3 ^{DLM}	<30.4 ^{DLM}	
Saturated Paste Extractables										
Conductivity, saturated paste	----	E102/CG	0.020	dS/m	0.685	0.682	0.225	0.150	0.202	
Sodium adsorption ratio [SAR]	----	EC102/CG	0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	
% Saturation	----	E141/CG	1.0	%	703	763	130	430	427	
Calcium, soluble ion content	7440-70-2	EC485/CG	5.0	mg/kg	970	1120	82.9	190	238	
Calcium, soluble ion content	7440-70-2	E485/CG	5.0	mg/L	138	147	63.8	44.3	55.7	
Magnesium, soluble ion content	7439-95-4	EC485/CG	5.0	mg/kg	86.5	84.7	7.7	<21.5	<21.4	
Magnesium, soluble ion content	7439-95-4	E485/CG	5.0	mg/L	12.3	11.1	5.9	<5.0	<5.0	
Potassium, soluble ion content	7440-09-7	EC485/CG	5.0	mg/kg	<35.2	<38.2	<6.5	<21.5	<21.4	
Potassium, soluble ion content	7440-09-7	E485/CG	5.0	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0	
Sodium, soluble ion content	17341-25-2	EC485/CG	5.0	mg/kg	<35.2	<38.2	<6.5	<21.5	<21.4	
Sodium, soluble ion content	17341-25-2	E485/CG	5.0	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0	
Chloride, soluble ion content	16887-00-6	EC266A.Cl/CG	10	mg/kg	<141	<153	<26	<86	<85	
Chloride, soluble ion content	16887-00-6	E266.Cl/CG	20	mg/L	<20	<20	<20	<20	<20	
Sulfur (as SO4), soluble ion content	14808-79-8	EC485/CG	8.0	mg/kg	2150	2110	30.4	67.1	50.0	
Sulfur (as SO4), soluble ion content	14808-79-8	E485/CG	6.0	mg/L	306	277	23.4	15.6	11.7	
Metals										



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-31-0.3	TP23-32-0.3	TP23-33-0.1	TP23-34-0.2	TP23-35-0.2
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-031	EO2309073-032	EO2309073-033	EO2309073-034	EO2309073-035
					Result	Result	Result	Result	Result
Metals									
Aluminum	7429-90-5	E440/CG	50	mg/kg	978	609	8650	4050	2280
Antimony	7440-36-0	E440/CG	0.10	mg/kg	14.0	10.8	1.62	1.61	4.92
Arsenic	7440-38-2	E440/CG	0.10	mg/kg	41.7	53.3	14.1	25.5	11.3
Barium	7440-39-3	E440/CG	0.50	mg/kg	46.8	79.1	172	91.3	172
Beryllium	7440-41-7	E440/CG	0.10	mg/kg	<0.15 DLM	<0.15 DLM	0.41	<0.15 DLM	<0.15 DLM
Bismuth	7440-69-9	E440/CG	0.20	mg/kg	<0.29 DLM	<0.30 DLM	<0.20	<0.29 DLM	<0.30 DLM
Boron	7440-42-8	E440/CG	5.0	mg/kg	29.2	32.5	6.2	12.8	17.9
Cadmium	7440-43-9	E440/CG	0.020	mg/kg	0.577	0.304	0.163	0.208	0.436
Calcium	7440-70-2	E440/CG	50	mg/kg	27200	40200	27000	48400	64500
Chromium	7440-47-3	E440/CG	0.50	mg/kg	2.60	1.59	22.8	10.4	3.35
Cobalt	7440-48-4	E440/CG	0.10	mg/kg	2.67	1.88	5.86	2.27	2.72
Copper	7440-50-8	E440/CG	0.50	mg/kg	66.6	23.6	41.9	33.5	121
Iron	7439-89-6	E440/CG	50	mg/kg	3830	1400	13900	5880	1480
Lead	7439-92-1	E440/CG	0.50	mg/kg	2.48	5.04	3.28	1.65	<0.74 DLM
Lithium	7439-93-2	E440/CG	2.0	mg/kg	<2.9 DLM	<3.0 DLM	11.8	4.0	<3.0 DLM
Magnesium	7439-95-4	E440/CG	20	mg/kg	1220	1220	4200	2210	970
Manganese	7439-96-5	E440/CG	1.0	mg/kg	37.7	831	185	142	559
Mercury	7439-97-6	E510/CG	0.0050	mg/kg	0.0717	0.110	0.0373	0.0507	0.0589
Molybdenum	7439-98-7	E440/CG	0.10	mg/kg	1.64	0.52	0.32	0.37	0.24
Nickel	7440-02-0	E440/CG	0.50	mg/kg	27.0	10.4	20.3	11.0	16.4
Phosphorus	7723-14-0	E440/CG	50	mg/kg	355	618	465	662	1010
Potassium	7440-09-7	E440/CG	100	mg/kg	<150 DLM	<150 DLM	840	180	<150 DLM
Selenium	7782-49-2	E440/CG	0.20	mg/kg	1.42	0.63	1.16	1.01	3.23
Silver	7440-22-4	E440/CG	0.10	mg/kg	<0.15 DLM	<0.15 DLM	0.19	<0.15 DLM	0.20
Sodium	7440-23-5	E440/CG	50	mg/kg	<74 DLM	<74 DLM	116	<74 DLM	<74 DLM
Strontium	7440-24-6	E440/CG	0.50	mg/kg	31.4	44.7	32.1	42.8	44.9
Sulfur	7704-34-9	E440/CG	1000	mg/kg	8100	5200	1500	2900	1900
Thallium	7440-28-0	E440/CG	0.050	mg/kg	<0.074 DLM	<0.074 DLM	0.052	<0.074 DLM	<0.074 DLM
Tin	7440-31-5	E440/CG	2.0	mg/kg	<2.9 DLM	<3.0 DLM	<2.0	<2.9 DLM	<3.0 DLM
Titanium	7440-32-6	E440/CG	1.0	mg/kg	22.9	12.5	239	61.6	19.0



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-31-0.3	TP23-32-0.3	TP23-33-0.1	TP23-34-0.2	TP23-35-0.2
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-031	EO2309073-032	EO2309073-033	EO2309073-034	EO2309073-035
					Result	Result	Result	Result	Result
Metals									
Tungsten	7440-33-7	E440/CG	0.50	mg/kg	<0.74 ^{DLM}	<0.74 ^{DLM}	<0.50	<0.74 ^{DLM}	<0.74 ^{DLM}
Uranium	7440-61-1	E440/CG	0.050	mg/kg	5.56	1.66	5.92	8.94	4.32
Vanadium	7440-62-2	E440/CG	0.20	mg/kg	3.58	3.33	29.4	11.1	7.41
Zinc	7440-66-6	E440/CG	2.0	mg/kg	83.6	68.0	17.1	13.0	5.2
Zirconium	7440-67-7	E440/CG	1.0	mg/kg	<1.5 ^{DLM}	<1.5 ^{DLM}	7.0	<1.5 ^{DLM}	1.6
TCLP Metals									
pH, TCLP 1st preliminary	----	EPP444/CG	0.010	pH units	----	----	7.57	----	----
pH, TCLP 1st preliminary	----	EPP444/EO	0.010	pH units	6.78	6.78	----	6.52 ^{LTIS}	7.22 ^{LTIS}
pH, TCLP 2nd preliminary	----	EPP444/CG	0.010	pH units	----	----	1.49	----	----
pH, TCLP 2nd preliminary	----	EPP444/EO	0.010	pH units	1.81	1.94	----	2.19 ^{LTIS}	2.66 ^{LTIS}
pH, TCLP extraction fluid initial	----	EPP444/CG	0.010	pH units	----	----	4.90	----	----
pH, TCLP extraction fluid initial	----	EPP444/EO	0.010	pH units	4.93	4.93	----	4.93 ^{LTIS}	4.93 ^{LTIS}
pH, TCLP final	----	EPP444/CG	0.010	pH units	----	----	5.50	----	----
pH, TCLP final	----	EPP444/EO	0.010	pH units	5.08	5.09	----	5.09 ^{LTIS}	5.19 ^{LTIS}
Antimony, TCLP	7440-36-0	E444/CG	0.10	mg/L	----	----	<0.10	----	----
Antimony, TCLP	7440-36-0	E444/EO	0.10	mg/L	<0.10	<0.10	----	<0.10	<0.10
Arsenic, TCLP	7440-38-2	E444/CG	1.0	mg/L	----	----	<1.0	----	----
Arsenic, TCLP	7440-38-2	E444/EO	1.0	mg/L	<1.0	<1.0	----	<1.0	<1.0
Barium, TCLP	7440-39-3	E444/CG	2.5	mg/L	----	----	<2.5	----	----
Barium, TCLP	7440-39-3	E444/EO	2.5	mg/L	<2.5	<2.5	----	<2.5	<2.5
Beryllium, TCLP	7440-41-7	E444/CG	0.025	mg/L	----	----	<0.025	----	----
Beryllium, TCLP	7440-41-7	E444/EO	0.025	mg/L	<0.025	<0.025	----	<0.025	<0.025
Boron, TCLP	7440-42-8	E444/CG	0.50	mg/L	----	----	<0.50	----	----
Boron, TCLP	7440-42-8	E444/EO	0.50	mg/L	<0.50	<0.50	----	<0.50	<0.50
Cadmium, TCLP	7440-43-9	E444/CG	0.050	mg/L	----	----	<0.050	----	----
Cadmium, TCLP	7440-43-9	E444/EO	0.050	mg/L	<0.050	<0.050	----	<0.050	<0.050
Calcium, TCLP	7440-70-2	E444/CG	10	mg/L	----	----	220	----	----
Calcium, TCLP	7440-70-2	E444/EO	10	mg/L	142	164	----	205	299
Chromium, TCLP	7440-47-3	E444/CG	0.25	mg/L	----	----	<0.25	----	----
Chromium, TCLP	7440-47-3	E444/EO	0.25	mg/L	<0.25	<0.25	----	<0.25	<0.25



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-31-0.3	TP23-32-0.3	TP23-33-0.1	TP23-34-0.2	TP23-35-0.2
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-031	EO2309073-032	EO2309073-033	EO2309073-034	EO2309073-035
					Result	Result	Result	Result	Result
TCLP Metals									
Cobalt, TCLP	7440-48-4	E444/CG	0.050	mg/L	----	----	<0.050	----	----
Cobalt, TCLP	7440-48-4	E444/EO	0.050	mg/L	<0.050	<0.050	----	<0.050	<0.050
Copper, TCLP	7440-50-8	E444/CG	0.050	mg/L	----	----	<0.050	----	----
Copper, TCLP	7440-50-8	E444/EO	0.050	mg/L	<0.050	<0.050	----	<0.050	<0.050
Iron, TCLP	7439-89-6	E444/CG	5.0	mg/L	----	----	<5.0	----	----
Iron, TCLP	7439-89-6	E444/EO	5.0	mg/L	<5.0	<5.0	----	<5.0	<5.0
Lead, TCLP	7439-92-1	E444/CG	0.25	mg/L	----	----	<0.25	----	----
Lead, TCLP	7439-92-1	E444/EO	0.25	mg/L	<0.25	<0.25	----	<0.25	<0.25
Magnesium, TCLP	7439-95-4	E444/CG	2.5	mg/L	----	----	13.3	----	----
Magnesium, TCLP	7439-95-4	E444/EO	2.5	mg/L	9.4	9.4	----	8.4	11.8
Nickel, TCLP	7440-02-0	E444/CG	0.25	mg/L	----	----	<0.25	----	----
Nickel, TCLP	7440-02-0	E444/EO	0.25	mg/L	<0.25	<0.25	----	<0.25	<0.25
Selenium, TCLP	7782-49-2	E444/CG	0.10	mg/L	----	----	<0.10	----	----
Selenium, TCLP	7782-49-2	E444/EO	0.10	mg/L	<0.10	<0.10	----	<0.10	<0.10
Silver, TCLP	7440-22-4	E444/CG	0.050	mg/L	----	----	<0.050	----	----
Silver, TCLP	7440-22-4	E444/EO	0.050	mg/L	<0.050	<0.050	----	<0.050	<0.050
Thallium, TCLP	7440-28-0	E444/CG	1.0	mg/L	----	----	<1.0	----	----
Thallium, TCLP	7440-28-0	E444/EO	1.0	mg/L	<1.0	<1.0	----	<1.0	<1.0
Uranium, TCLP	7440-61-1	E444/CG	0.20	mg/L	----	----	<0.20	----	----
Uranium, TCLP	7440-61-1	E444/EO	0.20	mg/L	<0.20	<0.20	----	<0.20	<0.20
Vanadium, TCLP	7440-62-2	E444/CG	0.15	mg/L	----	----	<0.15	----	----
Vanadium, TCLP	7440-62-2	E444/EO	0.15	mg/L	<0.15	<0.15	----	<0.15	<0.15
Zinc, TCLP	7440-66-6	E444/CG	0.50	mg/L	----	----	<0.50	----	----
Zinc, TCLP	7440-66-6	E444/EO	0.50	mg/L	<0.50	<0.50	----	<0.50	<0.50
Zirconium, TCLP	7440-67-7	E444/CG	10	mg/L	----	----	<10	----	----
Zirconium, TCLP	7440-67-7	E444/EO	10	mg/L	<10	<10	----	<10	<10
Leachable Metals									
Aluminum, leachable	7429-90-5	E441/VA	0.050	mg/kg	2.30	1.02	2.62	1.56	1.13
Antimony, leachable	7440-36-0	E441/VA	0.0020	mg/kg	0.150	0.0508	0.0069	0.0044	0.0223
Arsenic, leachable	7440-38-2	E441/VA	0.0020	mg/kg	4.40	13.6	0.132	0.955	1.32



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)					Client sample ID	TP23-31-0.3	TP23-32-0.3	TP23-33-0.1	TP23-34-0.2	TP23-35-0.2
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-031	EO2309073-032	EO2309073-033	EO2309073-034	EO2309073-035	
					Result	Result	Result	Result	Result	
Leachable Metals										
Barium, leachable	7440-39-3	E441/VA	0.010	mg/kg	0.833	0.682	0.087	0.100	0.137	
Beryllium, leachable	7440-41-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Bismuth, leachable	7440-69-9	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Boron, leachable	7440-42-8	E441/VA	0.50	mg/kg	3.96	1.66	<0.50	<0.50	<0.50	
Cadmium, leachable	7440-43-9	E441/VA	0.0020	mg/kg	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
Calcium, leachable	7440-70-2	E441/VA	0.50	mg/kg	740	895	62.1	162	186	
Chromium, leachable	7440-47-3	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Cobalt, leachable	7440-48-4	E441/VA	0.010	mg/kg	0.026	0.016	<0.010	<0.010	<0.010	
Copper, leachable	7440-50-8	E441/VA	0.010	mg/kg	0.228	0.069	0.029	0.034	0.118	
Iron, leachable	7439-89-6	E441/VA	0.30	mg/kg	10.8	0.98	1.82	0.58	0.45	
Lead, leachable	7439-92-1	E441/VA	0.010	mg/kg	<0.010	0.021	<0.010	<0.010	<0.010	
Lithium, leachable	7439-93-2	E441/VA	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	
Magnesium, leachable	7439-95-4	E441/VA	1.0	mg/kg	56.8	58.3	4.4	5.4	6.7	
Manganese, leachable	7439-96-5	E441/VA	0.010	mg/kg	0.394	3.06	0.024	0.246	0.290	
Molybdenum, leachable	7439-98-7	E441/VA	0.010	mg/kg	0.090	<0.010	<0.010	<0.010	<0.010	
Nickel, leachable	7440-02-0	E441/VA	0.010	mg/kg	0.103	0.039	0.014	0.012	0.020	
Phosphorus, leachable	7723-14-0	E441/VA	3.0	mg/kg	4.0	10.3	<3.0	4.1	4.8	
Potassium, leachable	7440-09-7	E441/VA	0.50	mg/kg	2.67	2.01	8.42	3.94	4.21	
Selenium, leachable	7782-49-2	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Silicon, leachable	7440-21-3	E441/VA	0.50	mg/kg	23.1	11.2	14.7	4.15	10.0	
Silver, leachable	7440-22-4	E441/VA	0.0010	mg/kg	<0.0010	<0.0010	<0.0010	<0.0010	0.0014	
Sodium, leachable	7440-23-5	E441/VA	0.10	mg/kg	17.6	10.9	3.77	2.95	5.03	
Strontium, leachable	7440-24-6	E441/VA	0.010	mg/kg	0.691	0.848	0.049	0.106	0.097	
Thallium, leachable	7440-28-0	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Tin, leachable	7440-31-5	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	
Uranium, leachable	7440-61-1	E441/VA	0.00010	mg/kg	0.00780	0.00206	0.00123	0.00222	0.00156	
Vanadium, leachable	7440-62-2	E441/VA	0.050	mg/kg	<0.050	<0.050	0.054	<0.050	<0.050	
Zinc, leachable	7440-66-6	E441/VA	0.050	mg/kg	0.245	0.248	<0.050	<0.050	<0.050	



Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)					Client sample ID	TP23-36-0.2	TP23-37-0.1	OMR23-38-0.1	OMR23-39-0.1	OMR23-40-0.1
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-036	EO2309073-037	EO2309073-038	EO2309073-039	EO2309073-040	
					Result	Result	Result	Result	Result	
Sample Preparation										
pH, IVBA Initial	----	EP452/VA	0.01	pH units	----	----	----	1.50	1.53	
Temperature, oven	----	EPP441/SK	1	°C	<38	<38	<38	<38	<38	
pH, IVBA final	----	EP452/VA	0.01	pH units	----	----	----	1.51	1.58	
Weight, extraction (dry)	----	EP452/VA	0.01	g	----	----	----	1.009	1.031	
Final volume	----	EP452/VA	1	mL	----	----	----	100	100	
Physical Tests										
Moisture	----	E144/VA	0.25	%	66.7	46.1	3.33	3.77	4.81	
pH (1:2 soil:CaCl2-aq)	----	E108B/CG	0.10	pH units	6.18 ^{FR8}	4.60 ^{FR8}	6.95	7.15	7.15	
pH (1:2 soil:water)	----	E108/CG	0.10	pH units	6.74 ^{FR8}	5.19 ^{FR8}	7.46	8.05	8.04	
Particle Size										
Sand (>0.075mm)	----	E178/CG	1.0	%	----	----	80.5	74.3	78.0	
Fines (<0.075mm)	----	E178/CG	1.0	%	----	----	19.5	25.7	22.0	
Texture class	----	E178/CG	-	-	----	----	Coarse	Coarse	Coarse	
Organic / Inorganic Carbon										
Carbon, inorganic [IC]	----	E354/SK	0.050	%	0.758	0.354	0.075	0.148	0.248	
Carbon, total [TC]	----	E351/SK	0.050	%	40.8	41.5	0.573	1.09	1.11	
Carbon, total organic [TOC]	----	EC356/SK	0.050	%	40.0	41.1	0.498	0.942	0.862	
Carbon, inorganic [IC], (as CaCO3 equivalent)	----	E354/SK	0.40	%	6.32	2.95	0.62	1.23	2.06	
Plant Available Nutrients										
Ammonium, available (as N)	14798-03-9	E312A/SK	1.0	mg/kg	19.9	19.4	<1.0	<1.0	<1.0	
Sulfate, available (as S)	14808-79-8	E497.SO4/SK	3.0	mg/kg	<29.6 ^{DLM}	<29.8 ^{DLM}	<6.0 ^{DLM}	<6.0 ^{DLM}	6.4	
Saturated Paste Extractables										
Conductivity, saturated paste	----	E102/CG	0.020	dS/m	0.170	0.078	0.171	0.209	0.172	
Sodium adsorption ratio [SAR]	----	EC102/CG	0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	
% Saturation	----	E141/CG	1.0	%	602	513	27.9	42.9	31.8	
Calcium, soluble ion content	7440-70-2	EC485/CG	5.0	mg/kg	289	81.0	8.9	14.3	11.7	
Calcium, soluble ion content	7440-70-2	E485/CG	5.0	mg/L	48.0	15.8	31.9	33.3	36.9	
Magnesium, soluble ion content	7439-95-4	EC485/CG	5.0	mg/kg	<30.1	<25.6	<5.0	<5.0	<5.0	
Magnesium, soluble ion content	7439-95-4	E485/CG	5.0	mg/L	<5.0	<5.0	<5.0	6.8	<5.0	
Potassium, soluble ion content	7440-09-7	EC485/CG	5.0	mg/kg	<30.1	<25.6	<5.0	11.5	<5.0	



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-36-0.2	TP23-37-0.1	OMR23-38-0.1	OMR23-39-0.1	OMR23-40-0.1
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-036	EO2309073-037	EO2309073-038	EO2309073-039	EO2309073-040
					Result	Result	Result	Result	Result
Saturated Paste Extractables									
Potassium, soluble ion content	7440-09-7	E485/CG	5.0	mg/L	<5.0	<5.0	5.8	26.9	6.0
Sodium, soluble ion content	17341-25-2	EC485/CG	5.0	mg/kg	<30.1	<25.6	<5.0	<5.0	<5.0
Sodium, soluble ion content	17341-25-2	E485/CG	5.0	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0
Chloride, soluble ion content	16887-00-6	EC266A.CI/CG	10	mg/kg	<120	<102	<10	<10	<10
Chloride, soluble ion content	16887-00-6	E266.CI/CG	20	mg/L	<20	<20	<20	<20	<20
Sulfur (as SO ₄), soluble ion content	14808-79-8	EC485/CG	8.0	mg/kg	141	52.3	<8.0	<8.0	9.4
Sulfur (as SO ₄), soluble ion content	14808-79-8	E485/CG	6.0	mg/L	23.4	10.2	21.6	17.7	29.7
Acid Base Accounting									
Arsenate [As V]	17428-41-0	OJ-19D/1E	0.01	mg/kg	----	----	----	----	see attached
Arsenite [As III]	22541-54-4	OJ-19D/1E	0.01	mg/kg	----	----	----	----	see attached
Dimethylarsinic acid [DMA], (as As)	75-60-5	OJ-19D/1E	0.01	mg/kg	----	----	----	----	see attached
Monomethylarsonic acid [MMA], (as As)	2163-80-6	OJ-19D/1E	0.02	mg/kg	----	----	----	----	see attached
Metals									
Aluminum	7429-90-5	E440/CG	50	mg/kg	1180	2240	9810	10600	11500
Antimony	7440-36-0	E440/CG	0.10	mg/kg	3.70	12.1	0.86	1.16	3.17
Arsenic	7440-38-2	E440B/VA	0.050	mg/kg	----	----	----	126	903
Arsenic	7440-38-2	E440/CG	0.10	mg/kg	9.54	46.7	77.1	136	767
Barium	7440-39-3	E440/CG	0.50	mg/kg	98.0	50.4	39.6	47.4	30.6
Beryllium	7440-41-7	E440/CG	0.10	mg/kg	<0.15 ^{DLM}	<0.15 ^{DLM}	0.18	0.18	0.16
Bismuth	7440-69-9	E440/CG	0.20	mg/kg	<0.29 ^{DLM}	<0.30 ^{DLM}	<0.20	<0.20	<0.20
Boron	7440-42-8	E440/CG	5.0	mg/kg	21.4	<7.4 ^{DLM}	<5.0	<5.0	<5.0
Cadmium	7440-43-9	E440/CG	0.020	mg/kg	0.441	0.300	0.071	0.096	0.091
Calcium	7440-70-2	E440/CG	50	mg/kg	51300	17700	2550	5750	9430
Chromium	7440-47-3	E440/CG	0.50	mg/kg	2.25	3.68	35.5	41.1	35.7
Cobalt	7440-48-4	E440/CG	0.10	mg/kg	1.27	2.06	8.62	9.33	12.8
Copper	7440-50-8	E440/CG	0.50	mg/kg	50.3	15.2	21.8	26.7	44.0
Iron	7439-89-6	E440/CG	50	mg/kg	885	2260	17000	18400	21800
Lead	7439-92-1	E440/CG	0.50	mg/kg	1.19	9.76	8.93	10.1	7.83
Lithium	7439-93-2	E440/CG	2.0	mg/kg	<2.9 ^{DLM}	<3.0 ^{DLM}	18.3	20.4	19.8
Magnesium	7439-95-4	E440/CG	20	mg/kg	931	902	6390	7650	9120



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-36-0.2	TP23-37-0.1	OMR23-38-0.1	OMR23-39-0.1	OMR23-40-0.1
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-036	EO2309073-037	EO2309073-038	EO2309073-039	EO2309073-040
					Result	Result	Result	Result	Result
Metals									
Manganese	7439-96-5	E440/CG	1.0	mg/kg	178	81.7	195	227	299
Mercury	7439-97-6	E510/CG	0.0050	mg/kg	0.0629	0.104	<0.0050	<0.0050	<0.0050
Molybdenum	7439-98-7	E440/CG	0.10	mg/kg	0.29	0.41	0.36	0.37	0.44
Nickel	7440-02-0	E440/CG	0.50	mg/kg	13.9	6.70	23.8	30.7	32.4
Phosphorus	7723-14-0	E440/CG	50	mg/kg	690	736	448	571	495
Potassium	7440-09-7	E440/CG	100	mg/kg	<150 ^{DLM}	400	1450	1870	1090
Selenium	7782-49-2	E440/CG	0.20	mg/kg	2.27	0.46	<0.20	<0.20	<0.20
Silver	7440-22-4	E440/CG	0.10	mg/kg	<0.15 ^{DLM}	<0.15 ^{DLM}	0.12	<0.10	0.22
Sodium	7440-23-5	E440/CG	50	mg/kg	<74 ^{DLM}	<74 ^{DLM}	136	138	162
Strontium	7440-24-6	E440/CG	0.50	mg/kg	47.0	16.7	5.22	7.75	9.98
Sulfur	7704-34-9	E440/CG	1000	mg/kg	2600	2300	<1000	<1000	<1000
Thallium	7440-28-0	E440/CG	0.050	mg/kg	<0.074 ^{DLM}	<0.074 ^{DLM}	0.072	0.073	0.060
Tin	7440-31-5	E440/CG	2.0	mg/kg	<2.9 ^{DLM}	<3.0 ^{DLM}	<2.0	<2.0	<2.0
Titanium	7440-32-6	E440/CG	1.0	mg/kg	11.1	21.2	367	349	341
Tungsten	7440-33-7	E440/CG	0.50	mg/kg	<0.74 ^{DLM}	<0.74 ^{DLM}	<0.50	0.64	0.64
Uranium	7440-61-1	E440/CG	0.050	mg/kg	3.53	0.574	0.774	0.633	0.621
Vanadium	7440-62-2	E440/CG	0.20	mg/kg	1.99	4.24	32.2	34.0	39.0
Zinc	7440-66-6	E440/CG	2.0	mg/kg	19.1	13.4	41.4	47.8	48.0
Zirconium	7440-67-7	E440/CG	1.0	mg/kg	<1.5 ^{DLM}	<1.5 ^{DLM}	<1.0	<1.0	<1.0
Lead	7439-92-1	E440B/VA	0.10	mg/kg	----	----	----	16.4	14.7
Lead, IVBA (leachate)	7439-92-1	EC452A/VA	10	mg/kg	----	----	----	11	11
Arsenic, IVBA (leachate)	7440-38-2	EC452A/VA	10	mg/kg	----	----	----	37	116
TCLP Metals									
pH, TCLP 1st preliminary	----	EPP444/CG	0.010	pH units	----	----	8.32	----	8.96
pH, TCLP 1st preliminary	----	EPP444/EO	0.010	pH units	7.15	5.88 ^{LTIS}	----	8.22	----
pH, TCLP 2nd preliminary	----	EPP444/CG	0.010	pH units	----	----	1.37	----	1.38
pH, TCLP 2nd preliminary	----	EPP444/EO	0.010	pH units	2.09	2.11 ^{LTIS}	----	1.41	----
pH, TCLP extraction fluid initial	----	EPP444/CG	0.010	pH units	----	----	4.94	----	4.90
pH, TCLP extraction fluid initial	----	EPP444/EO	0.010	pH units	4.93	4.93 ^{LTIS}	----	4.94	----
pH, TCLP final	----	EPP444/CG	0.010	pH units	----	----	6.34	----	5.45



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)					Client sample ID	TP23-36-0.2	TP23-37-0.1	OMR23-38-0.1	OMR23-39-0.1	OMR23-40-0.1
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-036	EO2309073-037	EO2309073-038	EO2309073-039	EO2309073-040	
					Result	Result	Result	Result	Result	
TCLP Metals										
pH, TCLP final	----	EPP444/EO	0.010	pH units	5.12	4.93 ^{LTIS}	----	5.09	----	
Antimony, TCLP	7440-36-0	E444/CG	0.10	mg/L	----	----	<0.10	----	<0.10	
Antimony, TCLP	7440-36-0	E444/EO	0.10	mg/L	<0.10	<0.10	----	<0.10	----	
Arsenic, TCLP	7440-38-2	E444/CG	1.0	mg/L	----	----	<1.0	----	<1.0	
Arsenic, TCLP	7440-38-2	E444/EO	1.0	mg/L	<1.0	<1.0	----	<1.0	----	
Barium, TCLP	7440-39-3	E444/CG	2.5	mg/L	----	----	<2.5	----	<2.5	
Barium, TCLP	7440-39-3	E444/EO	2.5	mg/L	<2.5	<2.5	----	<2.5	----	
Beryllium, TCLP	7440-41-7	E444/CG	0.025	mg/L	----	----	<0.025	----	<0.025	
Beryllium, TCLP	7440-41-7	E444/EO	0.025	mg/L	<0.025	<0.025	----	<0.025	----	
Boron, TCLP	7440-42-8	E444/CG	0.50	mg/L	----	----	<0.50	----	<0.50	
Boron, TCLP	7440-42-8	E444/EO	0.50	mg/L	<0.50	<0.50	----	<0.50	----	
Cadmium, TCLP	7440-43-9	E444/CG	0.050	mg/L	----	----	<0.050	----	<0.050	
Cadmium, TCLP	7440-43-9	E444/EO	0.050	mg/L	<0.050	<0.050	----	<0.050	----	
Calcium, TCLP	7440-70-2	E444/CG	10	mg/L	----	----	63	----	223	
Calcium, TCLP	7440-70-2	E444/EO	10	mg/L	195	108	----	87	----	
Chromium, TCLP	7440-47-3	E444/CG	0.25	mg/L	----	----	<0.25	----	<0.25	
Chromium, TCLP	7440-47-3	E444/EO	0.25	mg/L	<0.25	<0.25	----	<0.25	----	
Cobalt, TCLP	7440-48-4	E444/CG	0.050	mg/L	----	----	<0.050	----	<0.050	
Cobalt, TCLP	7440-48-4	E444/EO	0.050	mg/L	<0.050	<0.050	----	<0.050	----	
Copper, TCLP	7440-50-8	E444/CG	0.050	mg/L	----	----	<0.050	----	<0.050	
Copper, TCLP	7440-50-8	E444/EO	0.050	mg/L	<0.050	<0.050	----	<0.050	----	
Iron, TCLP	7439-89-6	E444/CG	5.0	mg/L	----	----	<5.0	----	<5.0	
Iron, TCLP	7439-89-6	E444/EO	5.0	mg/L	<5.0	<5.0	----	<5.0	----	
Lead, TCLP	7439-92-1	E444/CG	0.25	mg/L	----	----	<0.25	----	<0.25	
Lead, TCLP	7439-92-1	E444/EO	0.25	mg/L	<0.25	<0.25	----	<0.25	----	
Magnesium, TCLP	7439-95-4	E444/CG	2.5	mg/L	----	----	6.4	----	12.8	
Magnesium, TCLP	7439-95-4	E444/EO	2.5	mg/L	7.7	8.9	----	9.2	----	
Nickel, TCLP	7440-02-0	E444/CG	0.25	mg/L	----	----	<0.25	----	<0.25	
Nickel, TCLP	7440-02-0	E444/EO	0.25	mg/L	<0.25	<0.25	----	<0.25	----	
Selenium, TCLP	7782-49-2	E444/CG	0.10	mg/L	----	----	<0.10	----	<0.10	



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-36-0.2	TP23-37-0.1	OMR23-38-0.1	OMR23-39-0.1	OMR23-40-0.1
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-036	EO2309073-037	EO2309073-038	EO2309073-039	EO2309073-040
					Result	Result	Result	Result	Result
TCLP Metals									
Selenium, TCLP	7782-49-2	E444/EO	0.10	mg/L	<0.10	<0.10	----	<0.10	----
Silver, TCLP	7440-22-4	E444/CG	0.050	mg/L	----	----	<0.050	----	<0.050
Silver, TCLP	7440-22-4	E444/EO	0.050	mg/L	<0.050	<0.050	----	<0.050	----
Thallium, TCLP	7440-28-0	E444/CG	1.0	mg/L	----	----	<1.0	----	<1.0
Thallium, TCLP	7440-28-0	E444/EO	1.0	mg/L	<1.0	<1.0	----	<1.0	----
Uranium, TCLP	7440-61-1	E444/CG	0.20	mg/L	----	----	<0.20	----	<0.20
Uranium, TCLP	7440-61-1	E444/EO	0.20	mg/L	<0.20	<0.20	----	<0.20	----
Vanadium, TCLP	7440-62-2	E444/CG	0.15	mg/L	----	----	<0.15	----	<0.15
Vanadium, TCLP	7440-62-2	E444/EO	0.15	mg/L	<0.15	<0.15	----	<0.15	----
Zinc, TCLP	7440-66-6	E444/CG	0.50	mg/L	----	----	<0.50	----	<0.50
Zinc, TCLP	7440-66-6	E444/EO	0.50	mg/L	<0.50	<0.50	----	<0.50	----
Zirconium, TCLP	7440-67-7	E444/CG	10	mg/L	----	----	<10	----	<10
Zirconium, TCLP	7440-67-7	E444/EO	10	mg/L	<10	<10	----	<10	----
Leachable Metals									
Aluminum, leachable	7429-90-5	E441/VA	0.050	mg/kg	1.91	4.03	3.91	4.80	3.43
Antimony, leachable	7440-36-0	E441/VA	0.0020	mg/kg	0.0136	0.0248	0.0040	0.0052	0.0222
Arsenic, leachable	7440-38-2	E441/VA	0.0020	mg/kg	0.989	1.62	0.717	0.602	2.05
Barium, leachable	7440-39-3	E441/VA	0.010	mg/kg	0.155	0.092	0.033	0.030	0.021
Beryllium, leachable	7440-41-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Bismuth, leachable	7440-69-9	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Boron, leachable	7440-42-8	E441/VA	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium, leachable	7440-43-9	E441/VA	0.0020	mg/kg	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Calcium, leachable	7440-70-2	E441/VA	0.50	mg/kg	221	85.9	20.4	27.8	51.3
Chromium, leachable	7440-47-3	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Cobalt, leachable	7440-48-4	E441/VA	0.010	mg/kg	<0.010	0.012	<0.010	<0.010	<0.010
Copper, leachable	7440-50-8	E441/VA	0.010	mg/kg	0.087	0.061	0.029	0.054	0.042
Iron, leachable	7439-89-6	E441/VA	0.30	mg/kg	0.63	2.39	2.60	3.24	1.94
Lead, IVBA (%)	9439-92-1	EC452/VA	1.0	%	----	----	----	66.5	72.6
Lead, IVBA (leachate)	7439-92-1	E452/VA	0.10	mg/L	----	----	----	0.11	0.11
Lead, leachable	7439-92-1	E441/VA	0.010	mg/kg	<0.010	<0.010	0.010	0.010	<0.010



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					TP23-36-0.2	TP23-37-0.1	OMR23-38-0.1	OMR23-39-0.1	OMR23-40-0.1
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-036	EO2309073-037	EO2309073-038	EO2309073-039	EO2309073-040
					Result	Result	Result	Result	Result
Leachable Metals									
Lithium, leachable	7439-93-2	E441/VA	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Magnesium, leachable	7439-95-4	E441/VA	1.0	mg/kg	8.2	7.3	2.8	3.7	3.2
Manganese, leachable	7439-96-5	E441/VA	0.010	mg/kg	0.556	0.259	0.044	0.042	0.044
Molybdenum, leachable	7439-98-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Nickel, leachable	7440-02-0	E441/VA	0.010	mg/kg	0.030	0.023	<0.010	0.020	0.011
Phosphorus, leachable	7723-14-0	E441/VA	3.0	mg/kg	3.8	12.4	6.0	<3.0	<3.0
Potassium, leachable	7440-09-7	E441/VA	0.50	mg/kg	6.04	24.4	9.12	21.1	10.2
Selenium, leachable	7782-49-2	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Silicon, leachable	7440-21-3	E441/VA	0.50	mg/kg	6.85	16.2	9.22	10.5	6.21
Silver, leachable	7440-22-4	E441/VA	0.0010	mg/kg	<0.0010	0.0018	<0.0010	<0.0010	<0.0010
Sodium, leachable	7440-23-5	E441/VA	0.10	mg/kg	5.60	5.92	2.19	3.18	1.63
Strontium, leachable	7440-24-6	E441/VA	0.010	mg/kg	0.148	0.063	0.029	0.025	0.040
Thallium, leachable	7440-28-0	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Tin, leachable	7440-31-5	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium, leachable	7440-61-1	E441/VA	0.00010	mg/kg	0.00386	0.00186	0.00048	0.00063	0.00044
Vanadium, leachable	7440-62-2	E441/VA	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Zinc, leachable	7440-66-6	E441/VA	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Arsenic, IVBA (%)	7440-38-2	EC452/VA	1.0	%	----	----	----	29.1	12.9
Arsenic, IVBA (leachate)	7440-38-2	E452/VA	0.10	mg/L	----	----	----	0.37	1.20

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID				
(Matrix: Soil/Solid)					OMR23-41-0.1	OMR23-42-0.1	DUP1	DUP2	DUP3
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-041	EO2309073-042	EO2309073-043	EO2309073-044	EO2309073-045
					Result	Result	Result	Result	Result
Sample Preparation									
pH, IVBA Initial	---	EP452/VA	0.01	pH units	1.58	1.54	---	---	---
Temperature, oven	---	EPP441/SK	1	°C	<38	<38	<38	<38	<38
pH, IVBA final	---	EP452/VA	0.01	pH units	1.68	1.58	---	---	---
Weight, extraction (dry)	---	EP452/VA	0.01	g	1.024	1.033	---	---	---
Final volume	---	EP452/VA	1	mL	100	100	---	---	---
Physical Tests									
Moisture	---	E144/VA	0.25	%	6.29	7.10	47.7	17.5	73.2
pH (1:2 soil:CaCl2-aq)	---	E108B/CG	0.10	pH units	7.35	7.29	3.77 ^{FR8}	3.78 ^{FR8}	6.09 ^{FR8}
pH (1:2 soil:water)	---	E108/CG	0.10	pH units	7.89	8.29	4.60 ^{FR8}	4.58 ^{FR8}	6.34 ^{FR8}
Particle Size									
Sand (>0.075mm)	---	E178/CG	1.0	%	74.8	73.4	----	----	----
Fines (<0.075mm)	---	E178/CG	1.0	%	25.2	26.6	----	----	----
Texture class	---	E178/CG	-	-	Coarse	Coarse	----	----	----
Organic / Inorganic Carbon									
Carbon, inorganic [IC]	---	E354/SK	0.050	%	0.939	0.133	0.148	0.166	0.669
Carbon, total [TC]	---	E351/SK	0.050	%	1.72	1.00	41.9	16.2	36.6
Carbon, total organic [TOC]	---	EC356/SK	0.050	%	0.781	0.867	41.8	16.0	35.9
Carbon, inorganic [IC], (as CaCO3 equivalent)	---	E354/SK	0.40	%	7.83	1.11	1.23	1.38	5.57
Plant Available Nutrients									
Ammonium, available (as N)	14798-03-9	E312A/SK	1.0	mg/kg	<1.1 ^{DLM}	<1.1 ^{DLM}	39.4	8.9	17.6
Sulfate, available (as S)	14808-79-8	E497.SO4/SK	3.0	mg/kg	155	51.7	<29.9 ^{DLM}	<14.8 ^{DLM}	219
Saturated Paste Extractables									
Conductivity, saturated paste	---	E102/CG	0.020	dS/m	1.34	0.997	0.156	0.107	0.468
Sodium adsorption ratio [SAR]	---	EC102/CG	0.10	-	<0.10	0.29	<0.10	<0.10	<0.10
% Saturation	---	E141/CG	1.0	%	36.8	36.8	450	558	467
Calcium, soluble ion content	7440-70-2	EC485/CG	5.0	mg/kg	119	57.4	99.0	112	467
Calcium, soluble ion content	7440-70-2	E485/CG	5.0	mg/L	324	156	22.0	20.0	100
Magnesium, soluble ion content	7439-95-4	EC485/CG	5.0	mg/kg	10.8	9.9	23.4	<27.9	42.0
Magnesium, soluble ion content	7439-95-4	E485/CG	5.0	mg/L	29.4	27.0	5.2	<5.0	9.0
Potassium, soluble ion content	7440-09-7	EC485/CG	5.0	mg/kg	6.0	17.1	64.8	43.5	<23.3



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					OMR23-41-0.1	OMR23-42-0.1	DUP1	DUP2	DUP3
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-041	EO2309073-042	EO2309073-043	EO2309073-044	EO2309073-045
					Result	Result	Result	Result	Result
Saturated Paste Extractables									
Potassium, soluble ion content	7440-09-7	E485/CG	5.0	mg/L	16.3	46.4	14.4	7.8	<5.0
Sodium, soluble ion content	17341-25-2	EC485/CG	5.0	mg/kg	<5.0	5.5	<22.5	<27.9	<23.3
Sodium, soluble ion content	17341-25-2	E485/CG	5.0	mg/L	<5.0	15.0	<5.0	<5.0	<5.0
Chloride, soluble ion content	16887-00-6	EC266A.CI/CG	10	mg/kg	<10	<10	<90	<112	<93
Chloride, soluble ion content	16887-00-6	E266.CI/CG	20	mg/L	<20	<20	<20	<20	<20
Sulfur (as SO ₄), soluble ion content	14808-79-8	EC485/CG	8.0	mg/kg	269	150	78.3	48.5	761
Sulfur (as SO ₄), soluble ion content	14808-79-8	E485/CG	6.0	mg/L	731	407	17.4	8.7	163
Acid Base Accounting									
Arsenate [As V]	17428-41-0	OJ-19D/1E	0.01	mg/kg	see attached	see attached	----	----	----
Arsenite [As III]	22541-54-4	OJ-19D/1E	0.01	mg/kg	see attached	see attached	----	----	----
Dimethylarsinic acid [DMA], (as As)	75-60-5	OJ-19D/1E	0.01	mg/kg	see attached	see attached	----	----	----
Monomethylarsonic acid [MMA], (as As)	2163-80-6	OJ-19D/1E	0.02	mg/kg	see attached	see attached	----	----	----
Metals									
Aluminum	7429-90-5	E440/CG	50	mg/kg	16100	12100	1700	11600	1060
Antimony	7440-36-0	E440/CG	0.10	mg/kg	3.56	6.04	16.8	1.33	9.19
Arsenic	7440-38-2	E440B/VA	0.050	mg/kg	1850	554	----	----	----
Arsenic	7440-38-2	E440/CG	0.10	mg/kg	699	261	98.5	147	38.0
Barium	7440-39-3	E440/CG	0.50	mg/kg	24.5	53.2	45.2	74.6	77.9
Beryllium	7440-41-7	E440/CG	0.10	mg/kg	0.14	0.19	<0.15 ^{DLM}	0.17	<0.15 ^{DLM}
Bismuth	7440-69-9	E440/CG	0.20	mg/kg	0.27	0.22	<0.30 ^{DLM}	<0.29 ^{DLM}	<0.30 ^{DLM}
Boron	7440-42-8	E440/CG	5.0	mg/kg	<5.0	<5.0	<7.5 ^{DLM}	<7.4 ^{DLM}	24.8
Cadmium	7440-43-9	E440/CG	0.020	mg/kg	0.098	0.143	0.308	0.293	0.264
Calcium	7440-70-2	E440/CG	50	mg/kg	24400	6580	5530	8660	49300
Chromium	7440-47-3	E440/CG	0.50	mg/kg	44.6	44.2	2.63	39.4	2.12
Cobalt	7440-48-4	E440/CG	0.10	mg/kg	19.1	12.3	4.06	12.9	3.54
Copper	7440-50-8	E440/CG	0.50	mg/kg	52.0	32.4	14.8	17.4	45.6
Iron	7439-89-6	E440/CG	50	mg/kg	30300	20700	2190	18500	2420
Lead	7439-92-1	E440/CG	0.50	mg/kg	8.56	22.8	10.1	6.93	1.68
Lithium	7439-93-2	E440/CG	2.0	mg/kg	29.0	24.2	<3.0 ^{DLM}	17.1	<3.0 ^{DLM}
Magnesium	7439-95-4	E440/CG	20	mg/kg	15400	9010	756	5390	1280



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	OMR23-41-0.1	OMR23-42-0.1	DUP1	DUP2	DUP3
(Matrix: Soil/Solid)										
Client sampling date / time						29-Sep-2023 00:00	29-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-041	EO2309073-042	EO2309073-043	EO2309073-044	EO2309073-045	
					Result	Result	Result	Result	Result	
Metals										
Manganese	7439-96-5	E440/CG	1.0	mg/kg	502	256	139	211	137	
Mercury	7439-97-6	E510/CG	0.0050	mg/kg	0.0086	0.0220	0.111	0.0295	0.0546	
Molybdenum	7439-98-7	E440/CG	0.10	mg/kg	0.42	0.42	0.20	0.33	0.32	
Nickel	7440-02-0	E440/CG	0.50	mg/kg	42.0	33.2	6.37	22.5	13.1	
Phosphorus	7723-14-0	E440/CG	50	mg/kg	357	411	438	285	406	
Potassium	7440-09-7	E440/CG	100	mg/kg	840	2260	290	310	<150	DLM
Selenium	7782-49-2	E440/CG	0.20	mg/kg	<0.20	<0.20	<0.30	0.31	1.09	
Silver	7440-22-4	E440/CG	0.10	mg/kg	0.16	0.23	<0.15	<0.15	<0.15	DLM
Sodium	7440-23-5	E440/CG	50	mg/kg	146	151	<75	137	<74	DLM
Strontium	7440-24-6	E440/CG	0.50	mg/kg	17.0	7.68	8.78	10.3	51.4	
Sulfur	7704-34-9	E440/CG	1000	mg/kg	1200	<1000	<1500	<1500	6200	
Thallium	7440-28-0	E440/CG	0.050	mg/kg	<0.050	0.096	<0.075	<0.074	<0.074	DLM
Tin	7440-31-5	E440/CG	2.0	mg/kg	<2.0	<2.0	<3.0	<2.9	<3.0	DLM
Titanium	7440-32-6	E440/CG	1.0	mg/kg	231	428	28.9	506	17.6	
Tungsten	7440-33-7	E440/CG	0.50	mg/kg	0.68	0.59	<0.75	<0.74	<0.74	DLM
Uranium	7440-61-1	E440/CG	0.050	mg/kg	0.445	0.699	0.261	1.07	3.93	
Vanadium	7440-62-2	E440/CG	0.20	mg/kg	51.5	39.4	3.37	45.6	2.81	
Zinc	7440-66-6	E440/CG	2.0	mg/kg	49.9	50.4	15.4	30.4	14.2	
Zirconium	7440-67-7	E440/CG	1.0	mg/kg	<1.0	2.1	<1.5	1.8	<1.5	DLM
Lead	7439-92-1	E440B/VA	0.10	mg/kg	20.1	37.5	----	----	----	
Lead, IVBA (leachate)	7439-92-1	EC452A/VA	10	mg/kg	14	30	----	----	----	
Arsenic, IVBA (leachate)	7440-38-2	EC452A/VA	10	mg/kg	336	106	----	----	----	
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/CG	0.010	pH units	9.25	9.21	----	----	----	
pH, TCLP 1st preliminary	----	EPP444/EO	0.010	pH units	----	----	5.49	6.58	6.63	LTIS
pH, TCLP 2nd preliminary	----	EPP444/CG	0.010	pH units	1.54	1.55	----	----	----	
pH, TCLP 2nd preliminary	----	EPP444/EO	0.010	pH units	----	----	1.59	1.63	1.95	LTIS
pH, TCLP extraction fluid initial	----	EPP444/CG	0.010	pH units	4.90	4.90	----	----	----	
pH, TCLP extraction fluid initial	----	EPP444/EO	0.010	pH units	----	----	4.94	4.94	4.94	LTIS
pH, TCLP final	----	EPP444/CG	0.010	pH units	5.50	5.56	----	----	----	



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)					Client sample ID	OMR23-41-0.1	OMR23-42-0.1	DUP1	DUP2	DUP3
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	29-Sep-2023 00:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-041	EO2309073-042	EO2309073-043	EO2309073-044	EO2309073-045	
					Result	Result	Result	Result	Result	
TCLP Metals										
pH, TCLP final	----	EPP444/EO	0.010	pH units	----	----	4.89 ^{LTIS}	4.94 ^{LTIS}	5.08	
Antimony, TCLP	7440-36-0	E444/CG	0.10	mg/L	<0.10	<0.10	----	----	----	
Antimony, TCLP	7440-36-0	E444/EO	0.10	mg/L	----	----	<0.10	<0.10	<0.10	
Arsenic, TCLP	7440-38-2	E444/CG	1.0	mg/L	<1.0	<1.0	----	----	----	
Arsenic, TCLP	7440-38-2	E444/EO	1.0	mg/L	----	----	<1.0	<1.0	<1.0	
Barium, TCLP	7440-39-3	E444/CG	2.5	mg/L	<2.5	<2.5	----	----	----	
Barium, TCLP	7440-39-3	E444/EO	2.5	mg/L	----	----	<2.5	<2.5	<2.5	
Beryllium, TCLP	7440-41-7	E444/CG	0.025	mg/L	<0.025	<0.025	----	----	----	
Beryllium, TCLP	7440-41-7	E444/EO	0.025	mg/L	----	----	<0.025	<0.025	<0.025	
Boron, TCLP	7440-42-8	E444/CG	0.50	mg/L	<0.50	<0.50	----	----	----	
Boron, TCLP	7440-42-8	E444/EO	0.50	mg/L	----	----	<0.50	<0.50	<0.50	
Cadmium, TCLP	7440-43-9	E444/CG	0.050	mg/L	<0.050	<0.050	----	----	----	
Cadmium, TCLP	7440-43-9	E444/EO	0.050	mg/L	----	----	<0.050	<0.050	<0.050	
Calcium, TCLP	7440-70-2	E444/CG	10	mg/L	619	112	----	----	----	
Calcium, TCLP	7440-70-2	E444/EO	10	mg/L	----	----	40	45	151	
Chromium, TCLP	7440-47-3	E444/CG	0.25	mg/L	<0.25	<0.25	----	----	----	
Chromium, TCLP	7440-47-3	E444/EO	0.25	mg/L	----	----	<0.25	<0.25	<0.25	
Cobalt, TCLP	7440-48-4	E444/CG	0.050	mg/L	0.103	0.069	----	----	----	
Cobalt, TCLP	7440-48-4	E444/EO	0.050	mg/L	----	----	<0.050	<0.050	<0.050	
Copper, TCLP	7440-50-8	E444/CG	0.050	mg/L	<0.050	<0.050	----	----	----	
Copper, TCLP	7440-50-8	E444/EO	0.050	mg/L	----	----	<0.050	<0.050	<0.050	
Iron, TCLP	7439-89-6	E444/CG	5.0	mg/L	<5.0	<5.0	----	----	----	
Iron, TCLP	7439-89-6	E444/EO	5.0	mg/L	----	----	<5.0	<5.0	<5.0	
Lead, TCLP	7439-92-1	E444/CG	0.25	mg/L	<0.25	<0.25	----	----	----	
Lead, TCLP	7439-92-1	E444/EO	0.25	mg/L	----	----	<0.25	<0.25	<0.25	
Magnesium, TCLP	7439-95-4	E444/CG	2.5	mg/L	9.1	14.5	----	----	----	
Magnesium, TCLP	7439-95-4	E444/EO	2.5	mg/L	----	----	9.4	6.2	9.8	
Nickel, TCLP	7440-02-0	E444/CG	0.25	mg/L	<0.25	<0.25	----	----	----	
Nickel, TCLP	7440-02-0	E444/EO	0.25	mg/L	----	----	<0.25	<0.25	<0.25	
Selenium, TCLP	7782-49-2	E444/CG	0.10	mg/L	<0.10	<0.10	----	----	----	



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					OMR23-41-0.1	OMR23-42-0.1	DUP1	DUP2	DUP3
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-041	EO2309073-042	EO2309073-043	EO2309073-044	EO2309073-045
					Result	Result	Result	Result	Result
TCLP Metals									
Selenium, TCLP	7782-49-2	E444/EO	0.10	mg/L	----	----	<0.10	<0.10	<0.10
Silver, TCLP	7440-22-4	E444/CG	0.050	mg/L	<0.050	<0.050	----	----	----
Silver, TCLP	7440-22-4	E444/EO	0.050	mg/L	----	----	<0.050	<0.050	<0.050
Thallium, TCLP	7440-28-0	E444/CG	1.0	mg/L	<1.0	<1.0	----	----	----
Thallium, TCLP	7440-28-0	E444/EO	1.0	mg/L	----	----	<1.0	<1.0	<1.0
Uranium, TCLP	7440-61-1	E444/CG	0.20	mg/L	<0.20	<0.20	----	----	----
Uranium, TCLP	7440-61-1	E444/EO	0.20	mg/L	----	----	<0.20	<0.20	<0.20
Vanadium, TCLP	7440-62-2	E444/CG	0.15	mg/L	<0.15	<0.15	----	----	----
Vanadium, TCLP	7440-62-2	E444/EO	0.15	mg/L	----	----	<0.15	<0.15	<0.15
Zinc, TCLP	7440-66-6	E444/CG	0.50	mg/L	<0.50	<0.50	----	----	----
Zinc, TCLP	7440-66-6	E444/EO	0.50	mg/L	----	----	<0.50	<0.50	<0.50
Zirconium, TCLP	7440-67-7	E444/CG	10	mg/L	<10	<10	----	----	----
Zirconium, TCLP	7440-67-7	E444/EO	10	mg/L	----	----	<10	<10	<10
Leachable Metals									
Aluminum, leachable	7429-90-5	E441/VA	0.050	mg/kg	2.81	1.64	12.1	10.3	0.738
Antimony, leachable	7440-36-0	E441/VA	0.0020	mg/kg	0.0338	0.0775	0.0333	0.0044	0.0538
Arsenic, leachable	7440-38-2	E441/VA	0.0020	mg/kg	4.01	1.92	1.39	1.48	11.2
Barium, leachable	7440-39-3	E441/VA	0.010	mg/kg	0.014	0.022	0.220	0.141	0.201
Beryllium, leachable	7440-41-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Bismuth, leachable	7440-69-9	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Boron, leachable	7440-42-8	E441/VA	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	0.79
Cadmium, leachable	7440-43-9	E441/VA	0.0020	mg/kg	<0.0020	<0.0020	0.0020	<0.0020	<0.0020
Calcium, leachable	7440-70-2	E441/VA	0.50	mg/kg	147	107	74.4	53.0	430
Chromium, leachable	7440-47-3	E441/VA	0.010	mg/kg	<0.010	<0.010	0.014	0.037	<0.010
Cobalt, leachable	7440-48-4	E441/VA	0.010	mg/kg	0.010	<0.010	0.048	0.014	0.014
Copper, leachable	7440-50-8	E441/VA	0.010	mg/kg	0.039	0.038	0.145	0.061	0.072
Iron, leachable	7439-89-6	E441/VA	0.30	mg/kg	1.91	0.65	9.16	15.3	0.97
Lead, IVBA (%)	9439-92-1	EC452/VA	1.0	%	68.0	80.0	----	----	----
Lead, IVBA (leachate)	7439-92-1	E452/VA	0.10	mg/L	0.14	0.31	----	----	----
Lead, leachable	7439-92-1	E441/VA	0.010	mg/kg	<0.010	<0.010	0.018	<0.010	<0.010



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID				
(Matrix: Soil/Solid)					OMR23-41-0.1	OMR23-42-0.1	DUP1	DUP2	DUP3
Client sampling date / time					29-Sep-2023 00:00	29-Sep-2023 00:00	28-Sep-2023 00:00	28-Sep-2023 00:00	29-Sep-2023 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-041	EO2309073-042	EO2309073-043	EO2309073-044	EO2309073-045
					Result	Result	Result	Result	Result
Leachable Metals									
Lithium, leachable	7439-93-2	E441/VA	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Magnesium, leachable	7439-95-4	E441/VA	1.0	mg/kg	11.9	13.0	16.0	5.2	28.4
Manganese, leachable	7439-96-5	E441/VA	0.010	mg/kg	0.021	0.020	0.576	0.235	0.604
Molybdenum, leachable	7439-98-7	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Nickel, leachable	7440-02-0	E441/VA	0.010	mg/kg	0.016	<0.010	0.072	0.018	0.027
Phosphorus, leachable	7723-14-0	E441/VA	3.0	mg/kg	<3.0	<3.0	12.1	<3.0	<3.0
Potassium, leachable	7440-09-7	E441/VA	0.50	mg/kg	13.8	39.1	41.8	7.38	2.31
Selenium, leachable	7782-49-2	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Silicon, leachable	7440-21-3	E441/VA	0.50	mg/kg	4.09	5.24	21.9	27.4	5.75
Silver, leachable	7440-22-4	E441/VA	0.0010	mg/kg	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Sodium, leachable	7440-23-5	E441/VA	0.10	mg/kg	2.89	8.06	10.7	7.15	15.0
Strontium, leachable	7440-24-6	E441/VA	0.010	mg/kg	0.090	0.096	0.104	0.037	0.379
Thallium, leachable	7440-28-0	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Tin, leachable	7440-31-5	E441/VA	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium, leachable	7440-61-1	E441/VA	0.00010	mg/kg	0.00076	0.00141	0.00208	0.00324	0.00173
Vanadium, leachable	7440-62-2	E441/VA	0.050	mg/kg	<0.050	<0.050	<0.050	0.051	<0.050
Zinc, leachable	7440-66-6	E441/VA	0.050	mg/kg	<0.050	<0.050	0.096	<0.050	<0.050
Arsenic, IVBA (%)	7440-38-2	EC452/VA	1.0	%	18.2	19.2	----	----	----
Arsenic, IVBA (leachate)	7440-38-2	E452/VA	0.10	mg/L	3.44	1.10	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	DUP4	----	----	----	----
(Matrix: Soil/Solid)					Client sampling date / time	29-Sep-2023 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-046	Result	----	----	----	----
Sample Preparation										
Temperature, oven	---	EPP441/SK	1	°C	<38	----	----	----	----	----
Physical Tests										
Moisture	---	E144/VA	0.25	%	55.1	----	----	----	----	----
pH (1:2 soil:CaCl2-aq)	---	E108B/CG	0.10	pH units	5.89 ^{FRB}	----	----	----	----	----
pH (1:2 soil:water)	---	E108/CG	0.10	pH units	6.44 ^{FRB}	----	----	----	----	----
Organic / Inorganic Carbon										
Carbon, inorganic [IC]	---	E354/SK	0.050	%	0.756	----	----	----	----	----
Carbon, total [TC]	---	E351/SK	0.050	%	37.8	----	----	----	----	----
Carbon, total organic [TOC]	---	EC356/SK	0.050	%	37.0	----	----	----	----	----
Carbon, inorganic [IC], (as CaCO3 equivalent)	---	E354/SK	0.40	%	6.30	----	----	----	----	----
Plant Available Nutrients										
Ammonium, available (as N)	14798-03-9	E312A/SK	1.0	mg/kg	27.5	----	----	----	----	----
Sulfate, available (as S)	14808-79-8	E497.SO4/SK	3.0	mg/kg	<29.6 ^{DLM}	----	----	----	----	----
Saturated Paste Extractables										
Conductivity, saturated paste	---	E102/CG	0.020	dS/m	0.139	----	----	----	----	----
Sodium adsorption ratio [SAR]	---	EC102/CG	0.10	-	<0.10	----	----	----	----	----
% Saturation	---	E141/CG	1.0	%	331	----	----	----	----	----
Calcium, soluble ion content	7440-70-2	EC485/CG	5.0	mg/kg	144	----	----	----	----	----
Calcium, soluble ion content	7440-70-2	E485/CG	5.0	mg/L	43.6	----	----	----	----	----
Magnesium, soluble ion content	7439-95-4	EC485/CG	5.0	mg/kg	<16.6	----	----	----	----	----
Magnesium, soluble ion content	7439-95-4	E485/CG	5.0	mg/L	<5.0	----	----	----	----	----
Potassium, soluble ion content	7440-09-7	EC485/CG	5.0	mg/kg	<16.6	----	----	----	----	----
Potassium, soluble ion content	7440-09-7	E485/CG	5.0	mg/L	<5.0	----	----	----	----	----
Sodium, soluble ion content	17341-25-2	EC485/CG	5.0	mg/kg	<16.6	----	----	----	----	----
Sodium, soluble ion content	17341-25-2	E485/CG	5.0	mg/L	<5.0	----	----	----	----	----
Chloride, soluble ion content	16887-00-6	EC266A.Cl/CG	10	mg/kg	<66	----	----	----	----	----
Chloride, soluble ion content	16887-00-6	E266.Cl/CG	20	mg/L	<20	----	----	----	----	----
Sulfur (as SO4), soluble ion content	14808-79-8	EC485/CG	8.0	mg/kg	58.6	----	----	----	----	----
Sulfur (as SO4), soluble ion content	14808-79-8	E485/CG	6.0	mg/L	17.7	----	----	----	----	----
Metals										



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	DUP4	----	----	----	----
(Matrix: Soil/Solid)					Client sampling date / time	29-Sep-2023 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-046	Result	-----	-----	-----	-----
Metals										
Aluminum	7429-90-5	E440/CG	50	mg/kg	4900	----	----	----	----	----
Antimony	7440-36-0	E440/CG	0.10	mg/kg	1.69	----	----	----	----	----
Arsenic	7440-38-2	E440/CG	0.10	mg/kg	26.3	----	----	----	----	----
Barium	7440-39-3	E440/CG	0.50	mg/kg	91.4	----	----	----	----	----
Beryllium	7440-41-7	E440/CG	0.10	mg/kg	<0.15 ^{DLM}	----	----	----	----	----
Bismuth	7440-69-9	E440/CG	0.20	mg/kg	<0.30 ^{DLM}	----	----	----	----	----
Boron	7440-42-8	E440/CG	5.0	mg/kg	12.1	----	----	----	----	----
Cadmium	7440-43-9	E440/CG	0.020	mg/kg	0.187	----	----	----	----	----
Calcium	7440-70-2	E440/CG	50	mg/kg	49100	----	----	----	----	----
Chromium	7440-47-3	E440/CG	0.50	mg/kg	12.7	----	----	----	----	----
Cobalt	7440-48-4	E440/CG	0.10	mg/kg	2.55	----	----	----	----	----
Copper	7440-50-8	E440/CG	0.50	mg/kg	33.1	----	----	----	----	----
Iron	7439-89-6	E440/CG	50	mg/kg	6910	----	----	----	----	----
Lead	7439-92-1	E440/CG	0.50	mg/kg	1.60	----	----	----	----	----
Lithium	7439-93-2	E440/CG	2.0	mg/kg	4.7	----	----	----	----	----
Magnesium	7439-95-4	E440/CG	20	mg/kg	2710	----	----	----	----	----
Manganese	7439-96-5	E440/CG	1.0	mg/kg	146	----	----	----	----	----
Mercury	7439-97-6	E510/CG	0.0050	mg/kg	0.0492	----	----	----	----	----
Molybdenum	7439-98-7	E440/CG	0.10	mg/kg	0.42	----	----	----	----	----
Nickel	7440-02-0	E440/CG	0.50	mg/kg	12.0	----	----	----	----	----
Phosphorus	7723-14-0	E440/CG	50	mg/kg	680	----	----	----	----	----
Potassium	7440-09-7	E440/CG	100	mg/kg	200	----	----	----	----	----
Selenium	7782-49-2	E440/CG	0.20	mg/kg	1.05	----	----	----	----	----
Silver	7440-22-4	E440/CG	0.10	mg/kg	<0.15 ^{DLM}	----	----	----	----	----
Sodium	7440-23-5	E440/CG	50	mg/kg	<74 ^{DLM}	----	----	----	----	----
Strontium	7440-24-6	E440/CG	0.50	mg/kg	43.3	----	----	----	----	----
Sulfur	7704-34-9	E440/CG	1000	mg/kg	2700	----	----	----	----	----
Thallium	7440-28-0	E440/CG	0.050	mg/kg	<0.074 ^{DLM}	----	----	----	----	----
Tin	7440-31-5	E440/CG	2.0	mg/kg	<3.0 ^{DLM}	----	----	----	----	----
Titanium	7440-32-6	E440/CG	1.0	mg/kg	77.5	----	----	----	----	----



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	DUP4	----	----	----	----
(Matrix: Soil/Solid)					Client sampling date / time	29-Sep-2023 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-046	Result	-----	-----	-----	-----
Metals										
Tungsten	7440-33-7	E440/CG	0.50	mg/kg	<0.74 ^{DLM}	----	----	----	----	----
Uranium	7440-61-1	E440/CG	0.050	mg/kg	9.48	----	----	----	----	----
Vanadium	7440-62-2	E440/CG	0.20	mg/kg	12.2	----	----	----	----	----
Zinc	7440-66-6	E440/CG	2.0	mg/kg	13.7	----	----	----	----	----
Zirconium	7440-67-7	E440/CG	1.0	mg/kg	<1.5 ^{DLM}	----	----	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/EO	0.010	pH units	5.18	----	----	----	----	----
pH, TCLP 2nd preliminary	----	EPP444/EO	0.010	pH units	2.55	----	----	----	----	----
pH, TCLP extraction fluid initial	----	EPP444/EO	0.010	pH units	4.94	----	----	----	----	----
pH, TCLP final	----	EPP444/EO	0.010	pH units	5.11	----	----	----	----	----
Antimony, TCLP	7440-36-0	E444/EO	0.10	mg/L	<0.10	----	----	----	----	----
Arsenic, TCLP	7440-38-2	E444/EO	1.0	mg/L	<1.0	----	----	----	----	----
Barium, TCLP	7440-39-3	E444/EO	2.5	mg/L	<2.5	----	----	----	----	----
Beryllium, TCLP	7440-41-7	E444/EO	0.025	mg/L	<0.025	----	----	----	----	----
Boron, TCLP	7440-42-8	E444/EO	0.50	mg/L	<0.50	----	----	----	----	----
Cadmium, TCLP	7440-43-9	E444/EO	0.050	mg/L	<0.050	----	----	----	----	----
Calcium, TCLP	7440-70-2	E444/EO	10	mg/L	201	----	----	----	----	----
Chromium, TCLP	7440-47-3	E444/EO	0.25	mg/L	<0.25	----	----	----	----	----
Cobalt, TCLP	7440-48-4	E444/EO	0.050	mg/L	<0.050	----	----	----	----	----
Copper, TCLP	7440-50-8	E444/EO	0.050	mg/L	<0.050	----	----	----	----	----
Iron, TCLP	7439-89-6	E444/EO	5.0	mg/L	<5.0	----	----	----	----	----
Lead, TCLP	7439-92-1	E444/EO	0.25	mg/L	<0.25	----	----	----	----	----
Magnesium, TCLP	7439-95-4	E444/EO	2.5	mg/L	7.6	----	----	----	----	----
Nickel, TCLP	7440-02-0	E444/EO	0.25	mg/L	<0.25	----	----	----	----	----
Selenium, TCLP	7782-49-2	E444/EO	0.10	mg/L	<0.10	----	----	----	----	----
Silver, TCLP	7440-22-4	E444/EO	0.050	mg/L	<0.050	----	----	----	----	----
Thallium, TCLP	7440-28-0	E444/EO	1.0	mg/L	<1.0	----	----	----	----	----
Uranium, TCLP	7440-61-1	E444/EO	0.20	mg/L	<0.20	----	----	----	----	----
Vanadium, TCLP	7440-62-2	E444/EO	0.15	mg/L	<0.15	----	----	----	----	----
Zinc, TCLP	7440-66-6	E444/EO	0.50	mg/L	<0.50	----	----	----	----	----



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	DUP4	----	----	----	----
(Matrix: Soil/Solid)					Client sampling date / time	29-Sep-2023 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-046	Result	-----	-----	-----	-----
TCLP Metals										
Zirconium, TCLP	7440-67-7	E444/EO	10	mg/L	<10	----	----	----	----	----
Leachable Metals										
Aluminum, leachable	7429-90-5	E441/VA	0.050	mg/kg	2.64	----	----	----	----	----
Antimony, leachable	7440-36-0	E441/VA	0.0020	mg/kg	0.0045	----	----	----	----	----
Arsenic, leachable	7440-38-2	E441/VA	0.0020	mg/kg	0.847	----	----	----	----	----
Barium, leachable	7440-39-3	E441/VA	0.010	mg/kg	0.130	----	----	----	----	----
Beryllium, leachable	7440-41-7	E441/VA	0.010	mg/kg	<0.010	----	----	----	----	----
Bismuth, leachable	7440-69-9	E441/VA	0.010	mg/kg	<0.010	----	----	----	----	----
Boron, leachable	7440-42-8	E441/VA	0.50	mg/kg	<0.50	----	----	----	----	----
Cadmium, leachable	7440-43-9	E441/VA	0.0020	mg/kg	<0.0020	----	----	----	----	----
Calcium, leachable	7440-70-2	E441/VA	0.50	mg/kg	200	----	----	----	----	----
Chromium, leachable	7440-47-3	E441/VA	0.010	mg/kg	<0.010	----	----	----	----	----
Cobalt, leachable	7440-48-4	E441/VA	0.010	mg/kg	<0.010	----	----	----	----	----
Copper, leachable	7440-50-8	E441/VA	0.010	mg/kg	0.039	----	----	----	----	----
Iron, leachable	7439-89-6	E441/VA	0.30	mg/kg	0.69	----	----	----	----	----
Lead, leachable	7439-92-1	E441/VA	0.010	mg/kg	<0.010	----	----	----	----	----
Lithium, leachable	7439-93-2	E441/VA	0.10	mg/kg	<0.10	----	----	----	----	----
Magnesium, leachable	7439-95-4	E441/VA	1.0	mg/kg	5.9	----	----	----	----	----
Manganese, leachable	7439-96-5	E441/VA	0.010	mg/kg	0.364	----	----	----	----	----
Molybdenum, leachable	7439-98-7	E441/VA	0.010	mg/kg	<0.010	----	----	----	----	----
Nickel, leachable	7440-02-0	E441/VA	0.010	mg/kg	0.013	----	----	----	----	----
Phosphorus, leachable	7723-14-0	E441/VA	3.0	mg/kg	6.4	----	----	----	----	----
Potassium, leachable	7440-09-7	E441/VA	0.50	mg/kg	5.35	----	----	----	----	----
Selenium, leachable	7782-49-2	E441/VA	0.010	mg/kg	<0.010	----	----	----	----	----
Silicon, leachable	7440-21-3	E441/VA	0.50	mg/kg	4.36	----	----	----	----	----
Silver, leachable	7440-22-4	E441/VA	0.0010	mg/kg	<0.0010	----	----	----	----	----
Sodium, leachable	7440-23-5	E441/VA	0.10	mg/kg	3.73	----	----	----	----	----
Strontium, leachable	7440-24-6	E441/VA	0.010	mg/kg	0.141	----	----	----	----	----
Thallium, leachable	7440-28-0	E441/VA	0.010	mg/kg	<0.010	----	----	----	----	----
Tin, leachable	7440-31-5	E441/VA	0.010	mg/kg	<0.010	----	----	----	----	----



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	DUP4	----	----	----	----
(Matrix: Soil/Solid)										
					Client sampling date / time	29-Sep-2023 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-046	-----	-----	-----	-----	-----
					Result	----	----	----	----	----
Leachable Metals										
Uranium, leachable	7440-61-1	E441/VA	0.00010	mg/kg	0.00241	----	----	----	----	----
Vanadium, leachable	7440-62-2	E441/VA	0.050	mg/kg	<0.050	----	----	----	----	----
Zinc, leachable	7440-66-6	E441/VA	0.050	mg/kg	<0.050	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.



Analytical Results

Sub-Matrix: Water					Client sample ID	SW23-01	SW23-02	DUP-5	----	----
(Matrix: Water)										
					Client sampling date / time	29-Sep-2023 16:08	29-Sep-2023 17:00	29-Sep-2023 16:08	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-047	EO2309073-048	EO2309073-049	-----	-----	
					Result	Result	Result	----	----	
Physical Tests										
Alkalinity, bicarbonate (as HCO3)	71-52-3	E290/EO	1.0	mg/L	81.6	101	83.6	----	----	
Alkalinity, carbonate (as CO3)	3812-32-6	E290/EO	1.0	mg/L	<1.0	<1.0	<1.0	----	----	
Alkalinity, hydroxide (as OH)	14280-30-9	E290/EO	1.0	mg/L	<1.0	<1.0	<1.0	----	----	
Alkalinity, total (as CaCO3)	----	E290/EO	1.0	mg/L	66.9	83.1	68.5	----	----	
Conductivity	----	E100/EO	1.0	µS/cm	192	813	192	----	----	
Hardness (as CaCO3), dissolved	----	EC100/EO	0.50	mg/L	71.9	301	73.6	----	----	
pH	----	E108/EO	0.10	pH units	8.07	8.02	8.09	----	----	
Solids, total dissolved [TDS], calculated	----	EC103/EO	1.0	mg/L	104	499	106	----	----	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/CG	0.0050	mg/L	0.0139	0.0840	0.0180	----	----	
Chloride	16887-00-6	E235.Cl/EO	0.50	mg/L	5.47	62.6	5.46	----	----	
Fluoride	16984-48-8	E235.F/EO	0.020	mg/L	0.088	0.228	0.088	----	----	
Nitrate (as N)	14797-55-8	E235.NO3/EO	0.020	mg/L	0.030	0.160	0.029	----	----	
Nitrate + Nitrite (as N)	----	EC235.N+N/E O	0.0300	mg/L	0.0300	0.160	<0.0300	----	----	
Nitrite (as N)	14797-65-0	E235.NO2/EO	0.010	mg/L	<0.010	<0.010	<0.010	----	----	
Sulfate (as SO4)	14808-79-8	E235.SO4/EO	0.30	mg/L	16.9	201	17.0	----	----	
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/EO	0.50	mg/L	4.96 ^{SFP}	24.7 ^{SFP}	5.68 ^{SFP}	----	----	
Carbon, total organic [TOC]	----	E355-L/CG	0.50	mg/L	5.70	39.8	5.64	----	----	
Ion Balance										
Anion sum	----	EC101/EO	0.10	meq/L	1.85	7.63	1.88	----	----	
Cation sum	----	EC101/EO	0.10	meq/L	1.75	7.85	1.79	----	----	
Ion balance (APHA)	----	EC101/EO	0.01	%	-2.78	1.42	-2.45	----	----	
Ion balance (cations/anions)	----	EC101/EO	0.010	%	94.6	103	95.2	----	----	
Total Metals										
Aluminum, total	7429-90-5	E420/EO	0.0030	mg/L	0.0910	0.783	0.0926	----	----	
Antimony, total	7440-36-0	E420/EO	0.00010	mg/L	0.00017	0.0205	0.00017	----	----	
Arsenic, total	7440-38-2	E420/EO	0.00010	mg/L	0.00243	0.401	0.00248	----	----	
Barium, total	7440-39-3	E420/EO	0.00010	mg/L	0.0363	0.0698	0.0360	----	----	



Analytical Results

Sub-Matrix: Water					Client sample ID	SW23-01	SW23-02	DUP-5	----	----
(Matrix: Water)										
					Client sampling date / time	29-Sep-2023 16:08	29-Sep-2023 17:00	29-Sep-2023 16:08	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-047	EO2309073-048	EO2309073-049	-----	-----	
					Result	Result	Result	----	----	
Total Metals										
Beryllium, total	7440-41-7	E420/EO	0.000020	mg/L	<0.000020	0.000031	<0.000020	----	----	
Bismuth, total	7440-69-9	E420/EO	0.000050	mg/L	<0.000050	<0.000050	<0.000050	----	----	
Boron, total	7440-42-8	E420/EO	0.010	mg/L	0.014	0.070	0.014	----	----	
Cadmium, total	7440-43-9	E420/EO	0.0000050	mg/L	0.0000080	0.0000871	0.0000071	----	----	
Calcium, total	7440-70-2	E420/EO	0.050	mg/L	21.8	91.2	21.7	----	----	
Cesium, total	7440-46-2	E420/EO	0.000010	mg/L	0.000013	0.000117	0.000012	----	----	
Chromium, total	7440-47-3	E420/EO	0.00050	mg/L	0.00230	0.00414	0.00182	----	----	
Cobalt, total	7440-48-4	E420/EO	0.00010	mg/L	<0.00010	0.00159	<0.00010	----	----	
Copper, total	7440-50-8	E420/EO	0.00050	mg/L	0.00147	0.0410	0.00143	----	----	
Iron, total	7439-89-6	E420/EO	0.010	mg/L	0.127	1.28	0.113	----	----	
Lead, total	7439-92-1	E420/EO	0.000050	mg/L	0.000130	0.00784	0.000130	----	----	
Lithium, total	7439-93-2	E420/EO	0.0010	mg/L	0.0047	0.0154	0.0039	----	----	
Magnesium, total	7439-95-4	E420/EO	0.0050	mg/L	5.49	24.8	5.61	----	----	
Manganese, total	7439-96-5	E420/EO	0.00010	mg/L	0.00476	0.123	0.00509	----	----	
Molybdenum, total	7439-98-7	E420/EO	0.000050	mg/L	0.000694	0.000984	0.000659	----	----	
Nickel, total	7440-02-0	E420/EO	0.00050	mg/L	0.00169	0.00792	0.00152	----	----	
Phosphorus, total	7723-14-0	E420/EO	0.050	mg/L	<0.050	0.266	<0.050	----	----	
Potassium, total	7440-09-7	E420/EO	0.050	mg/L	1.20	14.1	1.22	----	----	
Rubidium, total	7440-17-7	E420/EO	0.00020	mg/L	0.00129	0.0109	0.00131	----	----	
Selenium, total	7782-49-2	E420/EO	0.000050	mg/L	0.000168	0.000220	0.000134	----	----	
Silicon, total	7440-21-3	E420/EO	0.10	mg/L	1.16	2.95	1.18	----	----	
Silver, total	7440-22-4	E420/EO	0.000010	mg/L	<0.000010	0.000103	<0.000010	----	----	
Sodium, total	7440-23-5	E420/EO	0.050	mg/L	6.57	32.4	6.52	----	----	
Strontium, total	7440-24-6	E420/EO	0.00020	mg/L	0.110	0.266	0.110	----	----	
Sulfur, total	7704-34-9	E420/EO	0.50	mg/L	6.51	76.0	6.86	----	----	
Tellurium, total	13494-80-9	E420/EO	0.00020	mg/L	<0.00020	<0.00020	<0.00020	----	----	
Thallium, total	7440-28-0	E420/EO	0.000010	mg/L	<0.000010	0.000011	<0.000010	----	----	
Thorium, total	7440-29-1	E420/EO	0.00010	mg/L	<0.00010	0.00010	<0.00010	----	----	
Tin, total	7440-31-5	E420/EO	0.00010	mg/L	0.00011	0.00012	0.00011	----	----	
Titanium, total	7440-32-6	E420/EO	0.00030	mg/L	0.00281	0.0220	0.00300	----	----	



Analytical Results

Sub-Matrix: Water					Client sample ID	SW23-01	SW23-02	DUP-5	----	----
(Matrix: Water)										
					Client sampling date / time	29-Sep-2023 16:08	29-Sep-2023 17:00	29-Sep-2023 16:08	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-047	EO2309073-048	EO2309073-049	-----	-----	
					Result	Result	Result	----	----	
Total Metals										
Tungsten, total	7440-33-7	E420/EO	0.00010	mg/L	<0.00010	0.00030	<0.00010	----	----	
Uranium, total	7440-61-1	E420/EO	0.000010	mg/L	0.000371	0.000833	0.000390	----	----	
Vanadium, total	7440-62-2	E420/EO	0.00050	mg/L	<0.00050	0.00269	0.00067	----	----	
Zinc, total	7440-66-6	E420/EO	0.0030	mg/L	<0.0030	0.0224	<0.0030	----	----	
Zirconium, total	7440-67-7	E420/EO	0.00020	mg/L	<0.00020	<0.00020	<0.00020	----	----	
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/EO	0.0010	mg/L	0.0139	0.0075	0.0144	----	----	
Antimony, dissolved	7440-36-0	E421/EO	0.00010	mg/L	0.00013	0.0105	0.00013	----	----	
Arsenic, dissolved	7440-38-2	E421/EO	0.00010	mg/L	0.00200	0.324	0.00207	----	----	
Barium, dissolved	7440-39-3	E421/EO	0.00010	mg/L	0.0341	0.0444	0.0343	----	----	
Beryllium, dissolved	7440-41-7	E421/EO	0.000020	mg/L	<0.000020	<0.000020	<0.000020	----	----	
Bismuth, dissolved	7440-69-9	E421/EO	0.000050	mg/L	<0.000050	<0.000050	<0.000050	----	----	
Boron, dissolved	7440-42-8	E421/EO	0.010	mg/L	0.018	0.066	0.016	----	----	
Cadmium, dissolved	7440-43-9	E421/EO	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	----	----	
Calcium, dissolved	7440-70-2	E421/EO	0.050	mg/L	20.7	84.1	21.3	----	----	
Cesium, dissolved	7440-46-2	E421/EO	0.000010	mg/L	<0.000010	0.000020	<0.000010	----	----	
Chromium, dissolved	7440-47-3	E421/EO	0.00050	mg/L	<0.00050	<0.00050	<0.00050	----	----	
Cobalt, dissolved	7440-48-4	E421/EO	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----	
Copper, dissolved	7440-50-8	E421/EO	0.00020	mg/L	0.00116	0.00174	0.00117	----	----	
Iron, dissolved	7439-89-6	E421/EO	0.010	mg/L	<0.010	<0.010	<0.010	----	----	
Lead, dissolved	7439-92-1	E421/EO	0.000050	mg/L	<0.000050	0.000057	<0.000050	----	----	
Lithium, dissolved	7439-93-2	E421/EO	0.0010	mg/L	0.0035	0.0130	0.0034	----	----	
Magnesium, dissolved	7439-95-4	E421/EO	0.0050	mg/L	4.90	22.1	4.95	----	----	
Manganese, dissolved	7439-96-5	E421/EO	0.00010	mg/L	0.00087	0.0213	0.00086	----	----	
Molybdenum, dissolved	7439-98-7	E421/EO	0.000050	mg/L	0.000619	0.000683	0.000570	----	----	
Nickel, dissolved	7440-02-0	E421/EO	0.00050	mg/L	0.00088	0.00174	0.00085	----	----	
Phosphorus, dissolved	7723-14-0	E421/EO	0.050	mg/L	<0.050	<0.050	<0.050	----	----	
Potassium, dissolved	7440-09-7	E421/EO	0.050	mg/L	1.17	14.0	1.17	----	----	
Rubidium, dissolved	7440-17-7	E421/EO	0.00020	mg/L	0.00110	0.00981	0.00113	----	----	
Selenium, dissolved	7782-49-2	E421/EO	0.000050	mg/L	0.000142	0.000050	0.000140	----	----	



Analytical Results

Sub-Matrix: Water					Client sample ID	SW23-01	SW23-02	DUP-5	----	----
(Matrix: Water)										
					Client sampling date / time	29-Sep-2023 16:08	29-Sep-2023 17:00	29-Sep-2023 16:08	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	EO2309073-047	EO2309073-048	EO2309073-049	-----	-----	
					Result	Result	Result	----	----	
Dissolved Metals										
Silicon, dissolved	7440-21-3	E421/EO	0.050	mg/L	0.993	2.06	1.01	----	----	
Silver, dissolved	7440-22-4	E421/EO	0.000010	mg/L	<0.000010	<0.000010	<0.000010	----	----	
Sodium, dissolved	7440-23-5	E421/EO	0.050	mg/L	6.54	33.8	6.55	----	----	
Strontium, dissolved	7440-24-6	E421/EO	0.00020	mg/L	0.111	0.248	0.106	----	----	
Sulfur, dissolved	7704-34-9	E421/EO	0.50	mg/L	6.63	73.6	6.44	----	----	
Tellurium, dissolved	13494-80-9	E421/EO	0.00020	mg/L	<0.00020	<0.00020	<0.00020	----	----	
Thallium, dissolved	7440-28-0	E421/EO	0.000010	mg/L	<0.000010	<0.000010	<0.000010	----	----	
Thorium, dissolved	7440-29-1	E421/EO	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----	
Tin, dissolved	7440-31-5	E421/EO	0.00010	mg/L	<0.00010	<0.00010	<0.00010	----	----	
Titanium, dissolved	7440-32-6	E421/EO	0.00030	mg/L	<0.00030	<0.00030	0.00030	----	----	
Tungsten, dissolved	7440-33-7	E421/EO	0.00010	mg/L	<0.00010	0.00010	<0.00010	----	----	
Uranium, dissolved	7440-61-1	E421/EO	0.000010	mg/L	0.000332	0.000197	0.000312	----	----	
Vanadium, dissolved	7440-62-2	E421/EO	0.00050	mg/L	<0.00050	<0.00050	<0.00050	----	----	
Zinc, dissolved	7440-66-6	E421/EO	0.0010	mg/L	<0.0010	<0.0010	<0.0010	----	----	
Zirconium, dissolved	7440-67-7	E421/EO	0.00030	mg/L	<0.00030	<0.00030	<0.00030	----	----	
Dissolved metals filtration location	----	EP421/EO	-	-	Field	Field	Field	----	----	

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	:EO2309073	Page	: 1 of 109
Amendment	:3		
Client	: Associated Environmental Consultants Inc.	Laboratory	: ALS Environmental - Edmonton
Contact	: Rebekka Lindskoog	Account Manager	: Megha Walia
Address	: 500, 9888 Jasper Avenue Edmonton AB Canada T5J 5C6	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 250.938.5528	Telephone	: +1 780 413 5227
Project	: 2023-8451	Date Samples Received	: 04-Oct-2023 16:02
PO	: ----	Issue Date	: 01-Dec-2023 09:12
C-O-C number	: 20-1013251,253,254,255,252		
Sampler	: AARON		
Site	: ----		
Quote number	: EO23-AECI100-011 (IVBA & Arsenic Spec)		
No. of samples received	: 49		
No. of samples analysed	: 49		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Duplicate outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.



Outliers : Quality Control Samples
Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Soil/Solid**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Duplicate (DUP) RPDs								
Leachable Metals	EO2309073-021	TP23-21-0.3	Barium, leachable	7440-39-3	E441	33.5 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.
Leachable Metals	EO2309073-021	TP23-21-0.3	Lead, leachable	7439-92-1	E441	0.020 % DUP-H	Diff <2x LOR	Low Level DUP DQO exceeded (difference > 2 LOR).
Leachable Metals	EO2309073-021	TP23-21-0.3	Manganese, leachable	7439-96-5	E441	35.1 % DUP-H	30%	Duplicate RPD does not meet the DQO for this test.

Result Qualifiers

Qualifier	Description
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Soil/Solid**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Acid Base Accounting : Arsenic Speciation in Soil, Sludge and Sediment										
Glass soil jar/Teflon lined cap OMR23-40-0.1	OJ-19D	29-Sep-2023	----	----	----		07-Nov-2023	----	39 days	
Acid Base Accounting : Arsenic Speciation in Soil, Sludge and Sediment										
Glass soil jar/Teflon lined cap OMR23-41-0.1	OJ-19D	29-Sep-2023	----	----	----		07-Nov-2023	----	39 days	
Acid Base Accounting : Arsenic Speciation in Soil, Sludge and Sediment										
Glass soil jar/Teflon lined cap OMR23-42-0.1	OJ-19D	29-Sep-2023	----	----	----		07-Nov-2023	----	39 days	
Acid Base Accounting : Arsenic Speciation in Soil, Sludge and Sediment										
Glass soil jar/Teflon lined cap TP23-23-0.1	OJ-19D	29-Sep-2023	----	----	----		07-Nov-2023	----	39 days	
Acid Base Accounting : Arsenic Speciation in Soil, Sludge and Sediment										
Glass soil jar/Teflon lined cap TP23-05-0.1	OJ-19D	28-Sep-2023	----	----	----		07-Nov-2023	----	40 days	
Acid Base Accounting : Arsenic Speciation in Soil, Sludge and Sediment										
Glass soil jar/Teflon lined cap TP23-06-0.1	OJ-19D	28-Sep-2023	----	----	----		07-Nov-2023	----	40 days	
Acid Base Accounting : Arsenic Speciation in Soil, Sludge and Sediment										
Glass soil jar/Teflon lined cap TP23-08-0.2	OJ-19D	28-Sep-2023	----	----	----		07-Nov-2023	----	40 days	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Acid Base Accounting : Arsenic Speciation in Soil, Sludge and Sediment										
Glass soil jar/Teflon lined cap TP23-15-0.1	OJ-19D	28-Sep-2023	----	----	----		07-Nov-2023	----	40 days	
Acid Base Accounting : Arsenic Speciation in Soil, Sludge and Sediment										
Glass soil jar/Teflon lined cap TP23-18-0.1	OJ-19D	28-Sep-2023	----	----	----		07-Nov-2023	----	40 days	
Acid Base Accounting : Arsenic Speciation in Soil, Sludge and Sediment										
Glass soil jar/Teflon lined cap TP23-20-0.1	OJ-19D	28-Sep-2023	----	----	----		07-Nov-2023	----	40 days	
Leachable Metals : IVBA (In Vitro Bioaccessibility) for As and Pb										
Glass soil jar/Teflon lined cap OMR23-40-0.1	E452	29-Sep-2023	02-Nov-2023	180 days	35 days	✓	19-Nov-2023	180 days	17 days	✓
Leachable Metals : IVBA (In Vitro Bioaccessibility) for As and Pb										
Glass soil jar/Teflon lined cap OMR23-41-0.1	E452	29-Sep-2023	02-Nov-2023	180 days	35 days	✓	19-Nov-2023	180 days	17 days	✓
Leachable Metals : IVBA (In Vitro Bioaccessibility) for As and Pb										
Glass soil jar/Teflon lined cap OMR23-42-0.1	E452	29-Sep-2023	02-Nov-2023	180 days	35 days	✓	19-Nov-2023	180 days	17 days	✓
Leachable Metals : IVBA (In Vitro Bioaccessibility) for As and Pb										
Glass soil jar/Teflon lined cap TP23-23-0.1	E452	29-Sep-2023	02-Nov-2023	180 days	35 days	✓	19-Nov-2023	180 days	17 days	✓
Leachable Metals : IVBA (In Vitro Bioaccessibility) for As and Pb										
Glass soil jar/Teflon lined cap TP23-05-0.1	E452	28-Sep-2023	02-Nov-2023	180 days	36 days	✓	19-Nov-2023	180 days	17 days	✓
Leachable Metals : IVBA (In Vitro Bioaccessibility) for As and Pb										
Glass soil jar/Teflon lined cap TP23-06-0.1	E452	28-Sep-2023	02-Nov-2023	180 days	36 days	✓	19-Nov-2023	180 days	17 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Leachable Metals : IVBA (In Vitro Bioaccessibility) for As and Pb										
Glass soil jar/Teflon lined cap TP23-08-0.2	E452	28-Sep-2023	02-Nov-2023	180 days	36 days	✓	19-Nov-2023	180 days	17 days	✓
Leachable Metals : IVBA (In Vitro Bioaccessibility) for As and Pb										
Glass soil jar/Teflon lined cap TP23-15-0.1	E452	28-Sep-2023	02-Nov-2023	180 days	36 days	✓	19-Nov-2023	180 days	17 days	✓
Leachable Metals : IVBA (In Vitro Bioaccessibility) for As and Pb										
Glass soil jar/Teflon lined cap TP23-18-0.1	E452	28-Sep-2023	02-Nov-2023	180 days	36 days	✓	19-Nov-2023	180 days	17 days	✓
Leachable Metals : IVBA (In Vitro Bioaccessibility) for As and Pb										
Glass soil jar/Teflon lined cap TP23-20-0.1	E452	28-Sep-2023	02-Nov-2023	180 days	36 days	✓	19-Nov-2023	180 days	17 days	✓
Leachable Metals : IVBA (In Vitro Bioaccessibility) for As and Pb										
Glass soil jar/Teflon lined cap OMR23-39-0.1	E452	29-Sep-2023	15-Nov-2023	180 days	48 days	✓	17-Nov-2023	180 days	2 days	✓
Leachable Metals : IVBA (In Vitro Bioaccessibility) for As and Pb										
Glass soil jar/Teflon lined cap TP23-27-0.1	E452	29-Sep-2023	15-Nov-2023	180 days	48 days	✓	17-Nov-2023	180 days	2 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-04-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-05-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-06-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-07-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-08-0.2	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-09-0.2	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-10-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-11-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-12-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-13-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-14-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-15-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-16-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-17-0.3	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-18-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-19-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-20-0.1	E441	28-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	16 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-01-0.2	E441	27-Sep-2023	13-Oct-2023	180 days	16 days	✓	14-Oct-2023	180 days	17 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-02-0.2	E441	27-Sep-2023	13-Oct-2023	180 days	17 days	✓	14-Oct-2023	180 days	17 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-03-0.1	E441	27-Sep-2023	13-Oct-2023	180 days	17 days	✓	14-Oct-2023	180 days	17 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap DUP3	E441	29-Sep-2023	18-Oct-2023	180 days	20 days	✓	20-Oct-2023	180 days	21 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap DUP4	E441	29-Sep-2023	18-Oct-2023	180 days	20 days	✓	20-Oct-2023	180 days	21 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap OMR23-40-0.1	E441	29-Sep-2023	18-Oct-2023	180 days	20 days	✓	20-Oct-2023	180 days	21 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap OMR23-41-0.1	E441	29-Sep-2023	18-Oct-2023	180 days	20 days	✓	20-Oct-2023	180 days	21 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap OMR23-42-0.1	E441	29-Sep-2023	18-Oct-2023	180 days	20 days	✓	20-Oct-2023	180 days	21 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap OMR23-38-0.1	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap OMR23-39-0.1	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-23-0.1	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-24-0.2	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-25-0.1	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-26-02	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-27-0.1	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-28-0.2	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-29-0.3	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-30-0.4	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-31-0.3	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-32-0.3	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-33-0.1	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-34-0.2	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-35-0.2	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-36-0.2	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-37-0.1	E441	29-Sep-2023	19-Oct-2023	180 days	20 days	✓	21-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap DUP1	E441	28-Sep-2023	18-Oct-2023	180 days	21 days	✓	20-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap DUP2	E441	28-Sep-2023	18-Oct-2023	180 days	21 days	✓	20-Oct-2023	180 days	22 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-21-0.3	E441	28-Sep-2023	19-Oct-2023	180 days	21 days	✓	21-Oct-2023	180 days	23 days	✓
Leachable Metals : Leachable Metals in Soil/Solid by ICPMS										
Glass soil jar/Teflon lined cap TP23-22-0.2	E441	28-Sep-2023	19-Oct-2023	180 days	21 days	✓	21-Oct-2023	180 days	23 days	✓
Metals : As and Lead in Soils by CRC ICPMS (<150 µm)										
Glass soil jar/Teflon lined cap OMR23-40-0.1	E440B	29-Sep-2023	02-Nov-2023	180 days	35 days	✓	03-Nov-2023	180 days	36 days	✓
Metals : As and Lead in Soils by CRC ICPMS (<150 µm)										
Glass soil jar/Teflon lined cap OMR23-41-0.1	E440B	29-Sep-2023	02-Nov-2023	180 days	35 days	✓	03-Nov-2023	180 days	36 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Metals : As and Lead in Soils by CRC ICPMS (<150 µm)										
Glass soil jar/Teflon lined cap OMR23-42-0.1	E440B	29-Sep-2023	02-Nov-2023	180 days	35 days	✓	03-Nov-2023	180 days	36 days	✓
Metals : As and Lead in Soils by CRC ICPMS (<150 µm)										
Glass soil jar/Teflon lined cap TP23-23-0.1	E440B	29-Sep-2023	02-Nov-2023	180 days	35 days	✓	03-Nov-2023	180 days	36 days	✓
Metals : As and Lead in Soils by CRC ICPMS (<150 µm)										
Glass soil jar/Teflon lined cap TP23-05-0.1	E440B	28-Sep-2023	02-Nov-2023	180 days	36 days	✓	03-Nov-2023	180 days	37 days	✓
Metals : As and Lead in Soils by CRC ICPMS (<150 µm)										
Glass soil jar/Teflon lined cap TP23-15-0.1	E440B	28-Sep-2023	02-Nov-2023	180 days	36 days	✓	03-Nov-2023	180 days	37 days	✓
Metals : As and Lead in Soils by CRC ICPMS (<150 µm)										
Glass soil jar/Teflon lined cap TP23-18-0.1	E440B	28-Sep-2023	02-Nov-2023	180 days	36 days	✓	03-Nov-2023	180 days	37 days	✓
Metals : As and Lead in Soils by CRC ICPMS (<150 µm)										
Glass soil jar/Teflon lined cap TP23-20-0.1	E440B	28-Sep-2023	02-Nov-2023	180 days	36 days	✓	03-Nov-2023	180 days	37 days	✓
Metals : As and Lead in Soils by CRC ICPMS (<150 µm)										
Glass soil jar/Teflon lined cap OMR23-39-0.1	E440B	29-Sep-2023	15-Nov-2023	180 days	48 days	✓	15-Nov-2023	180 days	48 days	✓
Metals : As and Lead in Soils by CRC ICPMS (<150 µm)										
Glass soil jar/Teflon lined cap TP23-27-0.1	E440B	29-Sep-2023	15-Nov-2023	180 days	48 days	✓	15-Nov-2023	180 days	48 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-24-0.2	E510	29-Sep-2023	12-Oct-2023	28 days	13 days	✓	12-Oct-2023	28 days	13 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-23-0.1	E510	29-Sep-2023	12-Oct-2023	28 days	13 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-25-0.1	E510	29-Sep-2023	12-Oct-2023	28 days	13 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-26-02	E510	29-Sep-2023	12-Oct-2023	28 days	13 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-27-0.1	E510	29-Sep-2023	12-Oct-2023	28 days	13 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-28-0.2	E510	29-Sep-2023	12-Oct-2023	28 days	13 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-29-0.3	E510	29-Sep-2023	12-Oct-2023	28 days	13 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-30-0.4	E510	29-Sep-2023	12-Oct-2023	28 days	13 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-31-0.3	E510	29-Sep-2023	12-Oct-2023	28 days	13 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TP23-32-0.3	E510	29-Sep-2023	12-Oct-2023	28 days	13 days	✓	12-Oct-2023	28 days	14 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag DUP3	E510	29-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap DUP4	E510	29-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap OMR23-38-0.1	E510	29-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap OMR23-39-0.1	E510	29-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap OMR23-40-0.1	E510	29-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap OMR23-41-0.1	E510	29-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap OMR23-42-0.1	E510	29-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-33-0.1	E510	29-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-34-0.2	E510	29-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	14 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-35-0.2	E510	29-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-36-0.2	E510	29-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-37-0.1	E510	29-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	14 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-04-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-05-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-06-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-07-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-08-0.2	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-09-0.2	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-10-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-11-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-12-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-13-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-14-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-15-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-16-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-17-0.3	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-18-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TP23-19-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TP23-20-0.1	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TP23-21-0.3	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
LDPE bag TP23-22-0.2	E510	28-Sep-2023	12-Oct-2023	28 days	14 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap DUP1	E510	28-Sep-2023	12-Oct-2023	28 days	15 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap DUP2	E510	28-Sep-2023	12-Oct-2023	28 days	15 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-01-0.2	E510	27-Sep-2023	12-Oct-2023	28 days	15 days	✓	12-Oct-2023	28 days	15 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-02-0.2	E510	27-Sep-2023	12-Oct-2023	28 days	15 days	✓	12-Oct-2023	28 days	16 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap TP23-03-0.1	E510	27-Sep-2023	12-Oct-2023	28 days	15 days	✓	12-Oct-2023	28 days	16 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-24-0.2	E440	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	180 days	13 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-23-0.1	E440	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-25-0.1	E440	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-26-02	E440	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-27-0.1	E440	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-28-0.2	E440	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-29-0.3	E440	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-30-0.4	E440	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-31-0.3	E440	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	180 days	14 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis				
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag TP23-32-0.3	E440	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	180 days	14 days	✓	
Metals : Metals in Soil/Solid by CRC ICPMS											
LDPE bag DUP3	E440	29-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	14 days	✓	
Metals : Metals in Soil/Solid by CRC ICPMS											
Glass soil jar/Teflon lined cap DUP4	E440	29-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	14 days	✓	
Metals : Metals in Soil/Solid by CRC ICPMS											
Glass soil jar/Teflon lined cap OMR23-38-0.1	E440	29-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	14 days	✓	
Metals : Metals in Soil/Solid by CRC ICPMS											
Glass soil jar/Teflon lined cap OMR23-39-0.1	E440	29-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	14 days	✓	
Metals : Metals in Soil/Solid by CRC ICPMS											
Glass soil jar/Teflon lined cap OMR23-40-0.1	E440	29-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	14 days	✓	
Metals : Metals in Soil/Solid by CRC ICPMS											
Glass soil jar/Teflon lined cap OMR23-41-0.1	E440	29-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	14 days	✓	
Metals : Metals in Soil/Solid by CRC ICPMS											
Glass soil jar/Teflon lined cap OMR23-42-0.1	E440	29-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	14 days	✓	
Metals : Metals in Soil/Solid by CRC ICPMS											
Glass soil jar/Teflon lined cap TP23-33-0.1	E440	29-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	14 days	✓	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-34-0.2	E440	29-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-35-0.2	E440	29-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-36-0.2	E440	29-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-37-0.1	E440	29-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	14 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-04-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-05-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-06-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-07-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-08-0.2	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-09-0.2	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-10-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-11-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-12-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-13-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-14-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-15-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-16-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-17-0.3	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-18-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TP23-19-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TP23-20-0.1	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TP23-21-0.3	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
LDPE bag TP23-22-0.2	E440	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap DUP1	E440	28-Sep-2023	12-Oct-2023	180 days	15 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap DUP2	E440	28-Sep-2023	12-Oct-2023	180 days	15 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-01-0.2	E440	27-Sep-2023	12-Oct-2023	180 days	15 days	✓	12-Oct-2023	180 days	15 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-02-0.2	E440	27-Sep-2023	12-Oct-2023	180 days	15 days	✓	12-Oct-2023	180 days	16 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap TP23-03-0.1	E440	27-Sep-2023	12-Oct-2023	180 days	15 days	✓	12-Oct-2023	180 days	16 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap DUP1	E351	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap DUP2	E351	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap DUP3	E351	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap DUP4	E351	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap OMR23-38-0.1	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap OMR23-39-0.1	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap OMR23-40-0.1	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap OMR23-41-0.1	E351	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap OMR23-42-0.1	E351	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-01-0.2	E351	27-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-02-0.2	E351	27-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-03-0.1	E351	27-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-04-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-05-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-06-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-07-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-08-0.2	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-09-0.2	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-10-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-11-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-12-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-13-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-14-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-15-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-16-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-17-0.3	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-18-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-19-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-20-0.1	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-21-0.3	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-22-0.2	E351	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-23-0.1	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-24-0.2	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-25-0.1	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-26-02	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-27-0.1	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-28-0.2	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-29-0.3	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-30-0.4	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-31-0.3	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-32-0.3	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-33-0.1	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-34-0.2	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-35-0.2	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-36-0.2	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Carbon by Combustion										
Glass soil jar/Teflon lined cap TP23-37-0.1	E351	29-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap OMR23-38-0.1	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap OMR23-39-0.1	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap OMR23-40-0.1	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-23-0.1	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-24-0.2	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-25-0.1	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-26-02	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-27-0.1	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-28-0.2	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-29-0.3	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-30-0.4	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-31-0.3	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-32-0.3	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-33-0.1	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-34-0.2	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-35-0.2	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-36-0.2	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-37-0.1	E354	29-Sep-2023	----	----	----		10-Oct-2023	----	11 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap DUP3	E354	29-Sep-2023	----	----	----		11-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap DUP4	E354	29-Sep-2023	----	----	----		11-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap OMR23-41-0.1	E354	29-Sep-2023	----	----	----		11-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap OMR23-42-0.1	E354	29-Sep-2023	----	----	----		11-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-04-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-05-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-06-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-07-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-08-0.2	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-09-0.2	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-10-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-11-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-12-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-13-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-14-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-15-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-16-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-17-0.3	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-18-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-19-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-20-0.1	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-21-0.3	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-22-0.2	E354	28-Sep-2023	----	----	----		10-Oct-2023	----	12 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap DUP1	E354	28-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap DUP2	E354	28-Sep-2023	----	----	----		11-Oct-2023	----	13 days	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-01-0.2	E354	27-Sep-2023	----	----	----		10-Oct-2023	----	13 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-02-0.2	E354	27-Sep-2023	----	----	----		10-Oct-2023	----	13 days	
Organic / Inorganic Carbon : Total Inorganic Carbon by Acetic Acid pH Standard Curve										
Glass soil jar/Teflon lined cap TP23-03-0.1	E354	27-Sep-2023	----	----	----		10-Oct-2023	----	13 days	
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
LDPE bag OMR23-38-0.1	E178	29-Sep-2023	----	----	----		12-Oct-2023	180 days	13 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
LDPE bag OMR23-39-0.1	E178	29-Sep-2023	----	----	----		12-Oct-2023	180 days	13 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
LDPE bag OMR23-40-0.1	E178	29-Sep-2023	----	----	----		12-Oct-2023	180 days	13 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
LDPE bag OMR23-41-0.1	E178	29-Sep-2023	----	----	----		12-Oct-2023	180 days	13 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
LDPE bag OMR23-42-0.1	E178	29-Sep-2023	----	----	----		12-Oct-2023	180 days	13 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
LDPE bag TP23-11-0.1	E178	28-Sep-2023	----	----	----		12-Oct-2023	180 days	14 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
LDPE bag TP23-21-0.3	E178	28-Sep-2023	----	----	----		12-Oct-2023	180 days	14 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
LDPE bag TP23-22-0.2	E178	28-Sep-2023	----	----	----		12-Oct-2023	180 days	14 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
LDPE bag TP23-01-0.2	E178	27-Sep-2023	----	----	----		12-Oct-2023	180 days	15 days	✓
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-24-0.2	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	12 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap OMR23-38-0.1	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap OMR23-39-0.1	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-23-0.1	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-25-0.1	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-26-02	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-27-0.1	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-28-0.2	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-29-0.3	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-30-0.4	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-31-0.3	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-32-0.3	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-33-0.1	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-34-0.2	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-35-0.2	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-36-0.2	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-37-0.1	E144	29-Sep-2023	----	----	----		11-Oct-2023	----	13 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap DUP3	E144	29-Sep-2023	----	----	----		12-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap DUP4	E144	29-Sep-2023	----	----	----		12-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap OMR23-40-0.1	E144	29-Sep-2023	----	----	----		12-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap OMR23-41-0.1	E144	29-Sep-2023	----	----	----		12-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap OMR23-42-0.1	E144	29-Sep-2023	----	----	----		12-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-01-0.2	E144	27-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-04-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-05-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-06-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-07-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-08-0.2	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-09-0.2	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-10-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-11-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-12-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-13-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-14-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-15-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-16-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-17-0.3	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-18-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-19-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-20-0.1	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-21-0.3	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-22-0.2	E144	28-Sep-2023	----	----	----		11-Oct-2023	----	14 days	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap DUP1	E144	28-Sep-2023	----	----	----		12-Oct-2023	----	15 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap DUP2	E144	28-Sep-2023	----	----	----		12-Oct-2023	----	15 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-02-0.2	E144	27-Sep-2023	----	----	----		11-Oct-2023	----	15 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap TP23-03-0.1	E144	27-Sep-2023	----	----	----		11-Oct-2023	----	15 days	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag DUP1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag DUP2	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag DUP3	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag DUP4	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag OMR23-38-0.1	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag OMR23-39-0.1	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag OMR23-40-0.1	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag OMR23-41-0.1	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag OMR23-42-0.1	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-01-0.2	E108B	27-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-02-0.2	E108B	27-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-03-0.1	E108B	27-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-04-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-05-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-06-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-07-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-08-0.2	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-09-0.2	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-10-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-11-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-12-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-13-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-14-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-15-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-16-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-17-0.3	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-18-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-19-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-20-0.1	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-21-0.3	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-22-0.2	E108B	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-23-0.1	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✔



Matrix: Soil/Solid

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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-24-0.2	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-25-0.1	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-26-02	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-27-0.1	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-28-0.2	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-29-0.3	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-30-0.4	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-31-0.3	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-32-0.3	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-33-0.1	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-34-0.2	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-35-0.2	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-36-0.2	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag TP23-37-0.1	E108B	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	0 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag DUP3	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap DUP4	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap OMR23-38-0.1	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap OMR23-39-0.1	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap OMR23-40-0.1	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap OMR23-41-0.1	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap OMR23-42-0.1	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-23-0.1	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-24-0.2	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-25-0.1	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-26-02	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-27-0.1	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-28-0.2	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-29-0.3	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-30-0.4	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-31-0.3	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag TP23-32-0.3	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-33-0.1	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-34-0.2	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-35-0.2	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-36-0.2	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-37-0.1	E108	29-Sep-2023	12-Oct-2023	30 days	13 days	✓	12-Oct-2023	30 days	13 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap DUP1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap DUP2	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-04-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-05-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-06-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-07-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-08-0.2	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-09-0.2	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-10-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓



Matrix: Soil/Solid

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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-11-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-12-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-13-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-14-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-15-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-16-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-17-0.3	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-18-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag TP23-19-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓



Matrix: Soil/Solid

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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag TP23-20-0.1	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag TP23-21-0.3	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
LDPE bag TP23-22-0.2	E108	28-Sep-2023	12-Oct-2023	30 days	14 days	✓	12-Oct-2023	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-01-0.2	E108	27-Sep-2023	12-Oct-2023	30 days	15 days	✓	12-Oct-2023	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-02-0.2	E108	27-Sep-2023	12-Oct-2023	30 days	15 days	✓	12-Oct-2023	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap TP23-03-0.1	E108	27-Sep-2023	12-Oct-2023	30 days	15 days	✓	12-Oct-2023	30 days	15 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-01-0.2	E312A	27-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-02-0.2	E312A	27-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-03-0.1	E312A	27-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓



Matrix: Soil/Solid

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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-04-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-05-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-06-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-07-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-08-0.2	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-09-0.2	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-10-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-11-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-12-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓



Matrix: Soil/Solid

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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-13-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-14-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-15-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-16-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-17-0.3	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-18-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-19-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-20-0.1	E312A	28-Sep-2023	11-Oct-2023	----	----		11-Oct-2023	0 days	0 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap DUP1	E312A	28-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓



Matrix: Soil/Solid

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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap DUP2	E312A	28-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✔
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap DUP3	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✔
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap DUP4	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✔
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap OMR23-38-0.1	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✔
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap OMR23-39-0.1	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✔
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap OMR23-40-0.1	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✔
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap OMR23-41-0.1	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✔
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap OMR23-42-0.1	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✔
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-21-0.3	E312A	28-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✔



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-22-0.2	E312A	28-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-23-0.1	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-24-0.2	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-25-0.1	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-26-02	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-27-0.1	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-28-0.2	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-29-0.3	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-30-0.4	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-31-0.3	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-32-0.3	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-33-0.1	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-34-0.2	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-35-0.2	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-36-0.2	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-37-0.1	E312A	29-Sep-2023	11-Oct-2023	----	----		12-Oct-2023	1 days	1 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap DUP3	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap DUP4	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap OMR23-38-0.1	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap OMR23-39-0.1	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap OMR23-40-0.1	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap OMR23-41-0.1	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap OMR23-42-0.1	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-04-0.1	E497.SO4	28-Sep-2023	11-Oct-2023	180 days	13 days	✓	11-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-05-0.1	E497.SO4	28-Sep-2023	11-Oct-2023	180 days	13 days	✓	11-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-06-0.1	E497.SO4	28-Sep-2023	11-Oct-2023	180 days	13 days	✓	11-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-07-0.1	E497.SO4	28-Sep-2023	11-Oct-2023	180 days	13 days	✓	11-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-08-0.2	E497.SO4	28-Sep-2023	11-Oct-2023	180 days	13 days	✓	11-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-09-0.2	E497.SO4	28-Sep-2023	11-Oct-2023	180 days	13 days	✓	11-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-10-0.1	E497.SO4	28-Sep-2023	11-Oct-2023	180 days	13 days	✓	11-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-11-0.1	E497.SO4	28-Sep-2023	11-Oct-2023	180 days	13 days	✓	11-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-12-0.1	E497.SO4	28-Sep-2023	11-Oct-2023	180 days	13 days	✓	11-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-13-0.1	E497.SO4	28-Sep-2023	11-Oct-2023	180 days	13 days	✓	11-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-14-0.1	E497.SO4	28-Sep-2023	11-Oct-2023	180 days	13 days	✓	11-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-15-0.1	E497.SO4	28-Sep-2023	11-Oct-2023	180 days	13 days	✓	11-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-23-0.1	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-24-0.2	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-25-0.1	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-26-02	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-27-0.1	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-28-0.2	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-29-0.3	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-30-0.4	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-31-0.3	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-32-0.3	E497.SO4	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-33-0.1	E497.S04	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-34-0.2	E497.S04	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-35-0.2	E497.S04	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-36-0.2	E497.S04	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-37-0.1	E497.S04	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap DUP1	E497.S04	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap DUP2	E497.S04	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-01-0.2	E497.S04	27-Sep-2023	11-Oct-2023	180 days	14 days	✓	11-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-02-0.2	E497.S04	27-Sep-2023	11-Oct-2023	180 days	14 days	✓	11-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-03-0.1	E497.S04	27-Sep-2023	11-Oct-2023	180 days	14 days	✓	11-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-16-0.1	E497.S04	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-17-0.3	E497.S04	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-18-0.1	E497.S04	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-19-0.1	E497.S04	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-20-0.1	E497.S04	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-21-0.3	E497.S04	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Plant Available Nutrients : Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)										
Glass soil jar/Teflon lined cap TP23-22-0.2	E497.S04	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap DUP3	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap DUP4	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap OMR23-38-0.1	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap OMR23-39-0.1	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap OMR23-40-0.1	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap OMR23-41-0.1	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap OMR23-42-0.1	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-23-0.1	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-24-0.2	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-25-0.1	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-26-02	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-27-0.1	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-28-0.2	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-29-0.3	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-30-0.4	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-31-0.3	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-32-0.3	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-33-0.1	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-34-0.2	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-35-0.2	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-36-0.2	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-37-0.1	EPP441	29-Sep-2023	10-Oct-2023	----	----		----	3 days	11 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap DUP1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap DUP2	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-04-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-05-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-06-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-07-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-08-0.2	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-09-0.2	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-10-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-11-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-12-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-13-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-14-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-15-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-16-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR



Matrix: Soil/Solid

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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-17-0.3	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-18-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-19-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-20-0.1	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-21-0.3	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-22-0.2	EPP441	28-Sep-2023	10-Oct-2023	----	----		----	3 days	12 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-01-0.2	EPP441	27-Sep-2023	10-Oct-2023	----	----		----	3 days	13 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-02-0.2	EPP441	27-Sep-2023	10-Oct-2023	----	----		----	3 days	13 days	✖ EHTR
Sample Preparation : Dry and Grind in Soil/Solid <38°C										
Glass soil jar/Teflon lined cap TP23-03-0.1	EPP441	27-Sep-2023	10-Oct-2023	----	----		----	3 days	13 days	✖ EHTR



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag DUP3	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag DUP4	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag OMR23-38-0.1	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag OMR23-39-0.1	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag OMR23-40-0.1	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag OMR23-41-0.1	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag OMR23-42-0.1	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-23-0.1	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-24-0.2	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-25-0.1	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-26-02	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-27-0.1	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-28-0.2	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-29-0.3	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-30-0.4	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-31-0.3	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-32-0.3	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-33-0.1	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓



Matrix: Soil/Solid

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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-34-0.2	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-35-0.2	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-36-0.2	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-37-0.1	E485	29-Sep-2023	12-Oct-2023	180 days	13 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag DUP1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag DUP2	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-04-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-05-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-06-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-07-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-08-0.2	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-09-0.2	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-10-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-11-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-12-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-13-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-14-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-15-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓



Matrix: Soil/Solid

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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-16-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-17-0.3	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-18-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-19-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-20-0.1	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-21-0.3	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-22-0.2	E485	28-Sep-2023	12-Oct-2023	180 days	14 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-01-0.2	E485	27-Sep-2023	12-Oct-2023	180 days	15 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-02-0.2	E485	27-Sep-2023	12-Oct-2023	180 days	15 days	✓	13-Oct-2023	180 days	1 days	✓



Matrix: Soil/Solid

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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)										
LDPE bag TP23-03-0.1	E485	27-Sep-2023	12-Oct-2023	180 days	15 days	✓	13-Oct-2023	180 days	1 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag DUP3	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag DUP4	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag OMR23-38-0.1	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag OMR23-39-0.1	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag OMR23-40-0.1	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag OMR23-41-0.1	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag OMR23-42-0.1	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-23-0.1	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-24-0.2	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-25-0.1	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-26-02	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-27-0.1	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-28-0.2	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-29-0.3	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-30-0.4	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-31-0.3	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-32-0.3	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-33-0.1	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-34-0.2	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-35-0.2	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-36-0.2	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-37-0.1	E266.Cl	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag DUP1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag DUP2	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-04-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-05-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-06-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-07-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-08-0.2	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-09-0.2	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-10-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-11-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-12-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-13-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-14-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-15-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-16-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-17-0.3	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-18-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-19-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-20-0.1	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-21-0.3	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-22-0.2	E266.Cl	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-01-0.2	E266.Cl	27-Sep-2023	12-Oct-2023	365 days	15 days	✓	12-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-02-0.2	E266.Cl	27-Sep-2023	12-Oct-2023	365 days	15 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Chloride by Colourimetry (Saturated Paste)										
LDPE bag TP23-03-0.1	E266.Cl	27-Sep-2023	12-Oct-2023	365 days	15 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag DUP3	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag DUP4	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag OMR23-38-0.1	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag OMR23-39-0.1	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag OMR23-40-0.1	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag OMR23-41-0.1	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag OMR23-42-0.1	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-23-0.1	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-24-0.2	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-25-0.1	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-26-02	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-27-0.1	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-28-0.2	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-29-0.3	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-30-0.4	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-31-0.3	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-32-0.3	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-33-0.1	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-34-0.2	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-35-0.2	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-36-0.2	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-37-0.1	E102	29-Sep-2023	12-Oct-2023	365 days	13 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag DUP1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag DUP2	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-04-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-05-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-06-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-07-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-08-0.2	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-09-0.2	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-10-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-11-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-12-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-13-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-14-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-15-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-16-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-17-0.3	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-18-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-19-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-20-0.1	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-21-0.3	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-22-0.2	E102	28-Sep-2023	12-Oct-2023	365 days	14 days	✓	12-Oct-2023	28 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-01-0.2	E102	27-Sep-2023	12-Oct-2023	365 days	15 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-02-0.2	E102	27-Sep-2023	12-Oct-2023	365 days	15 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Conductivity in Soil (Saturated Paste)										
LDPE bag TP23-03-0.1	E102	27-Sep-2023	12-Oct-2023	365 days	15 days	✓	12-Oct-2023	28 days	0 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag DUP3	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag DUP4	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag OMR23-38-0.1	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag OMR23-39-0.1	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag OMR23-40-0.1	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag OMR23-41-0.1	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓



Matrix: Soil/Solid

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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Saturation Percentage										
LDPE bag OMR23-42-0.1	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-23-0.1	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-24-0.2	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-25-0.1	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-26-02	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-27-0.1	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-28-0.2	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-29-0.3	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-30-0.4	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-31-0.3	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-32-0.3	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-33-0.1	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-34-0.2	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-35-0.2	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-36-0.2	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-37-0.1	E141	29-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	13 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag DUP1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag DUP2	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-04-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-05-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-06-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-07-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-08-0.2	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-09-0.2	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-10-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-11-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-12-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-13-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-14-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-15-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-16-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-17-0.3	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-18-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-19-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-20-0.1	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-21-0.3	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-22-0.2	E141	28-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	14 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-01-0.2	E141	27-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	15 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-02-0.2	E141	27-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	15 days	✓
Saturated Paste Extractables : Saturation Percentage										
LDPE bag TP23-03-0.1	E141	27-Sep-2023	12-Oct-2023	----	----		12-Oct-2023	0 days	15 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-24-0.2	E444	29-Sep-2023	29-Nov-2023	180 days	61 days	✓	29-Nov-2023	180 days	61 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) OMR23-38-0.1	E444	29-Sep-2023	29-Nov-2023	180 days	62 days	✓	29-Nov-2023	180 days	62 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-23-0.1	E444	29-Sep-2023	29-Nov-2023	180 days	62 days	✓	29-Nov-2023	180 days	62 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-25-0.1	E444	29-Sep-2023	29-Nov-2023	180 days	62 days	✓	29-Nov-2023	180 days	62 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-26-02	E444	29-Sep-2023	29-Nov-2023	180 days	62 days	✓	29-Nov-2023	180 days	62 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) DUP3	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) DUP4	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) OMR23-39-0.1	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) OMR23-40-0.1	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) OMR23-41-0.1	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) OMR23-42-0.1	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-17-0.3	E444	28-Sep-2023	29-Nov-2023	180 days	63 days	✓	29-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-18-0.1	E444	28-Sep-2023	29-Nov-2023	180 days	63 days	✓	29-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-19-0.1	E444	28-Sep-2023	29-Nov-2023	180 days	63 days	✓	29-Nov-2023	180 days	63 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-20-0.1	E444	28-Sep-2023	29-Nov-2023	180 days	63 days	✓	29-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-21-0.3	E444	28-Sep-2023	29-Nov-2023	180 days	63 days	✓	29-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-22-0.2	E444	28-Sep-2023	29-Nov-2023	180 days	63 days	✓	29-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-27-0.1	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-28-0.2	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-29-0.3	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-30-0.4	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-31-0.3	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-32-0.3	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-33-0.1	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-34-0.2	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-35-0.2	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-36-0.2	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-37-0.1	E444	29-Sep-2023	30-Nov-2023	180 days	63 days	✓	30-Nov-2023	180 days	63 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) DUP1	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) DUP2	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-01-0.2	E444	27-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-04-0.1	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-05-0.1	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-06-0.1	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-07-0.1	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-08-0.2	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-09-0.2	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-10-0.1	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-11-0.1	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-12-0.1	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-13-0.1	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-14-0.1	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-15-0.1	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-16-0.1	E444	28-Sep-2023	30-Nov-2023	180 days	64 days	✓	30-Nov-2023	180 days	64 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-02-0.2	E444	27-Sep-2023	30-Nov-2023	180 days	65 days	✓	30-Nov-2023	180 days	65 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) TP23-03-0.1	E444	27-Sep-2023	30-Nov-2023	180 days	65 days	✓	30-Nov-2023	180 days	65 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-23-0.1	EPP444	29-Sep-2023	28-Nov-2023	----	----		----	14 days	60 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-24-0.2	EPP444	29-Sep-2023	28-Nov-2023	----	----		----	14 days	60 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-25-0.1	EPP444	29-Sep-2023	28-Nov-2023	----	----		----	14 days	60 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-26-02	EPP444	29-Sep-2023	28-Nov-2023	----	----		----	14 days	60 days	✖ EHT



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) OMR23-38-0.1	EPP444	29-Sep-2023	29-Nov-2023	----	----		----	14 days	61 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) OMR23-40-0.1	EPP444	29-Sep-2023	29-Nov-2023	----	----		----	14 days	61 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) OMR23-41-0.1	EPP444	29-Sep-2023	29-Nov-2023	----	----		----	14 days	61 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) OMR23-42-0.1	EPP444	29-Sep-2023	29-Nov-2023	----	----		----	14 days	61 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-17-0.3	EPP444	28-Sep-2023	28-Nov-2023	----	----		----	14 days	61 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-18-0.1	EPP444	28-Sep-2023	28-Nov-2023	----	----		----	14 days	61 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-19-0.1	EPP444	28-Sep-2023	28-Nov-2023	----	----		----	14 days	61 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-20-0.1	EPP444	28-Sep-2023	28-Nov-2023	----	----		----	14 days	61 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-33-0.1	EPP444	29-Sep-2023	29-Nov-2023	----	----		----	14 days	61 days	✖ EHT



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) DUP3	EPP444	29-Sep-2023	30-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) DUP4	EPP444	29-Sep-2023	30-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) OMR23-39-0.1	EPP444	29-Sep-2023	30-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-04-0.1	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-05-0.1	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-06-0.1	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-07-0.1	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-08-0.2	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-09-0.2	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-10-0.1	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-11-0.1	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-12-0.1	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-13-0.1	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-14-0.1	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-15-0.1	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-16-0.1	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-21-0.3	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-22-0.2	EPP444	28-Sep-2023	29-Nov-2023	----	----		----	14 days	62 days	✖ EHT



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-27-0.1	EPP444	29-Sep-2023	30-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-28-0.2	EPP444	29-Sep-2023	30-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-29-0.3	EPP444	29-Sep-2023	30-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-30-0.4	EPP444	29-Sep-2023	30-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-31-0.3	EPP444	29-Sep-2023	30-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-32-0.3	EPP444	29-Sep-2023	30-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-34-0.2	EPP444	29-Sep-2023	30-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-35-0.2	EPP444	29-Sep-2023	30-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-36-0.2	EPP444	29-Sep-2023	30-Nov-2023	----	----		----	14 days	62 days	✖ EHT



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-37-0.1	EPP444	29-Sep-2023	30-Nov-2023	----	----		----	14 days	62 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) DUP1	EPP444	28-Sep-2023	30-Nov-2023	----	----		----	14 days	63 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) DUP2	EPP444	28-Sep-2023	30-Nov-2023	----	----		----	14 days	63 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-01-0.2	EPP444	27-Sep-2023	29-Nov-2023	----	----		----	14 days	63 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-02-0.2	EPP444	27-Sep-2023	29-Nov-2023	----	----		----	14 days	63 days	✖ EHT
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx) TP23-03-0.1	EPP444	27-Sep-2023	29-Nov-2023	----	----		----	14 days	63 days	✖ EHT

Matrix: Water

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) DUP-5	E298	29-Sep-2023	06-Oct-2023	28 days	7 days	✓	06-Oct-2023	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SW23-01	E298	29-Sep-2023	06-Oct-2023	28 days	7 days	✓	06-Oct-2023	28 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SW23-02	E298	29-Sep-2023	06-Oct-2023	28 days	7 days	✓	06-Oct-2023	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE DUP-5	E235.Cl	29-Sep-2023	05-Oct-2023	28 days	6 days	✓	05-Oct-2023	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SW23-01	E235.Cl	29-Sep-2023	05-Oct-2023	28 days	6 days	✓	05-Oct-2023	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SW23-02	E235.Cl	29-Sep-2023	05-Oct-2023	28 days	6 days	✓	05-Oct-2023	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE DUP-5	E235.F	29-Sep-2023	05-Oct-2023	28 days	6 days	✓	05-Oct-2023	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SW23-01	E235.F	29-Sep-2023	05-Oct-2023	28 days	6 days	✓	05-Oct-2023	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SW23-02	E235.F	29-Sep-2023	05-Oct-2023	28 days	6 days	✓	05-Oct-2023	28 days	6 days	✓
Anions and Nutrients : Nitrate in Water by IC										
HDPE SW23-02	E235.NO3	29-Sep-2023	05-Oct-2023	3 days	5 days	✗ EHTR	05-Oct-2023	3 days	5 days	✗ EHTR-FM
Anions and Nutrients : Nitrate in Water by IC										
HDPE DUP-5	E235.NO3	29-Sep-2023	05-Oct-2023	3 days	5 days	✗ EHTR	05-Oct-2023	3 days	6 days	✗ EHTR-FM



Matrix: **Water** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrate in Water by IC										
HDPE SW23-01	E235.NO3	29-Sep-2023	05-Oct-2023	3 days	5 days	✖ EHTR	05-Oct-2023	3 days	6 days	✖ EHTR-FM
Anions and Nutrients : Nitrite in Water by IC										
HDPE SW23-02	E235.NO2	29-Sep-2023	05-Oct-2023	3 days	5 days	✖ EHTR	05-Oct-2023	3 days	5 days	✖ EHTR-FM
Anions and Nutrients : Nitrite in Water by IC										
HDPE DUP-5	E235.NO2	29-Sep-2023	05-Oct-2023	3 days	5 days	✖ EHTR	05-Oct-2023	3 days	6 days	✖ EHTR-FM
Anions and Nutrients : Nitrite in Water by IC										
HDPE SW23-01	E235.NO2	29-Sep-2023	05-Oct-2023	3 days	5 days	✖ EHTR	05-Oct-2023	3 days	6 days	✖ EHTR-FM
Anions and Nutrients : Sulfate in Water by IC										
HDPE DUP-5	E235.SO4	29-Sep-2023	05-Oct-2023	28 days	6 days	✔	05-Oct-2023	28 days	6 days	✔
Anions and Nutrients : Sulfate in Water by IC										
HDPE SW23-01	E235.SO4	29-Sep-2023	05-Oct-2023	28 days	6 days	✔	05-Oct-2023	28 days	6 days	✔
Anions and Nutrients : Sulfate in Water by IC										
HDPE SW23-02	E235.SO4	29-Sep-2023	05-Oct-2023	28 days	6 days	✔	05-Oct-2023	28 days	6 days	✔
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) DUP-5	E421	29-Sep-2023	07-Oct-2023	180 days	8 days	✔	07-Oct-2023	180 days	8 days	✔
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) SW23-01	E421	29-Sep-2023	07-Oct-2023	180 days	8 days	✔	07-Oct-2023	180 days	8 days	✔



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) SW23-02	E421	29-Sep-2023	07-Oct-2023	180 days	8 days	✓	07-Oct-2023	180 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
HDPE DUP-5	E358-L	29-Sep-2023	11-Oct-2023	3 days	11 days	✖ EHTR	11-Oct-2023	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
HDPE SW23-01	E358-L	29-Sep-2023	11-Oct-2023	3 days	11 days	✖ EHTR	11-Oct-2023	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
HDPE SW23-02	E358-L	29-Sep-2023	11-Oct-2023	3 days	11 days	✖ EHTR	11-Oct-2023	28 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) DUP-5	E355-L	29-Sep-2023	06-Oct-2023	28 days	7 days	✓	07-Oct-2023	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SW23-01	E355-L	29-Sep-2023	06-Oct-2023	28 days	7 days	✓	07-Oct-2023	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SW23-02	E355-L	29-Sep-2023	06-Oct-2023	28 days	7 days	✓	06-Oct-2023	28 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE DUP-5	E290	29-Sep-2023	10-Oct-2023	14 days	11 days	✓	11-Oct-2023	14 days	12 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SW23-01	E290	29-Sep-2023	10-Oct-2023	14 days	11 days	✓	11-Oct-2023	14 days	12 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Alkalinity Species by Titration										
HDPE SW23-02	E290	29-Sep-2023	10-Oct-2023	14 days	11 days	✓	11-Oct-2023	14 days	12 days	✓
Physical Tests : Conductivity in Water										
HDPE DUP-5	E100	29-Sep-2023	10-Oct-2023	28 days	11 days	✓	11-Oct-2023	28 days	12 days	✓
Physical Tests : Conductivity in Water										
HDPE SW23-01	E100	29-Sep-2023	10-Oct-2023	28 days	11 days	✓	11-Oct-2023	28 days	12 days	✓
Physical Tests : Conductivity in Water										
HDPE SW23-02	E100	29-Sep-2023	10-Oct-2023	28 days	11 days	✓	11-Oct-2023	28 days	12 days	✓
Physical Tests : pH by Meter										
HDPE SW23-02	E108	29-Sep-2023	10-Oct-2023	0.25 hrs	263 hrs	✗ EHTR-FM	11-Oct-2023	0.25 hrs	281 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE DUP-5	E108	29-Sep-2023	10-Oct-2023	0.25 hrs	264 hrs	✗ EHTR-FM	11-Oct-2023	0.25 hrs	282 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE SW23-01	E108	29-Sep-2023	10-Oct-2023	0.25 hrs	264 hrs	✗ EHTR-FM	11-Oct-2023	0.25 hrs	282 hrs	✗ EHTR-FM
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) DUP-5	E420	29-Sep-2023	11-Oct-2023	180 days	12 days	✓	11-Oct-2023	180 days	12 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) SW23-01	E420	29-Sep-2023	11-Oct-2023	180 days	12 days	✓	11-Oct-2023	180 days	12 days	✓

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 Work Order : EO2309073 Amendment 3
 Client : Associated Environmental Consultants Inc.
 Project : 2023-8451



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method			Method	Sampling Date	Extraction / Preparation			Analysis				
Container / Client Sample ID(s)	Preparation Date	Holding Times			Eval	Analysis Date	Holding Times		Eval			
		Rec					Actual	Rec		Actual		
Total Metals : Total Metals in Water by CRC ICPMS												
HDPE total (nitric acid) SW23-02			E420	29-Sep-2023	11-Oct-2023	180 days	12 days	✔	11-Oct-2023	180 days	12 days	✔

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Soil/Solid**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
As and Lead in Soils by CRC ICPMS (<150 µm)	E440B	1217651	2	10	20.0	5.0	✓
Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)	E312A	1177364	3	47	6.3	5.0	✓
Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)	E497.SO4	1177327	3	46	6.5	5.0	✓
Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)	E485	1181224	1	46	2.1	5.0	✗
CCME fine/coarse Particle Size Analysis by wet sieve	E178	1180956	1	13	7.6	5.0	✓
Chloride by Colourimetry (Saturated Paste)	E266.Cl	1181222	1	46	2.1	5.0	✗
Conductivity in Soil (Saturated Paste)	E102	1181221	1	46	2.1	5.0	✗
IVBA (In Vitro Bioaccessibility) for As and Pb	E452	1217652	2	12	16.6	5.0	✓
Leachable Metals in Soil/Solid by ICPMS	E441	1181342	3	46	6.5	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	1180744	3	60	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1180745	3	60	5.0	5.0	✓
Moisture Content by Gravimetry	E144	1179218	3	60	5.0	5.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)	E108B	1181798	3	46	6.5	5.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	1181266	3	46	6.5	5.0	✓
Saturation Percentage	E141	1181223	1	46	2.1	5.0	✗
Total Carbon by Combustion	E351	1178293	3	59	5.0	5.0	✓
Total Inorganic Carbon by Acetic Acid pH Standard Curve	E354	1176485	3	59	5.0	5.0	✓
Laboratory Control Samples (LCS)							
As and Lead in Soils by CRC ICPMS (<150 µm)	E440B	1217651	4	10	40.0	10.0	✓
Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)	E312A	1177364	6	47	12.7	10.0	✓
Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)	E497.SO4	1177327	6	46	13.0	10.0	✓
Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)	E485	1181224	6	46	13.0	10.0	✓
CCME fine/coarse Particle Size Analysis by wet sieve	E178	1180956	1	13	7.6	5.0	✓
Chloride by Colourimetry (Saturated Paste)	E266.Cl	1181222	6	46	13.0	10.0	✓
Conductivity in Soil (Saturated Paste)	E102	1181221	6	46	13.0	10.0	✓
IVBA (In Vitro Bioaccessibility) for As and Pb	E452	1217652	2	12	16.6	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	1180744	6	60	10.0	10.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1180745	6	60	10.0	10.0	✓
Moisture Content by Gravimetry	E144	1179218	3	60	5.0	5.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)	E108B	1181798	6	46	13.0	10.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	1181266	6	46	13.0	10.0	✓
Saturation Percentage	E141	1181223	6	46	13.0	10.0	✓
Total Carbon by Combustion	E351	1178293	6	59	10.1	10.0	✓
Total Inorganic Carbon by Acetic Acid pH Standard Curve	E354	1176485	6	59	10.1	10.0	✓
Method Blanks (MB)							



Matrix: Soil/Solid

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Method Blanks (MB) - Continued							
As and Lead in Soils by CRC ICPMS (<150 µm)	E440B	1217651	2	10	20.0	5.0	✔
Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)	E312A	1177364	3	47	6.3	5.0	✔
Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)	E497.SO4	1177327	3	46	6.5	5.0	✔
Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)	E485	1181224	3	46	6.5	5.0	✔
Chloride by Colourimetry (Saturated Paste)	E266.Cl	1181222	3	46	6.5	5.0	✔
Conductivity in Soil (Saturated Paste)	E102	1181221	3	46	6.5	5.0	✔
IVBA (In Vitro Bioaccessibility) for As and Pb	E452	1217652	2	12	16.6	5.0	✔
Leachable Metals in Soil/Solid by ICPMS	E441	1181342	3	46	6.5	5.0	✔
Mercury in Soil/Solid by CVAAS	E510	1180744	3	60	5.0	5.0	✔
Metals by CRC ICPMS (TCLP)	E444	1257443	2	24	8.3	5.2	✔
Metals in Soil/Solid by CRC ICPMS	E440	1180745	3	60	5.0	5.0	✔
Moisture Content by Gravimetry	E144	1179218	3	60	5.0	5.0	✔
Saturation Percentage	E141	1181223	3	46	6.5	5.0	✔
Total Carbon by Combustion	E351	1178293	3	59	5.0	5.0	✔
Total Inorganic Carbon by Acetic Acid pH Standard Curve	E354	1176485	3	59	5.0	5.0	✔
Matrix Spikes (MS)							
IVBA (In Vitro Bioaccessibility) for As and Pb	E452	1217652	2	12	16.6	5.0	✔
Metals by CRC ICPMS (TCLP)	E444	1257443	2	24	8.3	5.2	✔

Matrix: Water

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1176521	1	19	5.2	5.0	✔
Ammonia by Fluorescence	E298	1172843	1	12	8.3	5.0	✔
Chloride in Water by IC	E235.Cl	1170550	1	20	5.0	5.0	✔
Conductivity in Water	E100	1176520	1	19	5.2	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1173480	1	20	5.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1178648	1	20	5.0	5.0	✔
Fluoride in Water by IC	E235.F	1170551	1	19	5.2	5.0	✔
Nitrate in Water by IC	E235.NO3	1170552	1	19	5.2	5.0	✔
Nitrite in Water by IC	E235.NO2	1170553	1	19	5.2	5.0	✔
pH by Meter	E108	1176519	1	19	5.2	5.0	✔
Sulfate in Water by IC	E235.SO4	1170554	1	19	5.2	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1178205	2	40	5.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1173597	1	13	7.6	5.0	✔
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1176521	1	19	5.2	5.0	✔
Ammonia by Fluorescence	E298	1172843	1	12	8.3	5.0	✔
Chloride in Water by IC	E235.Cl	1170550	1	20	5.0	5.0	✔



Matrix: **Water**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Control Samples (LCS) - Continued							
Conductivity in Water	E100	1176520	1	19	5.2	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1173480	1	20	5.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1178648	1	20	5.0	5.0	✔
Fluoride in Water by IC	E235.F	1170551	1	19	5.2	5.0	✔
Nitrate in Water by IC	E235.NO3	1170552	1	19	5.2	5.0	✔
Nitrite in Water by IC	E235.NO2	1170553	1	19	5.2	5.0	✔
pH by Meter	E108	1176519	1	19	5.2	5.0	✔
Sulfate in Water by IC	E235.SO4	1170554	1	19	5.2	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1178205	2	40	5.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1173597	1	13	7.6	5.0	✔
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1176521	1	19	5.2	5.0	✔
Ammonia by Fluorescence	E298	1172843	1	12	8.3	5.0	✔
Chloride in Water by IC	E235.Cl	1170550	1	20	5.0	5.0	✔
Conductivity in Water	E100	1176520	1	19	5.2	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1173480	1	20	5.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1178648	1	20	5.0	5.0	✔
Fluoride in Water by IC	E235.F	1170551	1	19	5.2	5.0	✔
Nitrate in Water by IC	E235.NO3	1170552	1	19	5.2	5.0	✔
Nitrite in Water by IC	E235.NO2	1170553	1	19	5.2	5.0	✔
Sulfate in Water by IC	E235.SO4	1170554	1	19	5.2	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1178205	2	40	5.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1173597	1	13	7.6	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1172843	1	12	8.3	5.0	✔
Chloride in Water by IC	E235.Cl	1170550	1	20	5.0	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1173480	1	20	5.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1178648	1	20	5.0	5.0	✔
Fluoride in Water by IC	E235.F	1170551	1	19	5.2	5.0	✔
Nitrate in Water by IC	E235.NO3	1170552	1	19	5.2	5.0	✔
Nitrite in Water by IC	E235.NO2	1170553	1	19	5.2	5.0	✔
Sulfate in Water by IC	E235.SO4	1170554	1	19	5.2	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1178205	2	40	5.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1173597	1	13	7.6	5.0	✔



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Soil (Saturated Paste)	E102 ALS Environmental - Calgary	Soil/Solid	CSSS Ch. 15 (mod)/APHA 2510 (mod)/AER D50	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a filtered extract from a soil sample prepared using the saturated paste procedure. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter (1:2 Soil:Water Extraction)	E108 ALS Environmental - Calgary	Soil/Solid	BC Lab Manual	pH is determined by potentiometric measurement with a pH electrode at ambient laboratory temperature (normally $20 \pm 5^\circ\text{C}$), and is carried out in accordance with procedures described in the BC Lab Manual (prescriptive method). The procedure involves mixing the dried (at $<60^\circ\text{C}$) and sieved (10mesh/2mm) sample with ultra pure water at a 1:2 ratio of sediment to water. The pH is then measured by a standard pH probe.
pH by Meter (1:2 Soil:0.01M CaCl ₂ Extraction)	E108B ALS Environmental - Calgary	Soil/Solid	CSSS (2008) 16.3	A 10g portion of dried ($<60^\circ\text{C}$) and ground (10 mesh/2 mm) sample is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling or decanting and then analyzed using a pH meter and electrode.
Saturation Percentage	E141 ALS Environmental - Calgary	Soil/Solid	CSSS Ch. 15 (mod)/AER D50	Saturation Percentage (SP) is determined as the total volume of water present in a saturated paste (in mL) divided by the dry weight of the sample (in grams), expressed as a percentage.
Moisture Content by Gravimetry	E144 ALS Environmental - Vancouver	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C . Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
CCME fine/coarse Particle Size Analysis by wet sieve	E178 ALS Environmental - Calgary	Soil/Solid	CCME Vol 4 Analytical Methods	An air-dried sample is reduced to $< 2\text{ mm}$ size and mixed with a dispersing agent (sodium hexametaphosphate). The sample is washed through a 200 mesh (0.075 mm) sieve. The retained mass of sample is used to determine % sand fraction. If the percentage of sand is $>50\%$, the soil is considered to be coarse textured soil. If the percentage of sand is $<50\%$, the soil is considered to be fine textured.
Chloride by Colourimetry (Saturated Paste)	E266.Cl ALS Environmental - Calgary	Soil/Solid	CSSS Ch. 15/APHA 4500-CL E (mod)/AER D50	Inorganic anions are analyzed by obtaining a soil extract produced by the saturated paste extraction procedure which is then analyzed by colourimetry using a discrete analyzer.
Available Ammonium by Colourimetry (2N Potassium Chloride Ext.)	E312A ALS Environmental - Saskatoon	Soil/Solid	CSSS (2008) 6.2/Comm Soil Sci 19(6) (mod)	Plant available ammonium is analyzed by colourimetry on a soil sample extract that has been extracted using 2N Potassium Chloride, then shaken well and filtered prior to analysis.
Total Carbon by Combustion	E351 ALS Environmental - Saskatoon	Soil/Solid	CSSS (2008) 21.2 (mod)	Total Carbon is determined by the high temperature combustion method with measurement by an infrared detector.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Inorganic Carbon by Acetic Acid pH Standard Curve	E354 ALS Environmental - Saskatoon	Soil/Solid	CSSS (2008) 20.2	Total Inorganic Carbon is determined by acetic acid pH standard curve, where a known quantity of acetic acid is consumed by reaction with carbonates in the soil. The pH of the resulting solution is measured and compared against a standard curve relating pH to weight of carbonate.
Metals in Soil/Solid by CRC ICPMS	E440 ALS Environmental - Calgary	Soil/Solid	EPA 6020B (mod)	This method is intended to liberate metals that may be environmentally available. Samples are dried, then sieved through a 2 mm sieve, and digested with HNO₃ and HCl. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Silicate minerals are not solubilized. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. This method does not adequately recover elemental sulfur, and is unsuitable for assessment of elemental sulfur standards or guidelines. Analysis is by Collision/Reaction Cell ICPMS.
As and Lead in Soils by CRC ICPMS (<150 µm)	E440B ALS Environmental - Vancouver	Soil/Solid	EPA 6020B (mod)	Samples are sieved through a 150 µm sieve, and digested with HNO ₃ and HCl. Analysis is by Collision/Reaction Cell ICPMS.
Leachable Metals in Soil/Solid by ICPMS	E441 ALS Environmental - Vancouver	Soil/Solid	EPA 6020B (mod)	This 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 by ICPMS.
Metals by CRC ICPMS (TCLP)	E444 ALS Environmental - Edmonton	Soil/Solid	EPA 1311/6020B (mod)	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by Collision/Reaction Cell ICPMS.
IVBA (In Vitro Bioaccessibility) for As and Pb	E452 ALS Environmental - Vancouver	Soil/Solid	BC Laboratory Manual/ EPA 1340	Samples extracted using IVBA procedure is analyzed for As and Pb by ICPMS.
Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste)	E485 ALS Environmental - Calgary	Soil/Solid	CSSS CH15/EPA 6010B/AER D50	A soil extract produced by the saturated paste extraction procedure is analyzed for Calcium, Magnesium, Potassium, Sodium, Boron, and Sulfur (as SO ₄) by ICPOES.
Available Sulfate by ICPMS (0.01M Calcium Chloride Ext.)	E497.SO4 ALS Environmental - Saskatoon	Soil/Solid	Alberta Agriculture	Plant available sulfate is determined by ICPMS. Soil is extracted using a 0.01M calcium chloride solution. This extraction may also produce organic sulfur in the extracts when organic soils are analyzed.
Mercury in Soil/Solid by CVAAS	E510 ALS Environmental - Calgary	Soil/Solid	EPA 200.2/1631 Appendix (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO ₃ and HCl, followed by CVAAS analysis.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sodium Adsorption Ratio (SAR) Saturated Paste	EC102 ALS Environmental - Calgary	Soil/Solid	CCME Sodium Adsorption Ratio (SAR)	The Sodium Adsorption Ratio (SAR) for a sample is calculated from the Sodium, Calcium, and Magnesium concentrations from sediment paste extract.
Chloride by Colourimetry (Saturated Paste) (mg/kg)	EC266A.Cl ALS Environmental - Calgary	Soil/Solid	CSSS Ch. 15/APHA 4500-CL E (mod)	Inorganic anions are analyzed by obtaining a soil extract produced by the saturated paste extraction procedure which is then analyzed by colourimetry using a discrete analyzer.
Total Organic Carbon (Calculated) in soil	EC356 ALS Environmental - Saskatoon	Soil/Solid	CSSS (2008) 21.2	Total Organic Carbon (TOC) is calculated by the difference between total carbon (TC) and total inorganic carbon (TIC).
% IVBA Calculation	EC452 ALS Environmental - Vancouver	Soil/Solid	BCMOE/EPA 1340	Calc. % of As or Pb Bioavailable.
IVBA (In Vitro Bioaccessibility) for As and Pb (mg/kg reporting)	EC452A ALS Environmental - Vancouver	Soil/Solid	BCMOE/EPA 1340	Samples extracted using IVBA procedure is analyzed for As and Pb by ICPMS.
Ca, K, Mg, Na, B and S by ICPOES (Saturated Paste) (mg/kg)	EC485 ALS Environmental - Calgary	Soil/Solid	CSSS CH15/EPA 6010B	A soil extract produced by the saturated paste extraction procedure is analyzed for Calcium, Magnesium, Potassium, Sodium, Boron, and Sulfur (as SO ₄) by ICPOES. Results are calculated in mg/kg using Saturation Percentage.
Arsenic Speciation in Soil, Sludge and Sediment	OJ-19D Luleå - Aurorum 10 Luleå Sweden 97775	Soil/Solid	See attached report	See attached report
Conductivity in Water	E100 ALS Environmental - Edmonton	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Edmonton	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Chloride in Water by IC	E235.Cl ALS Environmental - Edmonton	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Water by IC	E235.F ALS Environmental - Edmonton	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Nitrite in Water by IC	E235.NO2 ALS Environmental - Edmonton	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC	E235.NO3 ALS Environmental - Edmonton	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Edmonton	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Edmonton	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Calgary	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO ₂ . NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Edmonton	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO ₂ . NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Edmonton	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Edmonton	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Edmonton	Water	APHA 2340B	"Hardness (as CaCO ₃), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Ion Balance using Dissolved Metals	EC101 ALS Environmental - Edmonton	Water	APHA 1030E	Cation Sum, Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Dissolved species are used where available. Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
TDS in Water (Calculation)	EC103 ALS Environmental - Edmonton	Water	APHA 1030E (mod)	Total Dissolved Solids is calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Dissolved species are used where available. Minor ions are included where data is present.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Edmonton	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil:Water for pH/EC	EP108 ALS Environmental - Calgary	Soil/Solid	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL	The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water.
Leach 1:2 Soil : 0.01CaCl ₂	EP108B ALS Environmental - Calgary	Soil/Solid	CSSS (2008) 16.3	A 10g portion of dried (<60°C) and ground (10 mesh/2 mm) sample is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling or decanting and then analyzed using a pH meter and electrode.
Fixed ratio 0.01M Calcium Chloride extraction for plant available nutrients	EP269 ALS Environmental - Saskatoon	Soil/Solid	Alberta Agriculture	Plant available nutrients (N&S) extracted using 0.01M calcium chloride, then shaken well and filtered prior to analysis.
2N Potassium Chloride extraction for available nutrients	EP269A ALS Environmental - Saskatoon	Soil/Solid	CSSS (2008) 6.2	A soil sample extract is generated by fixed ratio extraction using 2N Potassium Chloride, then shaken well and filtered prior to analysis.
Digestion for Metals and Mercury	EP440 ALS Environmental - Calgary	Soil/Solid	EPA 200.2 (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO ₃ and HCl. This method is intended to liberate metals that may be environmentally available.
Digestion for Metals (150 µm Sieve)	EP440B ALS Environmental - Vancouver	Soil/Solid	EPA 200.2 (mod)	Samples are dried then sieved through a 150 µm sieve, and digested with HNO ₃ and HCl. This method is intended to liberate metals that may be environmentally available.



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach for Metals and Anions	EP441 ALS Environmental - Vancouver	Soil/Solid	In-House	This 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.
IVBA (in-vitro Bioaccessibility) extraction	EP452 ALS Environmental - Vancouver	Soil/Solid	BC Laboratory Manual / EPA 1340	A sieved and dried (< 40C) sample is extracted with a buffered glycine – hydrochloric acid solution using rotary extraction at 37 ± 2°C for 1 hour.
Dry and Grind in Soil/Solid <38°C	EPP441 ALS Environmental - Saskatoon	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of coarse fragments a portion of homogenized sample is set in a tray and dried at less than 38°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.
Dry and Grind in Soil/Solid <60°C	EPP442 ALS Environmental - Calgary	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of any coarse fragments and reservation of wet subsamples a portion of homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.
TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)	EPP444 ALS Environmental - Calgary	Soil/Solid	EPA 1311	Preparation of a Toxicity Characteristic Leaching Procedure (TCLP) solid sample involves particle size reduction, homogenization, then determination of appropriate extraction fluid. A measured portion of fresh subsample is placed in an extraction bottle with the appropriate extraction fluid then tumbled in a rotary extractor for 18+/- 2 hours at 23 +/- 2 C. The liquid leachate is filtered to separate from solids then bottled and prepared for analytical tests.
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Calgary	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Edmonton	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Dissolved Metals Water Filtration	EP421 ALS Environmental - Edmonton	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.

QUALITY CONTROL REPORT

Work Order	: EO2309073	Page	: 1 of 56
Amendment	: 3		
Client	: Associated Environmental Consultants Inc.	Laboratory	: ALS Environmental - Edmonton
Contact	: Rebekka Lindskoog	Account Manager	: Megha Walia
Address	: 500, 9888 Jasper Avenue Edmonton AB Canada T5J 5C6	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: +1 780 413 5227
Project	: 2023-8451	Date Samples Received	: 04-Oct-2023 16:02
PO	: ----	Date Analysis Commenced	: 05-Oct-2023
C-O-C number	: 20-1013251,253,254,255,252	Issue Date	: 01-Dec-2023 09:12
Sampler	: AARON 250.938.5528		
Site	: ----		
Quote number	: EO23-AECI100-011 (IVBA & Arsenic Spec)		
No. of samples received	: 49		
No. of samples analysed	: 49		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

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General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Soil/Solid					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Sample Preparation (QC Lot: 1217652)											
EO2309073-005	TP23-05-0.1	Final volume	----	EP452	1	mL	100	100		Diff <2x LOR	----
		pH, IVBA final	----	EP452	0.01	pH units	1.54	1.54		Diff <2x LOR	----
		pH, IVBA Initial	----	EP452	0.01	pH units	1.50	1.51		Diff <2x LOR	----
		Weight, extraction (dry)	----	EP452	0.01	g	0.951	1.007		Diff <2x LOR	----
Sample Preparation (QC Lot: 1236014)											
EO2309073-039	OMR23-39-0.1	Final volume	----	EP452	1	mL	100	100		Diff <2x LOR	----
		pH, IVBA final	----	EP452	0.01	pH units	1.51	1.49		Diff <2x LOR	----
		pH, IVBA Initial	----	EP452	0.01	pH units	1.50	1.50		Diff <2x LOR	----
		Weight, extraction (dry)	----	EP452	0.01	g	1.009	1.011		Diff <2x LOR	----
Physical Tests (QC Lot: 1179218)											
EO2309073-001	TP23-01-0.2	Moisture	----	E144	0.25	%	16.1	13.2	20.0%	20%	----
Physical Tests (QC Lot: 1180226)											
EO2309073-021	TP23-21-0.3	Moisture	----	E144	0.25	%	14.2	14.6	2.92%	20%	----
Physical Tests (QC Lot: 1181266)											
EO2309073-001	TP23-01-0.2	pH (1:2 soil:water)	----	E108	0.10	pH units	7.24	7.26	0.276%	5%	----
Physical Tests (QC Lot: 1181267)											
EO2309073-021	TP23-21-0.3	pH (1:2 soil:water)	----	E108	0.10	pH units	7.25	7.29	0.550%	5%	----
Physical Tests (QC Lot: 1181268)											
EO2309073-041	OMR23-41-0.1	pH (1:2 soil:water)	----	E108	0.10	pH units	7.89	7.90	0.127%	5%	----
Physical Tests (QC Lot: 1181798)											
EO2309073-001	TP23-01-0.2	pH (1:2 soil:CaCl2-aq)	----	E108B	0.10	pH units	6.92	6.90	0.289%	5%	----
Physical Tests (QC Lot: 1181799)											
EO2309073-021	TP23-21-0.3	pH (1:2 soil:CaCl2-aq)	----	E108B	0.10	pH units	6.69	6.64	0.750%	5%	----
Physical Tests (QC Lot: 1181800)											
EO2309073-041	OMR23-41-0.1	pH (1:2 soil:CaCl2-aq)	----	E108B	0.10	pH units	7.35	7.29	0.820%	5%	----
Physical Tests (QC Lot: 1182549)											
EO2309073-040	OMR23-40-0.1	Moisture	----	E144	0.25	%	4.81	4.66	3.29%	20%	----
Particle Size (QC Lot: 1180956)											
CG2313932-001	Anonymous	Sand (>0.075mm)	----	E178	1.0	%	35.0	35.4	1.22%	10%	----
Organic / Inorganic Carbon (QC Lot: 1176485)											

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 Work Order : EO2309073 Amendment 3
 Client : Associated Environmental Consultants Inc.
 Project : 2023-8451



Sub-Matrix: Soil/Solid					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Organic / Inorganic Carbon (QC Lot: 1176485) - continued											
EO2309073-001	TP23-01-0.2	Carbon, inorganic [IC]	----	E354	0.050	%	0.225	0.224	0.0002	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1176487)											
EO2309073-021	TP23-21-0.3	Carbon, inorganic [IC]	----	E354	0.050	%	0.183	0.202	0.019	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1178293)											
EO2309073-006	TP23-06-0.1	Carbon, total [TC]	----	E351	0.050	%	42.8	43.0	0.355%	20%	----
Organic / Inorganic Carbon (QC Lot: 1178294)											
EO2309073-022	TP23-22-0.2	Carbon, total [TC]	----	E351	0.050	%	1.74	1.67	4.45%	20%	----
Organic / Inorganic Carbon (QC Lot: 1178663)											
EO2309073-041	OMR23-41-0.1	Carbon, inorganic [IC]	----	E354	0.050	%	0.939	0.951	1.23%	20%	----
Organic / Inorganic Carbon (QC Lot: 1181137)											
EO2309073-043	DUP1	Carbon, total [TC]	----	E351	0.050	%	41.9	41.6	0.727%	20%	----
Plant Available Nutrients (QC Lot: 1177327)											
EO2309073-012	TP23-12-0.1	Sulfate, available (as S)	14808-79-8	E497.SO4	29.8	mg/kg	<30.5	<29.8	0.7	Diff <2x LOR	----
Plant Available Nutrients (QC Lot: 1177342)											
EO2309073-016	TP23-16-0.1	Sulfate, available (as S)	14808-79-8	E497.SO4	29.8	mg/kg	<30.6	<29.8	0.8	Diff <2x LOR	----
Plant Available Nutrients (QC Lot: 1177343)											
EO2309073-040	OMR23-40-0.1	Sulfate, available (as S)	14808-79-8	E497.SO4	6.0	mg/kg	6.4	6.9	0.4	Diff <2x LOR	----
Plant Available Nutrients (QC Lot: 1177364)											
EO2309073-017	TP23-17-0.3	Ammonium, available (as N)	14798-03-9	E312A	14.2	mg/kg	24.4	26.7	2.3	Diff <2x LOR	----
Plant Available Nutrients (QC Lot: 1177367)											
EO2309073-026	TP23-26-02	Ammonium, available (as N)	14798-03-9	E312A	9.3	mg/kg	21.9	26.8	5.0	Diff <2x LOR	----
Plant Available Nutrients (QC Lot: 1177373)											
EO2309073-045	DUP3	Ammonium, available (as N)	14798-03-9	E312A	11.4	mg/kg	17.6	17.8	0.1	Diff <2x LOR	----
Saturated Paste Extractables (QC Lot: 1181225)											
EO2309073-021	TP23-21-0.3	Calcium, soluble ion content	7440-70-2	E485	5.0	mg/L	98.6	96.0	2.66%	30%	----
		Magnesium, soluble ion content	7439-95-4	E485	5.0	mg/L	16.2	15.7	0.5	Diff <2x LOR	----
		Potassium, soluble ion content	7440-09-7	E485	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Sodium, soluble ion content	17341-25-2	E485	5.0	mg/L	5.9	5.8	0.1	Diff <2x LOR	----
		Sulfur (as SO4), soluble ion content	14808-79-8	E485	6	mg/L	155	152	1.56%	30%	----
Saturated Paste Extractables (QC Lot: 1181226)											
EO2309073-021	TP23-21-0.3	Conductivity, saturated paste	----	E102	20	µS/cm	0.541 dS/m	556	2.73%	20%	----
Saturated Paste Extractables (QC Lot: 1181227)											
EO2309073-021	TP23-21-0.3	Chloride, soluble ion content	16887-00-6	E266.Cl	20	mg/L	<20	<20	0	Diff <2x LOR	----



Sub-Matrix: Soil/Solid					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Saturated Paste Extractables (QC Lot: 1181228)											
EO2309073-021	TP23-21-0.3	% Saturation	----	E141	1.0	%	49.4	49.8	0.699%	20%	----
Metals (QC Lot: 1180744)											
CG2313932-001	Anonymous	Mercury	7439-97-6	E510	0.0050	mg/kg	0.0334	0.0338	1.34%	40%	----
Metals (QC Lot: 1180745)											
CG2313932-001	Anonymous	Aluminum	7429-90-5	E440	50	mg/kg	9800	10300	4.96%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	0.33	0.33	0.004	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	5.42	5.29	2.43%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	216	242	11.2%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.44	0.46	0.02	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	5.9	6.1	0.2	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	0.328	0.361	9.50%	30%	----
		Calcium	7440-70-2	E440	50	mg/kg	85700	90400	5.34%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	35.7	47.7	28.7%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	5.10	5.49	7.40%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	11.7	12.6	7.49%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	12800	13200	3.48%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	13.0	13.5	4.20%	40%	----
		Lithium	7439-93-2	E440	2.0	mg/kg	10.4	11.0	0.6	Diff <2x LOR	----
		Magnesium	7439-95-4	E440	20	mg/kg	20000	19700	1.41%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	377	400	5.75%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	2.34	3.12	28.7%	40%	----
		Nickel	7440-02-0	E440	0.50	mg/kg	27.1	34.5	23.8%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	660	786	17.4%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	1830	1970	7.56%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	0.23	0.22	0.01	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	<0.10	0.10	0.0004	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	3980	4040	1.31%	40%	----
		Strontium	7440-24-6	E440	0.50	mg/kg	94.1	105	10.8%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	0.124	0.127	0.003	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	23.6	23.8	0.860%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----



Sub-Matrix: Soil/Solid					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Metals (QC Lot: 1180745) - continued											
CG2313932-001	Anonymous	Uranium	7440-61-1	E440	0.050	mg/kg	0.488	0.537	9.63%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	21.5	23.4	8.34%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	56.1	58.2	3.74%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	1.6	1.5	0.1	Diff <2x LOR	----
Metals (QC Lot: 1181140)											
EO2309073-013	TP23-13-0.1	Aluminum	7429-90-5	E440	75	mg/kg	2760	2710	1.76%	40%	----
		Antimony	7440-36-0	E440	0.15	mg/kg	7.15	7.14	0.0418%	30%	----
		Arsenic	7440-38-2	E440	0.15	mg/kg	121	118	2.38%	30%	----
		Barium	7440-39-3	E440	0.75	mg/kg	53.2	52.0	2.21%	40%	----
		Beryllium	7440-41-7	E440	0.15	mg/kg	<0.15	<0.15	0.15	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.30	mg/kg	<0.30	<0.30	0.30	Diff <2x LOR	----
		Boron	7440-42-8	E440	7.5	mg/kg	<7.5	<7.5	7.5	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.030	mg/kg	0.153	0.157	0.004	Diff <2x LOR	----
		Calcium	7440-70-2	E440	75	mg/kg	3120	3170	1.61%	30%	----
		Chromium	7440-47-3	E440	0.75	mg/kg	9.66	9.46	2.04%	30%	----
		Cobalt	7440-48-4	E440	0.15	mg/kg	2.88	2.83	1.93%	30%	----
		Copper	7440-50-8	E440	0.75	mg/kg	7.40	6.98	5.84%	30%	----
		Iron	7439-89-6	E440	75	mg/kg	4820	4740	1.60%	30%	----
		Lead	7439-92-1	E440	0.75	mg/kg	10.9	10.6	2.03%	40%	----
		Lithium	7439-93-2	E440	3.0	mg/kg	<3.0	3.2	0.2	Diff <2x LOR	----
		Magnesium	7439-95-4	E440	30	mg/kg	1470	1440	1.91%	30%	----
		Manganese	7439-96-5	E440	1.5	mg/kg	42.6	42.0	1.29%	30%	----
		Molybdenum	7439-98-7	E440	0.15	mg/kg	0.46	0.45	0.02	Diff <2x LOR	----
		Nickel	7440-02-0	E440	0.75	mg/kg	7.27	7.19	1.09%	30%	----
		Phosphorus	7723-14-0	E440	75	mg/kg	310	332	22	Diff <2x LOR	----
		Potassium	7440-09-7	E440	150	mg/kg	740	710	30	Diff <2x LOR	----
		Selenium	7782-49-2	E440	0.30	mg/kg	<0.30	<0.30	0.30	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.15	mg/kg	<0.15	<0.15	0.15	Diff <2x LOR	----
		Sodium	7440-23-5	E440	75	mg/kg	<75	<75	75	Diff <2x LOR	----
		Strontium	7440-24-6	E440	0.75	mg/kg	8.71	8.64	0.791%	40%	----
		Sulfur	7704-34-9	E440	1500	mg/kg	<1500	<1500	1500	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.075	mg/kg	<0.075	<0.075	0.075	Diff <2x LOR	----
		Tin	7440-31-5	E440	3.0	mg/kg	4.8	4.8	0.002	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.5	mg/kg	123	120	2.51%	40%	----



Sub-Matrix: Soil/Solid					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Metals (QC Lot: 1181140) - continued											
EO2309073-013	TP23-13-0.1	Tungsten	7440-33-7	E440	0.75	mg/kg	<0.75	<0.75	0.75	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.075	mg/kg	0.437	0.438	0.0006	Diff <2x LOR	----
		Vanadium	7440-62-2	E440	0.30	mg/kg	9.90	9.69	2.12%	30%	----
		Zinc	7440-66-6	E440	3.0	mg/kg	13.7	13.0	0.7	Diff <2x LOR	----
		Zirconium	7440-67-7	E440	1.5	mg/kg	<1.5	<1.5	1.5	Diff <2x LOR	----
Metals (QC Lot: 1181141)											
EO2309073-013	TP23-13-0.1	Mercury	7439-97-6	E510	0.0075	mg/kg	0.0897	0.0931	3.73%	40%	----
Metals (QC Lot: 1181737)											
EO2309073-033	TP23-33-0.1	Mercury	7439-97-6	E510	0.0050	mg/kg	0.0373	0.0382	2.38%	40%	----
Metals (QC Lot: 1181738)											
EO2309073-033	TP23-33-0.1	Aluminum	7429-90-5	E440	50	mg/kg	8650	8540	1.29%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	1.62	1.65	1.72%	30%	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	14.1	14.2	0.878%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	172	171	0.646%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.41	0.41	0.002	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	6.2	6.3	0.10	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	0.163	0.158	3.38%	30%	----
		Calcium	7440-70-2	E440	50	mg/kg	27000	27100	0.127%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	22.8	22.6	0.653%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	5.86	5.92	1.07%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	41.9	41.7	0.393%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	13900	14000	0.446%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	3.28	3.33	1.65%	40%	----
		Lithium	7439-93-2	E440	2.0	mg/kg	11.8	11.9	0.1	Diff <2x LOR	----
		Magnesium	7439-95-4	E440	20	mg/kg	4200	4070	3.16%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	185	184	0.390%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	0.32	0.33	0.009	Diff <2x LOR	----
		Nickel	7440-02-0	E440	0.50	mg/kg	20.3	20.1	0.913%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	465	485	4.24%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	840	820	2.62%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	1.16	1.13	0.03	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	0.19	0.20	0.006	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	116	102	13	Diff <2x LOR	----



Sub-Matrix: Soil/Solid					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Metals (QC Lot: 1181738) - continued											
EO2309073-033	TP23-33-0.1	Strontium	7440-24-6	E440	0.50	mg/kg	32.1	33.2	3.18%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	1500	1400	60	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	0.052	0.051	0.001	Diff <2x LOR	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	239	239	0.106%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	5.92	5.99	1.18%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	29.4	29.3	0.121%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	17.1	17.2	0.330%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	7.0	7.2	1.60%	30%	----
Metals (QC Lot: 1217651)											
EO2309073-005	TP23-05-0.1	Arsenic	7440-38-2	E440B	0.050	mg/kg	330	327	0.737%	30%	----
		Lead	7439-92-1	E440B	0.10	mg/kg	28.3	31.7	11.5%	30%	----
Metals (QC Lot: 1236013)											
EO2309073-039	OMR23-39-0.1	Arsenic	7440-38-2	E440B	0.050	mg/kg	126	122	3.35%	30%	----
		Lead	7439-92-1	E440B	0.10	mg/kg	16.4	18.2	10.7%	30%	----
Leachable Metals (QC Lot: 1181342)											
EO2309073-001	TP23-01-0.2	Aluminum, leachable	7429-90-5	E441	0.050	mg/kg	14.5	13.2	9.99%	30%	----
		Antimony, leachable	7440-36-0	E441	0.0020	mg/kg	0.0062	0.0062	0.00004	Diff <2x LOR	----
		Arsenic, leachable	7440-38-2	E441	0.0020	mg/kg	0.173	0.169	2.32%	30%	----
		Barium, leachable	7440-39-3	E441	0.010	mg/kg	0.218	0.205	6.20%	30%	----
		Beryllium, leachable	7440-41-7	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Bismuth, leachable	7440-69-9	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Boron, leachable	7440-42-8	E441	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Cadmium, leachable	7440-43-9	E441	0.0020	mg/kg	<0.0020	<0.0020	0	Diff <2x LOR	----
		Calcium, leachable	7440-70-2	E441	0.50	mg/kg	43.3	44.1	1.76%	30%	----
		Chromium, leachable	7440-47-3	E441	0.010	mg/kg	0.014	0.013	0.001	Diff <2x LOR	----
		Cobalt, leachable	7440-48-4	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Copper, leachable	7440-50-8	E441	0.010	mg/kg	0.078	0.076	3.03%	30%	----
		Iron, leachable	7439-89-6	E441	0.30	mg/kg	9.11	8.31	9.15%	30%	----
		Lead, leachable	7439-92-1	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Lithium, leachable	7439-93-2	E441	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Magnesium, leachable	7439-95-4	E441	1.0	mg/kg	6.5	6.4	0.1	Diff <2x LOR	----
		Manganese, leachable	7439-96-5	E441	0.010	mg/kg	0.127	0.112	12.2%	30%	----



Sub-Matrix: Soil/Solid					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Leachable Metals (QC Lot: 1181342) - continued											
EO2309073-001	TP23-01-0.2	Molybdenum, leachable	7439-98-7	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Nickel, leachable	7440-02-0	E441	0.010	mg/kg	0.024	0.023	0.002	Diff <2x LOR	----
		Phosphorus, leachable	7723-14-0	E441	3.0	mg/kg	<3.0	<3.0	0	Diff <2x LOR	----
		Potassium, leachable	7440-09-7	E441	0.50	mg/kg	16.0	15.7	1.87%	30%	----
		Selenium, leachable	7782-49-2	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Silicon, leachable	7440-21-3	E441	0.50	mg/kg	46.0	42.6	7.58%	30%	----
		Silver, leachable	7440-22-4	E441	0.0010	mg/kg	<0.0010	<0.0010	0	Diff <2x LOR	----
		Sodium, leachable	7440-23-5	E441	0.10	mg/kg	3.62	3.53	2.58%	30%	----
		Strontium, leachable	7440-24-6	E441	0.010	mg/kg	0.054	0.052	0.002	Diff <2x LOR	----
		Thallium, leachable	7440-28-0	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Tin, leachable	7440-31-5	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Uranium, leachable	7440-61-1	E441	0.00010	mg/kg	0.00096	0.00092	4.15%	30%	----
		Vanadium, leachable	7440-62-2	E441	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Zinc, leachable	7440-66-6	E441	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
Leachable Metals (QC Lot: 1181348)											
EO2309073-021	TP23-21-0.3	Aluminum, leachable	7429-90-5	E441	0.050	mg/kg	39.3	49.9	23.7%	30%	----
		Antimony, leachable	7440-36-0	E441	0.0020	mg/kg	0.0053	0.0068	0.0014	Diff <2x LOR	----
		Arsenic, leachable	7440-38-2	E441	0.0020	mg/kg	0.0594	0.0780	27.1%	30%	----
		Barium, leachable	7440-39-3	E441	0.010	mg/kg	0.720	1.01	33.5%	30%	DUP-H
		Beryllium, leachable	7440-41-7	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Bismuth, leachable	7440-69-9	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Boron, leachable	7440-42-8	E441	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Cadmium, leachable	7440-43-9	E441	0.0020	mg/kg	<0.0020	<0.0020	0	Diff <2x LOR	----
		Calcium, leachable	7440-70-2	E441	0.50	mg/kg	49.3	59.7	19.0%	30%	----
		Chromium, leachable	7440-47-3	E441	0.010	mg/kg	0.047	0.066	0.019	Diff <2x LOR	----
		Cobalt, leachable	7440-48-4	E441	0.010	mg/kg	0.011	0.017	0.005	Diff <2x LOR	----
		Copper, leachable	7440-50-8	E441	0.010	mg/kg	0.149	0.190	24.2%	30%	----
		Iron, leachable	7439-89-6	E441	0.30	mg/kg	31.6	42.2	28.8%	30%	----
		Lead, leachable	7439-92-1	E441	0.010	mg/kg	0.055	# 0.075	0.020	Diff <2x LOR	DUP-H
		Lithium, leachable	7439-93-2	E441	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Magnesium, leachable	7439-95-4	E441	1.0	mg/kg	12.0	15.6	26.7%	30%	----
		Manganese, leachable	7439-96-5	E441	0.010	mg/kg	0.173	0.246	35.1%	30%	DUP-H
		Molybdenum, leachable	7439-98-7	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Nickel, leachable	7440-02-0	E441	0.010	mg/kg	0.041	0.059	0.018	Diff <2x LOR	----



Sub-Matrix: Soil/Solid					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Leachable Metals (QC Lot: 1181348) - continued											
EO2309073-021	TP23-21-0.3	Phosphorus, leachable	7723-14-0	E441	3.0	mg/kg	<3.0	<3.0	0	Diff <2x LOR	----
		Potassium, leachable	7440-09-7	E441	0.50	mg/kg	14.8	17.5	17.1%	30%	----
		Selenium, leachable	7782-49-2	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Silicon, leachable	7440-21-3	E441	0.50	mg/kg	110	128	15.6%	30%	----
		Silver, leachable	7440-22-4	E441	0.0010	mg/kg	<0.0010	<0.0010	0	Diff <2x LOR	----
		Sodium, leachable	7440-23-5	E441	0.10	mg/kg	9.46	10.1	6.57%	30%	----
		Strontium, leachable	7440-24-6	E441	0.010	mg/kg	0.138	0.151	9.51%	30%	----
		Thallium, leachable	7440-28-0	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Tin, leachable	7440-31-5	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Uranium, leachable	7440-61-1	E441	0.00010	mg/kg	0.00661	0.00858	25.9%	30%	----
		Vanadium, leachable	7440-62-2	E441	0.050	mg/kg	0.146	0.201	0.055	Diff <2x LOR	----
		Zinc, leachable	7440-66-6	E441	0.050	mg/kg	0.057	0.112	0.054	Diff <2x LOR	----
Leachable Metals (QC Lot: 1189211)											
EO2309073-040	OMR23-40-0.1	Aluminum, leachable	7429-90-5	E441	0.050	mg/kg	3.43	3.28	4.24%	30%	----
		Antimony, leachable	7440-36-0	E441	0.0020	mg/kg	0.0222	0.0200	10.2%	30%	----
		Arsenic, leachable	7440-38-2	E441	0.0020	mg/kg	2.05	1.92	6.89%	30%	----
		Barium, leachable	7440-39-3	E441	0.010	mg/kg	0.021	0.021	0.0007	Diff <2x LOR	----
		Beryllium, leachable	7440-41-7	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Bismuth, leachable	7440-69-9	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Boron, leachable	7440-42-8	E441	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Cadmium, leachable	7440-43-9	E441	0.0020	mg/kg	<0.0020	<0.0020	0	Diff <2x LOR	----
		Calcium, leachable	7440-70-2	E441	0.50	mg/kg	51.3	49.8	3.08%	30%	----
		Chromium, leachable	7440-47-3	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Cobalt, leachable	7440-48-4	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Copper, leachable	7440-50-8	E441	0.010	mg/kg	0.042	0.040	0.003	Diff <2x LOR	----
		Iron, leachable	7439-89-6	E441	0.30	mg/kg	1.94	1.90	0.04	Diff <2x LOR	----
		Lead, leachable	7439-92-1	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Lithium, leachable	7439-93-2	E441	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Magnesium, leachable	7439-95-4	E441	1.0	mg/kg	3.2	3.1	0.2	Diff <2x LOR	----
		Manganese, leachable	7439-96-5	E441	0.010	mg/kg	0.044	0.044	0.0001	Diff <2x LOR	----
		Molybdenum, leachable	7439-98-7	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Nickel, leachable	7440-02-0	E441	0.010	mg/kg	0.011	0.010	0.0008	Diff <2x LOR	----
		Phosphorus, leachable	7723-14-0	E441	3.0	mg/kg	<3.0	<3.0	0	Diff <2x LOR	----
		Potassium, leachable	7440-09-7	E441	0.50	mg/kg	10.2	9.12	10.8%	30%	----

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 Work Order : EO2309073 Amendment 3
 Client : Associated Environmental Consultants Inc.
 Project : 2023-8451



Sub-Matrix: Soil/Solid					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Leachable Metals (QC Lot: 1189211) - continued											
EO2309073-040	OMR23-40-0.1	Selenium, leachable	7782-49-2	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Silicon, leachable	7440-21-3	E441	0.50	mg/kg	6.21	5.94	4.38%	30%	----
		Silver, leachable	7440-22-4	E441	0.0010	mg/kg	<0.0010	<0.0010	0	Diff <2x LOR	----
		Sodium, leachable	7440-23-5	E441	0.10	mg/kg	1.63	1.50	7.84%	30%	----
		Strontium, leachable	7440-24-6	E441	0.010	mg/kg	0.040	0.039	0.0008	Diff <2x LOR	----
		Thallium, leachable	7440-28-0	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Tin, leachable	7440-31-5	E441	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Uranium, leachable	7440-61-1	E441	0.00010	mg/kg	0.00044	0.00046	0.00001	Diff <2x LOR	----
		Vanadium, leachable	7440-62-2	E441	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Zinc, leachable	7440-66-6	E441	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
Leachable Metals (QC Lot: 1217652)											
EO2309073-005	TP23-05-0.1	Arsenic, IVBA (leachate)	7440-38-2	E452	0.10	mg/L	0.68	0.62	0.06	Diff <2x LOR	----
		Lead, IVBA (leachate)	7439-92-1	E452	0.10	mg/L	0.16	0.14	0.01	Diff <2x LOR	----
Leachable Metals (QC Lot: 1236014)											
EO2309073-039	OMR23-39-0.1	Arsenic, IVBA (leachate)	7440-38-2	E452	0.10	mg/L	0.37	0.40	0.03	Diff <2x LOR	----
		Lead, IVBA (leachate)	7439-92-1	E452	0.10	mg/L	0.11	0.11	0.005	Diff <2x LOR	----
Sub-Matrix: Water							Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1176519)											
EO2309079-004	Anonymous	pH	----	E108	0.10	pH units	7.79	7.79	0.00%	3%	----
Physical Tests (QC Lot: 1176520)											
EO2309079-004	Anonymous	Conductivity	----	E100	2.0	µS/cm	1440	1440	0.208%	10%	----
Physical Tests (QC Lot: 1176521)											
EO2309079-004	Anonymous	Alkalinity, total (as CaCO3)	----	E290	2.0	mg/L	767	760	0.852%	20%	----
Anions and Nutrients (QC Lot: 1170550)											
FC2302881-013	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	2.99	2.91	0.08	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1170551)											
FC2302881-013	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.244	0.238	2.49%	20%	----
Anions and Nutrients (QC Lot: 1170552)											
FC2302881-013	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L	0.202	0.203	0.148%	20%	----
Anions and Nutrients (QC Lot: 1170553)											
FC2302881-013	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1170554)											



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Anions and Nutrients (QC Lot: 1170554) - continued											
FC2302881-013	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	482	478	0.832%	20%	----
Anions and Nutrients (QC Lot: 1172843)											
CG2314063-010	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1173597)											
CG2314072-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	0.77	0.77	0.004	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1178648)											
FC2302925-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	4.15	4.21	0.05	Diff <2x LOR	----
Total Metals (QC Lot: 1178205)											
EO2309028-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0496	0.0514	3.66%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00024	0.00019	0.00005	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00116	0.00122	4.47%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0558	0.0556	0.268%	20%	----
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.039	0.040	0.001	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	37.1	37.4	0.773%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000012	0.000010	0.000001	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	0.00098	0.00048	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00035	0.00035	0.000003	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00055	0.00054	0.00001	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.277	0.289	4.13%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000109	0.000098	0.000011	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0091	0.0090	0.0001	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.100	mg/L	7.28	7.42	1.88%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.220	0.228	3.47%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000804	0.000780	2.96%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00137	0.00157	0.00020	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	0.229	0.211	0.019	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.100	mg/L	3.77	3.86	2.37%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00210	0.00208	0.760%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000067	0.000089	0.000022	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	0.52	0.45	0.08	Diff <2x LOR	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1178205) - continued											
EO2309028-001	Anonymous	Sodium, total	7440-23-5	E420	0.050	mg/L	27.9	29.3	4.64%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.200	0.205	2.46%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	8.21	8.61	4.81%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	0.00012	<0.00010	0.00002	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	0.00137	0.00135	0.00002	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00019	0.00019	0.000005	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000834	0.000832	0.352%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00093	0.00097	0.00004	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 1178206)											
EO2309073-049	DUP-5	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0926	0.0916	1.12%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00017	0.00014	0.00003	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00248	0.00241	2.60%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0360	0.0359	0.286%	20%	----
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.014	0.012	0.002	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000071	0.0000095	0.0000024	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	21.7	19.0	13.4%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000012	0.000013	0.00000002	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00182	0.00164	0.00018	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00143	0.00143	0.000002	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.113	0.116	2.45%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000130	0.000117	0.000013	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0039	0.0033	0.0006	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	5.61	5.61	0.0124%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00509	0.00515	1.17%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000659	0.000555	17.1%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00152	0.00147	0.00005	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1178206) - continued											
EO2309073-049	DUP-5	Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	1.22	1.19	2.01%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00131	0.00132	0.000006	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000134	0.000157	0.000023	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	1.18	1.18	0.377%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	6.52	6.49	0.526%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.110	0.0949	14.7%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	6.86	6.74	1.84%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	0.00011	<0.00010	0.000007	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	0.00300	0.00284	0.00015	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000390	0.000332	15.9%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00067	0.00063	0.00004	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1173480)											
EO2309028-010	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0015	0.0013	0.0002	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00016	0.00016	0.000002	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00108	0.00116	7.36%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0536	0.0542	1.13%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.076	0.074	0.002	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	55.2	56.6	2.46%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 1173480) - continued											
EO2309028-010	Anonymous	Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0253	0.0252	0.630%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	19.8	20.3	2.67%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00132	0.00146	9.71%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000990	0.000999	0.891%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00117	0.00119	0.00002	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	3.89	4.08	4.67%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00144	0.00152	0.00008	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000099	0.000075	0.000024	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	0.299	0.292	0.007	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	43.0	42.5	1.12%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.349	0.338	2.96%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	24.1	22.9	4.85%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.00356	0.00355	0.110%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----

Qualifiers

Qualifier	Description
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Sample Preparation (QCLot: 1217652)						
Final volume	----	EP452	1	mL	100	----
pH, IVBA final	----	EP452	0.01	pH units	1.51	----
pH, IVBA Initial	----	EP452	0.01	pH units	1.52	----
Weight, extraction (dry)	----	EP452	0.01	g	1	----
Sample Preparation (QCLot: 1236014)						
Final volume	----	EP452	1	mL	100	----
pH, IVBA final	----	EP452	0.01	pH units	1.49	----
pH, IVBA Initial	----	EP452	0.01	pH units	1.51	----
Weight, extraction (dry)	----	EP452	0.01	g	1	----
Physical Tests (QCLot: 1179218)						
Moisture	----	E144	0.25	%	<0.25	----
Physical Tests (QCLot: 1180226)						
Moisture	----	E144	0.25	%	<0.25	----
Physical Tests (QCLot: 1182549)						
Moisture	----	E144	0.25	%	<0.25	----
Organic / Inorganic Carbon (QCLot: 1176485)						
Carbon, inorganic [IC]	----	E354	0.05	%	<0.050	----
Organic / Inorganic Carbon (QCLot: 1176487)						
Carbon, inorganic [IC]	----	E354	0.05	%	<0.050	----
Organic / Inorganic Carbon (QCLot: 1178293)						
Carbon, total [TC]	----	E351	0.05	%	<0.050	----
Organic / Inorganic Carbon (QCLot: 1178294)						
Carbon, total [TC]	----	E351	0.05	%	<0.050	----
Organic / Inorganic Carbon (QCLot: 1178663)						
Carbon, inorganic [IC]	----	E354	0.05	%	<0.050	----
Organic / Inorganic Carbon (QCLot: 1181137)						
Carbon, total [TC]	----	E351	0.05	%	<0.050	----
Plant Available Nutrients (QCLot: 1177327)						
Sulfate, available (as S)	14808-79-8	E497.SO4	3	mg/kg	<6.0	----
Plant Available Nutrients (QCLot: 1177342)						
Sulfate, available (as S)	14808-79-8	E497.SO4	3	mg/kg	<6.0	----
Plant Available Nutrients (QCLot: 1177343)						

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 Work Order : EO2309073 Amendment 3
 Client : Associated Environmental Consultants Inc.
 Project : 2023-8451



Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Plant Available Nutrients (QCLot: 1177343) - continued						
Sulfate, available (as S)	14808-79-8	E497.SO4	3	mg/kg	<6.0	----
Plant Available Nutrients (QCLot: 1177364)						
Ammonium, available (as N)	14798-03-9	E312A	1	mg/kg	<1.0	----
Plant Available Nutrients (QCLot: 1177367)						
Ammonium, available (as N)	14798-03-9	E312A	1	mg/kg	<1.0	----
Plant Available Nutrients (QCLot: 1177373)						
Ammonium, available (as N)	14798-03-9	E312A	1	mg/kg	<1.0	----
Saturated Paste Extractables (QCLot: 1181221)						
Conductivity, saturated paste	----	E102	20	µS/cm	<20	----
Saturated Paste Extractables (QCLot: 1181222)						
Chloride, soluble ion content	16887-00-6	E266.Cl	20	mg/L	<20	----
Saturated Paste Extractables (QCLot: 1181223)						
% Saturation	----	E141	1	%	<1.0	----
Saturated Paste Extractables (QCLot: 1181224)						
Calcium, soluble ion content	7440-70-2	E485	5	mg/L	<5.0	----
Magnesium, soluble ion content	7439-95-4	E485	5	mg/L	<5.0	----
Potassium, soluble ion content	7440-09-7	E485	5	mg/L	<5.0	----
Sodium, soluble ion content	17341-25-2	E485	5	mg/L	<5.0	----
Sulfur (as SO ₄), soluble ion content	14808-79-8	E485	6	mg/L	<6.0	----
Saturated Paste Extractables (QCLot: 1181225)						
Calcium, soluble ion content	7440-70-2	E485	5	mg/L	<5.0	----
Magnesium, soluble ion content	7439-95-4	E485	5	mg/L	<5.0	----
Potassium, soluble ion content	7440-09-7	E485	5	mg/L	<5.0	----
Sodium, soluble ion content	17341-25-2	E485	5	mg/L	<5.0	----
Sulfur (as SO ₄), soluble ion content	14808-79-8	E485	6	mg/L	<6.0	----
Saturated Paste Extractables (QCLot: 1181226)						
Conductivity, saturated paste	----	E102	20	µS/cm	<20	----
Saturated Paste Extractables (QCLot: 1181227)						
Chloride, soluble ion content	16887-00-6	E266.Cl	20	mg/L	<20	----
Saturated Paste Extractables (QCLot: 1181228)						
% Saturation	----	E141	1	%	<1.0	----
Saturated Paste Extractables (QCLot: 1181229)						
Calcium, soluble ion content	7440-70-2	E485	5	mg/L	<5.0	----
Magnesium, soluble ion content	7439-95-4	E485	5	mg/L	<5.0	----
Potassium, soluble ion content	7440-09-7	E485	5	mg/L	<5.0	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Saturated Paste Extractables (QCLot: 1181229) - continued						
Sodium, soluble ion content	17341-25-2	E485	5	mg/L	<5.0	----
Sulfur (as SO4), soluble ion content	14808-79-8	E485	6	mg/L	<6.0	----
Saturated Paste Extractables (QCLot: 1181230)						
Conductivity, saturated paste	----	E102	20	µS/cm	<20	----
Saturated Paste Extractables (QCLot: 1181231)						
Chloride, soluble ion content	16887-00-6	E266.Cl	20	mg/L	<20	----
Saturated Paste Extractables (QCLot: 1181232)						
% Saturation	----	E141	1	%	<1.0	----
Metals (QCLot: 1180744)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 1180745)						
Aluminum	7429-90-5	E440	50	mg/kg	<50	----
Antimony	7440-36-0	E440	0.1	mg/kg	<0.10	----
Arsenic	7440-38-2	E440	0.1	mg/kg	<0.10	----
Barium	7440-39-3	E440	0.5	mg/kg	<0.50	----
Beryllium	7440-41-7	E440	0.1	mg/kg	<0.10	----
Bismuth	7440-69-9	E440	0.2	mg/kg	<0.20	----
Boron	7440-42-8	E440	5	mg/kg	<5.0	----
Cadmium	7440-43-9	E440	0.02	mg/kg	<0.020	----
Calcium	7440-70-2	E440	50	mg/kg	<50	----
Chromium	7440-47-3	E440	0.5	mg/kg	<0.50	----
Cobalt	7440-48-4	E440	0.1	mg/kg	<0.10	----
Copper	7440-50-8	E440	0.5	mg/kg	<0.50	----
Iron	7439-89-6	E440	50	mg/kg	<50	----
Lead	7439-92-1	E440	0.5	mg/kg	<0.50	----
Lithium	7439-93-2	E440	2	mg/kg	<2.0	----
Magnesium	7439-95-4	E440	20	mg/kg	<20	----
Manganese	7439-96-5	E440	1	mg/kg	<1.0	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	<0.10	----
Nickel	7440-02-0	E440	0.5	mg/kg	<0.50	----
Phosphorus	7723-14-0	E440	50	mg/kg	<50	----
Potassium	7440-09-7	E440	100	mg/kg	<100	----
Selenium	7782-49-2	E440	0.2	mg/kg	<0.20	----
Silver	7440-22-4	E440	0.1	mg/kg	<0.10	----
Sodium	7440-23-5	E440	50	mg/kg	<50	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 1180745) - continued						
Strontium	7440-24-6	E440	0.5	mg/kg	<0.50	----
Sulfur	7704-34-9	E440	1000	mg/kg	<1000	----
Thallium	7440-28-0	E440	0.05	mg/kg	<0.050	----
Tin	7440-31-5	E440	2	mg/kg	<2.0	----
Titanium	7440-32-6	E440	1	mg/kg	<1.0	----
Tungsten	7440-33-7	E440	0.5	mg/kg	<0.50	----
Uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----
Vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	----
Zinc	7440-66-6	E440	2	mg/kg	<2.0	----
Zirconium	7440-67-7	E440	1	mg/kg	<1.0	----
Metals (QCLot: 1181140)						
Aluminum	7429-90-5	E440	50	mg/kg	<50	----
Antimony	7440-36-0	E440	0.1	mg/kg	<0.10	----
Arsenic	7440-38-2	E440	0.1	mg/kg	<0.10	----
Barium	7440-39-3	E440	0.5	mg/kg	<0.50	----
Beryllium	7440-41-7	E440	0.1	mg/kg	<0.10	----
Bismuth	7440-69-9	E440	0.2	mg/kg	<0.20	----
Boron	7440-42-8	E440	5	mg/kg	<5.0	----
Cadmium	7440-43-9	E440	0.02	mg/kg	<0.020	----
Calcium	7440-70-2	E440	50	mg/kg	<50	----
Chromium	7440-47-3	E440	0.5	mg/kg	<0.50	----
Cobalt	7440-48-4	E440	0.1	mg/kg	<0.10	----
Copper	7440-50-8	E440	0.5	mg/kg	<0.50	----
Iron	7439-89-6	E440	50	mg/kg	<50	----
Lead	7439-92-1	E440	0.5	mg/kg	<0.50	----
Lithium	7439-93-2	E440	2	mg/kg	<2.0	----
Magnesium	7439-95-4	E440	20	mg/kg	<20	----
Manganese	7439-96-5	E440	1	mg/kg	<1.0	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	<0.10	----
Nickel	7440-02-0	E440	0.5	mg/kg	<0.50	----
Phosphorus	7723-14-0	E440	50	mg/kg	<50	----
Potassium	7440-09-7	E440	100	mg/kg	<100	----
Selenium	7782-49-2	E440	0.2	mg/kg	<0.20	----
Silver	7440-22-4	E440	0.1	mg/kg	<0.10	----
Sodium	7440-23-5	E440	50	mg/kg	<50	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 1181140) - continued						
Strontium	7440-24-6	E440	0.5	mg/kg	<0.50	----
Sulfur	7704-34-9	E440	1000	mg/kg	<1000	----
Thallium	7440-28-0	E440	0.05	mg/kg	<0.050	----
Tin	7440-31-5	E440	2	mg/kg	<2.0	----
Titanium	7440-32-6	E440	1	mg/kg	<1.0	----
Tungsten	7440-33-7	E440	0.5	mg/kg	<0.50	----
Uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----
Vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	----
Zinc	7440-66-6	E440	2	mg/kg	<2.0	----
Zirconium	7440-67-7	E440	1	mg/kg	<1.0	----
Metals (QCLot: 1181141)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 1181737)						
Mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 1181738)						
Aluminum	7429-90-5	E440	50	mg/kg	<50	----
Antimony	7440-36-0	E440	0.1	mg/kg	<0.10	----
Arsenic	7440-38-2	E440	0.1	mg/kg	<0.10	----
Barium	7440-39-3	E440	0.5	mg/kg	<0.50	----
Beryllium	7440-41-7	E440	0.1	mg/kg	<0.10	----
Bismuth	7440-69-9	E440	0.2	mg/kg	<0.20	----
Boron	7440-42-8	E440	5	mg/kg	<5.0	----
Cadmium	7440-43-9	E440	0.02	mg/kg	<0.020	----
Calcium	7440-70-2	E440	50	mg/kg	<50	----
Chromium	7440-47-3	E440	0.5	mg/kg	<0.50	----
Cobalt	7440-48-4	E440	0.1	mg/kg	<0.10	----
Copper	7440-50-8	E440	0.5	mg/kg	<0.50	----
Iron	7439-89-6	E440	50	mg/kg	<50	----
Lead	7439-92-1	E440	0.5	mg/kg	<0.50	----
Lithium	7439-93-2	E440	2	mg/kg	<2.0	----
Magnesium	7439-95-4	E440	20	mg/kg	<20	----
Manganese	7439-96-5	E440	1	mg/kg	<1.0	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	<0.10	----
Nickel	7440-02-0	E440	0.5	mg/kg	<0.50	----
Phosphorus	7723-14-0	E440	50	mg/kg	<50	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 1181738) - continued						
Potassium	7440-09-7	E440	100	mg/kg	<100	----
Selenium	7782-49-2	E440	0.2	mg/kg	<0.20	----
Silver	7440-22-4	E440	0.1	mg/kg	<0.10	----
Sodium	7440-23-5	E440	50	mg/kg	<50	----
Strontium	7440-24-6	E440	0.5	mg/kg	<0.50	----
Sulfur	7704-34-9	E440	1000	mg/kg	<1000	----
Thallium	7440-28-0	E440	0.05	mg/kg	<0.050	----
Tin	7440-31-5	E440	2	mg/kg	<2.0	----
Titanium	7440-32-6	E440	1	mg/kg	<1.0	----
Tungsten	7440-33-7	E440	0.5	mg/kg	<0.50	----
Uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----
Vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	----
Zinc	7440-66-6	E440	2	mg/kg	<2.0	----
Zirconium	7440-67-7	E440	1	mg/kg	<1.0	----
Metals (QCLot: 1217651)						
Arsenic	7440-38-2	E440B	0.05	mg/kg	<0.050	----
Lead	7439-92-1	E440B	0.1	mg/kg	<0.10	----
Metals (QCLot: 1236013)						
Arsenic	7440-38-2	E440B	0.05	mg/kg	<0.050	----
Lead	7439-92-1	E440B	0.1	mg/kg	<0.10	----
TCLP Metals (QCLot: 1257443)						
Antimony, TCLP	7440-36-0	E444	0.1	mg/L	<0.10	----
Arsenic, TCLP	7440-38-2	E444	1	mg/L	<1.0	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	----
Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	<0.50	----
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	<0.050	----
Calcium, TCLP	7440-70-2	E444	10	mg/L	<10	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	----
Cobalt, TCLP	7440-48-4	E444	0.05	mg/L	<0.050	----
Copper, TCLP	7440-50-8	E444	0.05	mg/L	<0.050	----
Iron, TCLP	7439-89-6	E444	5	mg/L	<5.0	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	----
Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	<2.5	----
Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
TCLP Metals (QCLot: 1257443) - continued						
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	<0.10	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	<0.050	----
Thallium, TCLP	7440-28-0	E444	1	mg/L	<1.0	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	<0.20	----
Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	----
Zinc, TCLP	7440-66-6	E444	0.5	mg/L	<0.50	----
Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	----
TCLP Metals (QCLot: 1257555)						
Antimony, TCLP	7440-36-0	E444	0.1	mg/L	<0.10	----
Arsenic, TCLP	7440-38-2	E444	1	mg/L	<1.0	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	----
Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	<0.50	----
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	<0.050	----
Calcium, TCLP	7440-70-2	E444	10	mg/L	<10	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	----
Cobalt, TCLP	7440-48-4	E444	0.05	mg/L	<0.050	----
Copper, TCLP	7440-50-8	E444	0.05	mg/L	<0.050	----
Iron, TCLP	7439-89-6	E444	5	mg/L	<5.0	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	----
Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	<2.5	----
Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	----
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	<0.10	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	<0.050	----
Thallium, TCLP	7440-28-0	E444	1	mg/L	<1.0	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	<0.20	----
Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	----
Zinc, TCLP	7440-66-6	E444	0.5	mg/L	<0.50	----
Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	----
TCLP Metals (QCLot: 1258959)						
Antimony, TCLP	7440-36-0	E444	0.1	mg/L	<0.10	----
Arsenic, TCLP	7440-38-2	E444	1	mg/L	<1.0	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	----
Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	<0.50	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
TCLP Metals (QCLot: 1258959) - continued						
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	<0.050	----
Calcium, TCLP	7440-70-2	E444	10	mg/L	<10	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	----
Cobalt, TCLP	7440-48-4	E444	0.05	mg/L	<0.050	----
Copper, TCLP	7440-50-8	E444	0.05	mg/L	<0.050	----
Iron, TCLP	7439-89-6	E444	5	mg/L	<5.0	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	----
Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	<2.5	----
Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	----
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	<0.10	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	<0.050	----
Thallium, TCLP	7440-28-0	E444	1	mg/L	<1.0	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	<0.20	----
Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	----
Zinc, TCLP	7440-66-6	E444	0.5	mg/L	<0.50	----
Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	----
TCLP Metals (QCLot: 1259106)						
Antimony, TCLP	7440-36-0	E444	0.1	mg/L	<0.10	----
Arsenic, TCLP	7440-38-2	E444	1	mg/L	<1.0	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	----
Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	<0.50	----
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	<0.050	----
Calcium, TCLP	7440-70-2	E444	10	mg/L	<10	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	----
Cobalt, TCLP	7440-48-4	E444	0.05	mg/L	<0.050	----
Copper, TCLP	7440-50-8	E444	0.05	mg/L	<0.050	----
Iron, TCLP	7439-89-6	E444	5	mg/L	<5.0	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	----
Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	<2.5	----
Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	----
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	<0.10	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	<0.050	----
Thallium, TCLP	7440-28-0	E444	1	mg/L	<1.0	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	<0.20	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
TCLP Metals (QCLot: 1259106) - continued						
Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	----
Zinc, TCLP	7440-66-6	E444	0.5	mg/L	<0.50	----
Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	----
TCLP Metals (QCLot: 1259156)						
Antimony, TCLP	7440-36-0	E444	0.1	mg/L	<0.10	----
Arsenic, TCLP	7440-38-2	E444	1	mg/L	<1.0	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	----
Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	<0.50	----
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	<0.050	----
Calcium, TCLP	7440-70-2	E444	10	mg/L	<10	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	----
Cobalt, TCLP	7440-48-4	E444	0.05	mg/L	<0.050	----
Copper, TCLP	7440-50-8	E444	0.05	mg/L	<0.050	----
Iron, TCLP	7439-89-6	E444	5	mg/L	<5.0	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	----
Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	<2.5	----
Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	----
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	<0.10	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	<0.050	----
Thallium, TCLP	7440-28-0	E444	1	mg/L	<1.0	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	<0.20	----
Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	----
Zinc, TCLP	7440-66-6	E444	0.5	mg/L	<0.50	----
Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	----
Leachable Metals (QCLot: 1181342)						
Aluminum, leachable	7429-90-5	E441	0.05	mg/kg	<0.050	----
Antimony, leachable	7440-36-0	E441	0.002	mg/kg	<0.0020	----
Arsenic, leachable	7440-38-2	E441	0.002	mg/kg	<0.0020	----
Barium, leachable	7440-39-3	E441	0.01	mg/kg	<0.010	----
Beryllium, leachable	7440-41-7	E441	0.01	mg/kg	<0.010	----
Bismuth, leachable	7440-69-9	E441	0.01	mg/kg	<0.010	----
Boron, leachable	7440-42-8	E441	0.5	mg/kg	<0.50	----
Cadmium, leachable	7440-43-9	E441	0.002	mg/kg	<0.0020	----
Calcium, leachable	7440-70-2	E441	0.5	mg/kg	<0.50	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Leachable Metals (QCLot: 1181342) - continued						
Chromium, leachable	7440-47-3	E441	0.01	mg/kg	<0.010	----
Cobalt, leachable	7440-48-4	E441	0.01	mg/kg	<0.010	----
Copper, leachable	7440-50-8	E441	0.01	mg/kg	<0.010	----
Iron, leachable	7439-89-6	E441	0.3	mg/kg	<0.30	----
Lead, leachable	7439-92-1	E441	0.01	mg/kg	<0.010	----
Lithium, leachable	7439-93-2	E441	0.1	mg/kg	<0.10	----
Magnesium, leachable	7439-95-4	E441	1	mg/kg	<1.0	----
Manganese, leachable	7439-96-5	E441	0.01	mg/kg	<0.010	----
Molybdenum, leachable	7439-98-7	E441	0.01	mg/kg	<0.010	----
Nickel, leachable	7440-02-0	E441	0.01	mg/kg	<0.010	----
Phosphorus, leachable	7723-14-0	E441	3	mg/kg	<3.0	----
Potassium, leachable	7440-09-7	E441	0.5	mg/kg	<0.50	----
Selenium, leachable	7782-49-2	E441	0.01	mg/kg	<0.010	----
Silicon, leachable	7440-21-3	E441	0.5	mg/kg	<0.50	----
Silver, leachable	7440-22-4	E441	0.001	mg/kg	<0.0010	----
Sodium, leachable	7440-23-5	E441	0.1	mg/kg	<0.10	----
Strontium, leachable	7440-24-6	E441	0.01	mg/kg	<0.010	----
Thallium, leachable	7440-28-0	E441	0.01	mg/kg	<0.010	----
Tin, leachable	7440-31-5	E441	0.01	mg/kg	<0.010	----
Uranium, leachable	7440-61-1	E441	0.0001	mg/kg	<0.00010	----
Vanadium, leachable	7440-62-2	E441	0.05	mg/kg	<0.050	----
Zinc, leachable	7440-66-6	E441	0.05	mg/kg	<0.050	----
Leachable Metals (QCLot: 1181348)						
Aluminum, leachable	7429-90-5	E441	0.05	mg/kg	<0.050	----
Antimony, leachable	7440-36-0	E441	0.002	mg/kg	<0.0020	----
Arsenic, leachable	7440-38-2	E441	0.002	mg/kg	<0.0020	----
Barium, leachable	7440-39-3	E441	0.01	mg/kg	<0.010	----
Beryllium, leachable	7440-41-7	E441	0.01	mg/kg	<0.010	----
Bismuth, leachable	7440-69-9	E441	0.01	mg/kg	<0.010	----
Boron, leachable	7440-42-8	E441	0.5	mg/kg	<0.50	----
Cadmium, leachable	7440-43-9	E441	0.002	mg/kg	<0.0020	----
Calcium, leachable	7440-70-2	E441	0.5	mg/kg	<0.50	----
Chromium, leachable	7440-47-3	E441	0.01	mg/kg	<0.010	----
Cobalt, leachable	7440-48-4	E441	0.01	mg/kg	<0.010	----
Copper, leachable	7440-50-8	E441	0.01	mg/kg	<0.010	----



Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Leachable Metals (QCLot: 1181348) - continued						
Iron, leachable	7439-89-6	E441	0.3	mg/kg	<0.30	----
Lead, leachable	7439-92-1	E441	0.01	mg/kg	<0.010	----
Lithium, leachable	7439-93-2	E441	0.1	mg/kg	<0.10	----
Magnesium, leachable	7439-95-4	E441	1	mg/kg	<1.0	----
Manganese, leachable	7439-96-5	E441	0.01	mg/kg	<0.010	----
Molybdenum, leachable	7439-98-7	E441	0.01	mg/kg	<0.010	----
Nickel, leachable	7440-02-0	E441	0.01	mg/kg	<0.010	----
Phosphorus, leachable	7723-14-0	E441	3	mg/kg	<3.0	----
Potassium, leachable	7440-09-7	E441	0.5	mg/kg	<0.50	----
Selenium, leachable	7782-49-2	E441	0.01	mg/kg	<0.010	----
Silicon, leachable	7440-21-3	E441	0.5	mg/kg	<0.50	----
Silver, leachable	7440-22-4	E441	0.001	mg/kg	<0.0010	----
Sodium, leachable	7440-23-5	E441	0.1	mg/kg	<0.10	----
Strontium, leachable	7440-24-6	E441	0.01	mg/kg	<0.010	----
Thallium, leachable	7440-28-0	E441	0.01	mg/kg	<0.010	----
Tin, leachable	7440-31-5	E441	0.01	mg/kg	<0.010	----
Uranium, leachable	7440-61-1	E441	0.0001	mg/kg	<0.00010	----
Vanadium, leachable	7440-62-2	E441	0.05	mg/kg	<0.050	----
Zinc, leachable	7440-66-6	E441	0.05	mg/kg	<0.050	----
Leachable Metals (QCLot: 1189211)						
Aluminum, leachable	7429-90-5	E441	0.05	mg/kg	<0.050	----
Antimony, leachable	7440-36-0	E441	0.002	mg/kg	<0.0020	----
Arsenic, leachable	7440-38-2	E441	0.002	mg/kg	<0.0020	----
Barium, leachable	7440-39-3	E441	0.01	mg/kg	<0.010	----
Beryllium, leachable	7440-41-7	E441	0.01	mg/kg	<0.010	----
Bismuth, leachable	7440-69-9	E441	0.01	mg/kg	<0.010	----
Boron, leachable	7440-42-8	E441	0.5	mg/kg	<0.50	----
Cadmium, leachable	7440-43-9	E441	0.002	mg/kg	<0.0020	----
Calcium, leachable	7440-70-2	E441	0.5	mg/kg	<0.50	----
Chromium, leachable	7440-47-3	E441	0.01	mg/kg	<0.010	----
Cobalt, leachable	7440-48-4	E441	0.01	mg/kg	<0.010	----
Copper, leachable	7440-50-8	E441	0.01	mg/kg	<0.010	----
Iron, leachable	7439-89-6	E441	0.3	mg/kg	<0.30	----
Lead, leachable	7439-92-1	E441	0.01	mg/kg	<0.010	----
Lithium, leachable	7439-93-2	E441	0.1	mg/kg	<0.10	----



Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Leachable Metals (QCLot: 1189211) - continued						
Magnesium, leachable	7439-95-4	E441	1	mg/kg	<1.0	----
Manganese, leachable	7439-96-5	E441	0.01	mg/kg	<0.010	----
Molybdenum, leachable	7439-98-7	E441	0.01	mg/kg	<0.010	----
Nickel, leachable	7440-02-0	E441	0.01	mg/kg	<0.010	----
Phosphorus, leachable	7723-14-0	E441	3	mg/kg	<3.0	----
Potassium, leachable	7440-09-7	E441	0.5	mg/kg	<0.50	----
Selenium, leachable	7782-49-2	E441	0.01	mg/kg	<0.010	----
Silicon, leachable	7440-21-3	E441	0.5	mg/kg	<0.50	----
Silver, leachable	7440-22-4	E441	0.001	mg/kg	<0.0010	----
Sodium, leachable	7440-23-5	E441	0.1	mg/kg	<0.10	----
Strontium, leachable	7440-24-6	E441	0.01	mg/kg	<0.010	----
Thallium, leachable	7440-28-0	E441	0.01	mg/kg	<0.010	----
Tin, leachable	7440-31-5	E441	0.01	mg/kg	<0.010	----
Uranium, leachable	7440-61-1	E441	0.0001	mg/kg	<0.00010	----
Vanadium, leachable	7440-62-2	E441	0.05	mg/kg	<0.050	----
Zinc, leachable	7440-66-6	E441	0.05	mg/kg	<0.050	----
Leachable Metals (QCLot: 1217652)						
Arsenic, IVBA (leachate)	7440-38-2	E452	0.1	mg/L	<0.10	----
Lead, IVBA (leachate)	7439-92-1	E452	0.1	mg/L	<0.10	----
Leachable Metals (QCLot: 1236014)						
Arsenic, IVBA (leachate)	7440-38-2	E452	0.1	mg/L	<0.10	----
Lead, IVBA (leachate)	7439-92-1	E452	0.1	mg/L	<0.10	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1176520)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1176521)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Anions and Nutrients (QCLot: 1170550)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1170551)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1170552)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	----



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1170553)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1170554)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1172843)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1173597)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1178648)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1178205)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1178205) - continued						
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Total Metals (QCLot: 1178206)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1178206) - continued						
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 1173480)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1173480) - continued						
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Soil/Solid					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1179218)									
Moisture	----	E144	0.25	%	50 %	99.3	90.0	110	----
Physical Tests (QCLot: 1180226)									
Moisture	----	E144	0.25	%	50 %	100	90.0	110	----
Physical Tests (QCLot: 1181266)									
pH (1:2 soil:water)	----	E108	----	pH units	7 pH units	100	97.0	103	----
Physical Tests (QCLot: 1181267)									
pH (1:2 soil:water)	----	E108	----	pH units	7 pH units	100	97.0	103	----
Physical Tests (QCLot: 1181268)									
pH (1:2 soil:water)	----	E108	----	pH units	7 pH units	100	97.0	103	----
Physical Tests (QCLot: 1181798)									
pH (1:2 soil:CaCl2-aq)	----	E108B	----	pH units	7 pH units	99.7	97.0	103	----
Physical Tests (QCLot: 1181799)									
pH (1:2 soil:CaCl2-aq)	----	E108B	----	pH units	7 pH units	99.8	97.0	103	----
Physical Tests (QCLot: 1181800)									
pH (1:2 soil:CaCl2-aq)	----	E108B	----	pH units	7 pH units	99.7	97.0	103	----
Physical Tests (QCLot: 1182549)									
Moisture	----	E144	0.25	%	50 %	100	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1176485)									
Carbon, inorganic [IC]	----	E354	0.05	%	0.5 %	99.3	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1176487)									
Carbon, inorganic [IC]	----	E354	0.05	%	0.5 %	95.6	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1178293)									
Carbon, total [TC]	----	E351	0.05	%	48 %	100	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1178294)									
Carbon, total [TC]	----	E351	0.05	%	48 %	100	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1178663)									
Carbon, inorganic [IC]	----	E354	0.05	%	0.5 %	99.6	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1181137)									
Carbon, total [TC]	----	E351	0.05	%	48 %	99.7	90.0	110	----
Plant Available Nutrients (QCLot: 1177327)									



Sub-Matrix: Soil/Solid					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Plant Available Nutrients (QCLot: 1177327) - continued									
Sulfate, available (as S)	14808-79-8	E497.SO4	3	mg/kg	200 mg/kg	106	70.0	130	----
Plant Available Nutrients (QCLot: 1177342)									
Sulfate, available (as S)	14808-79-8	E497.SO4	3	mg/kg	200 mg/kg	106	70.0	130	----
Plant Available Nutrients (QCLot: 1177343)									
Sulfate, available (as S)	14808-79-8	E497.SO4	3	mg/kg	200 mg/kg	107	70.0	130	----
Plant Available Nutrients (QCLot: 1177364)									
Ammonium, available (as N)	14798-03-9	E312A	1	mg/kg	10 mg/kg	99.2	80.0	120	----
Plant Available Nutrients (QCLot: 1177367)									
Ammonium, available (as N)	14798-03-9	E312A	1	mg/kg	10 mg/kg	88.9	80.0	120	----
Plant Available Nutrients (QCLot: 1177373)									
Ammonium, available (as N)	14798-03-9	E312A	1	mg/kg	10 mg/kg	89.2	80.0	120	----
Saturated Paste Extractables (QCLot: 1181221)									
Conductivity, saturated paste	----	E102	20	µS/cm	146.9 µS/cm	95.6	80.0	120	----
Saturated Paste Extractables (QCLot: 1181222)									
Chloride, soluble ion content	16887-00-6	E266.Cl	20	mg/L	100 mg/L	101	70.0	130	----
Saturated Paste Extractables (QCLot: 1181223)									
% Saturation	----	E141	1	%	100 %	104	90.0	110	----
Saturated Paste Extractables (QCLot: 1181224)									
Calcium, soluble ion content	7440-70-2	E485	5	mg/L	50 mg/L	104	80.0	120	----
Magnesium, soluble ion content	7439-95-4	E485	5	mg/L	50 mg/L	104	80.0	120	----
Potassium, soluble ion content	7440-09-7	E485	5	mg/L	50 mg/L	111	80.0	120	----
Sodium, soluble ion content	17341-25-2	E485	5	mg/L	50 mg/L	107	80.0	120	----
Sulfur (as SO4), soluble ion content	14808-79-8	E485	6	mg/L	150 mg/L	90.3	80.0	120	----
Saturated Paste Extractables (QCLot: 1181225)									
Calcium, soluble ion content	7440-70-2	E485	5	mg/L	50 mg/L	90.6	80.0	120	----
Magnesium, soluble ion content	7439-95-4	E485	5	mg/L	50 mg/L	90.0	80.0	120	----
Potassium, soluble ion content	7440-09-7	E485	5	mg/L	50 mg/L	94.3	80.0	120	----
Sodium, soluble ion content	17341-25-2	E485	5	mg/L	50 mg/L	90.3	80.0	120	----
Sulfur (as SO4), soluble ion content	14808-79-8	E485	6	mg/L	150 mg/L	84.3	80.0	120	----
Saturated Paste Extractables (QCLot: 1181226)									
Conductivity, saturated paste	----	E102	20	µS/cm	146.9 µS/cm	97.0	80.0	120	----
Saturated Paste Extractables (QCLot: 1181227)									
Chloride, soluble ion content	16887-00-6	E266.Cl	20	mg/L	100 mg/L	100	70.0	130	----
Saturated Paste Extractables (QCLot: 1181228)									



Sub-Matrix: Soil/Solid					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit					
Saturated Paste Extractables (QCLot: 1181228) - continued									
% Saturation	----	E141	1	%	100 %	104	90.0	110	----
Saturated Paste Extractables (QCLot: 1181229)									
Calcium, soluble ion content	7440-70-2	E485	5	mg/L	50 mg/L	93.1	80.0	120	----
Magnesium, soluble ion content	7439-95-4	E485	5	mg/L	50 mg/L	93.2	80.0	120	----
Potassium, soluble ion content	7440-09-7	E485	5	mg/L	50 mg/L	97.5	80.0	120	----
Sodium, soluble ion content	17341-25-2	E485	5	mg/L	50 mg/L	93.3	80.0	120	----
Sulfur (as SO4), soluble ion content	14808-79-8	E485	6	mg/L	150 mg/L	88.9	80.0	120	----
Saturated Paste Extractables (QCLot: 1181230)									
Conductivity, saturated paste	----	E102	20	µS/cm	146.9 µS/cm	95.0	80.0	120	----
Saturated Paste Extractables (QCLot: 1181231)									
Chloride, soluble ion content	16887-00-6	E266.Cl	20	mg/L	100 mg/L	101	70.0	130	----
Saturated Paste Extractables (QCLot: 1181232)									
% Saturation	----	E141	1	%	100 %	104	90.0	110	----
Metals (QCLot: 1180744)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	95.7	80.0	120	----
Metals (QCLot: 1180745)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	113	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	107	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	116	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	114	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	107	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	106	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	103	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	112	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	106	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	113	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	112	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	108	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	115	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	107	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	113	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	115	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	116	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	107	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	112	80.0	120	----



Sub-Matrix: Soil/Solid					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 1180745) - continued									
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	119	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	119	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	108	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	99.9	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	115	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	111	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	117	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	108	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	106	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	106	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	106	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	107	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	116	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	109	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	108	80.0	120	----
Metals (QCLot: 1181140)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	99.8	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	103	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	102	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	107	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	102	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	98.8	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	88.4	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	99.5	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	98.6	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	103	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	101	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	94.2	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	100	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	97.0	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	105	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	104	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	99.8	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	97.8	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	100	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	109	80.0	120	----



Sub-Matrix: Soil/Solid					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 1181140) - continued									
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	104	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	93.1	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	93.2	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	96.2	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	105	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	104	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	100	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	102	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	102	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	90.7	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	89.1	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	104	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	98.4	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	100	80.0	120	----
Metals (QCLot: 1181141)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	98.9	80.0	120	----
Metals (QCLot: 1181737)									
Mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	99.7	80.0	120	----
Metals (QCLot: 1181738)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	104	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	98.2	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	99.4	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	104	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	96.9	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	92.5	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	93.7	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	97.5	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	95.4	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	101	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	98.6	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	95.2	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	100	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	94.5	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	97.6	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	103	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	97.7	80.0	120	----



Sub-Matrix: Soil/Solid					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Concentration	LCS	Low	High	Qualifier
Analyte	CAS Number	Method	LOR	Unit					
Metals (QCLot: 1181738) - continued									
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	95.0	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	97.2	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	116	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	103	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	91.4	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	88.9	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	101	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	98.5	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	104	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	94.7	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	97.5	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	98.9	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	89.7	80.0	120	----
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	90.3	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	100	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	96.5	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	96.5	80.0	120	----
Metals (QCLot: 1217651)									
Arsenic	7440-38-2	E440B	0.05	mg/kg	200 mg/kg	117	80.0	120	----
Lead	7439-92-1	E440B	0.1	mg/kg	200 mg/kg	117	80.0	120	----
Metals (QCLot: 1236013)									
Arsenic	7440-38-2	E440B	0.05	mg/kg	200 mg/kg	101	80.0	120	----
Lead	7439-92-1	E440B	0.1	mg/kg	200 mg/kg	105	80.0	120	----
Leachable Metals (QCLot: 1217652)									
Arsenic, IVBA (leachate)	7440-38-2	E452	0.1	mg/L	2 mg/L	111	85.0	115	----
Lead, IVBA (leachate)	7439-92-1	E452	0.1	mg/L	2 mg/L	106	85.0	115	----
Leachable Metals (QCLot: 1236014)									
Arsenic, IVBA (leachate)	7440-38-2	E452	0.1	mg/L	2 mg/L	104	85.0	115	----
Lead, IVBA (leachate)	7439-92-1	E452	0.1	mg/L	2 mg/L	98.7	85.0	115	----
Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1176519)									
pH	----	E108	----	pH units	6 pH units	100	97.0	103	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1176520)									
Conductivity	----	E100	1	µS/cm	1412 µS/cm	103	90.0	110	----
Physical Tests (QCLot: 1176521)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	105	85.0	115	----
Anions and Nutrients (QCLot: 1170550)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1170551)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	106	90.0	110	----
Anions and Nutrients (QCLot: 1170552)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 1170553)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 1170554)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1172843)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.6	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1173597)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	92.5	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1178648)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	92.9	80.0	120	----
Total Metals (QCLot: 1178205)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	93.9	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	94.5	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	99.5	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	99.4	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	91.5	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	90.5	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	93.7	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	97.3	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	90.6	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	97.6	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	99.5	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	99.6	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	96.0	80.0	120	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1178205) - continued									
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	94.2	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	97.6	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	96.0	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	97.8	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	96.7	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	93.7	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	97.1	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	96.8	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	100	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	106	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	97.7	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	97.0	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	91.4	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	97.2	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	93.3	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	99.1	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	91.8	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	95.7	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	91.5	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	97.3	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	97.3	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	92.9	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	99.1	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	101	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	93.6	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	93.2	80.0	120	----
Total Metals (QCLot: 1178206)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	96.1	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	95.6	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	98.0	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	98.7	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	92.6	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	88.5	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	92.3	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	95.7	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	91.2	80.0	120	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit					
Total Metals (QCLot: 1178206) - continued									
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	98.8	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	97.4	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	97.8	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	94.7	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	93.9	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	97.4	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	94.3	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	95.9	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	93.1	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	97.1	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	95.6	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	98.5	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	98.7	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	95.7	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	94.9	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	92.1	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	95.5	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	97.1	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	106	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	97.2	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	94.5	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	94.2	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	97.4	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	95.8	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	96.3	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	95.3	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	97.0	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	96.8	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	93.2	80.0	120	----
Dissolved Metals (QCLot: 1173480)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	107	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	101	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	96.7	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	94.9	80.0	120	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit					
Dissolved Metals (QCLot: 1173480) - continued									
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	100	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	97.3	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	88.7	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	95.2	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	99.2	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	102	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	96.9	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	98.6	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	92.7	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	88.9	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	100	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	98.7	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	106	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	95.1	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	96.7	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	101	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	99.0	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	96.0	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	96.0	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	110	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	99.1	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	102	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	93.4	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	98.3	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	100	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	103	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	99.1	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	96.7	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	92.3	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	101	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	106	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	95.4	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	102	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	94.8	80.0	120	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Soil/Solid					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Sample Preparation (QCLot: 1217652)										
EO2309073-015	TP23-15-0.1	Final volume	----	EP452		mL		0	0	----
		pH, IVBA final	----	EP452		pH units		0	0	----
		pH, IVBA Initial	----	EP452		pH units		0	0	----
		Weight, extraction (dry)	----	EP452		g		0	0	----
Sample Preparation (QCLot: 1236014)										
EO2309073-039	OMR23-39-0.1	Final volume	----	EP452		mL		0	0	----
		pH, IVBA final	----	EP452		pH units		0	0	----
		pH, IVBA Initial	----	EP452		pH units		0	0	----
		Weight, extraction (dry)	----	EP452		g		0	0	----
TCLP Metals (QCLot: 1257443)										
CG2316837-001	Anonymous	Antimony, TCLP	7440-36-0	E444	9.59 mg/L	10 mg/L	95.9	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	9.5 mg/L	10 mg/L	95.3	50.0	140	----
		Barium, TCLP	7440-39-3	E444	12.1 mg/L	12.5 mg/L	96.5	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	9.14 mg/L	10 mg/L	91.4	50.0	140	----
		Boron, TCLP	7440-42-8	E444	8.94 mg/L	10 mg/L	89.4	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	9.50 mg/L	10 mg/L	95.0	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	25 mg/L	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	9.42 mg/L	10 mg/L	94.2	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	9.40 mg/L	10 mg/L	94.0	50.0	140	----
		Copper, TCLP	7440-50-8	E444	9.17 mg/L	10 mg/L	91.7	50.0	140	----
		Iron, TCLP	7439-89-6	E444	47.4 mg/L	50 mg/L	94.8	50.0	140	----
		Lead, TCLP	7439-92-1	E444	9.65 mg/L	10 mg/L	96.5	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	ND mg/L	25 mg/L	ND	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	9.34 mg/L	10 mg/L	93.4	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	9.33 mg/L	10 mg/L	93.3	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.098 mg/L	0.1 mg/L	98.5	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	9.5 mg/L	10 mg/L	95.4	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	9.34 mg/L	10 mg/L	93.4	50.0	140	----
		Vanadium, TCLP	7440-62-2	E444	9.47 mg/L	10 mg/L	94.7	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	9.37 mg/L	10 mg/L	93.7	50.0	140	----



Sub-Matrix: Soil/Solid					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
TCLP Metals (QCLot: 1257443) - continued										
CG2316837-001	Anonymous	Zirconium, TCLP	7440-67-7	E444	9 mg/L	10 mg/L	92.0	50.0	140	----
TCLP Metals (QCLot: 1257555)										
EO2310959-002	Anonymous	Antimony, TCLP	7440-36-0	E444	9.65 mg/L	10 mg/L	96.5	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	9.7 mg/L	10 mg/L	96.9	50.0	140	----
		Barium, TCLP	7440-39-3	E444	12.0 mg/L	12.5 mg/L	95.8	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	9.88 mg/L	10 mg/L	98.8	50.0	140	----
		Boron, TCLP	7440-42-8	E444	10.2 mg/L	10 mg/L	102	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	9.28 mg/L	10 mg/L	92.8	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	25 mg/L	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	9.43 mg/L	10 mg/L	94.3	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	9.34 mg/L	10 mg/L	93.4	50.0	140	----
		Copper, TCLP	7440-50-8	E444	9.53 mg/L	10 mg/L	95.3	50.0	140	----
		Iron, TCLP	7439-89-6	E444	48.3 mg/L	50 mg/L	96.6	50.0	140	----
		Lead, TCLP	7439-92-1	E444	9.14 mg/L	10 mg/L	91.4	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	ND mg/L	25 mg/L	ND	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	9.48 mg/L	10 mg/L	94.8	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	9.92 mg/L	10 mg/L	99.2	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.108 mg/L	0.1 mg/L	108	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	8.8 mg/L	10 mg/L	87.7	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	8.89 mg/L	10 mg/L	88.9	50.0	140	----
		Vanadium, TCLP	7440-62-2	E444	9.51 mg/L	10 mg/L	95.1	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	9.34 mg/L	10 mg/L	93.4	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	8 mg/L	10 mg/L	84.5	50.0	140	----
TCLP Metals (QCLot: 1258959)										
EO2309073-027	TP23-27-0.1	Antimony, TCLP	7440-36-0	E444	9.62 mg/L	10 mg/L	96.2	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	9.7 mg/L	10 mg/L	97.4	50.0	140	----
		Barium, TCLP	7440-39-3	E444	12.1 mg/L	12.5 mg/L	96.6	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	9.44 mg/L	10 mg/L	94.4	50.0	140	----
		Boron, TCLP	7440-42-8	E444	9.44 mg/L	10 mg/L	94.4	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	9.24 mg/L	10 mg/L	92.4	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	25 mg/L	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	9.36 mg/L	10 mg/L	93.6	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	9.58 mg/L	10 mg/L	95.8	50.0	140	----
		Copper, TCLP	7440-50-8	E444	9.50 mg/L	10 mg/L	95.0	50.0	140	----
		Iron, TCLP	7439-89-6	E444	46.2 mg/L	50 mg/L	92.4	50.0	140	----



Sub-Matrix: Soil/Solid					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
TCLP Metals (QCLot: 1258959) - continued										
EO2309073-027	TP23-27-0.1	Lead, TCLP	7439-92-1	E444	9.08 mg/L	10 mg/L	90.8	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	24.8 mg/L	25 mg/L	99.2	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	9.13 mg/L	10 mg/L	91.3	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	9.42 mg/L	10 mg/L	94.2	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.109 mg/L	0.1 mg/L	109	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	8.1 mg/L	10 mg/L	81.2	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	8.48 mg/L	10 mg/L	84.8	50.0	140	----
		Vanadium, TCLP	7440-62-2	E444	9.59 mg/L	10 mg/L	95.9	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	9.12 mg/L	10 mg/L	91.2	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	9 mg/L	10 mg/L	86.2	50.0	140	----
TCLP Metals (QCLot: 1259106)										
EO2309073-001	TP23-01-0.2	Antimony, TCLP	7440-36-0	E444	9.91 mg/L	10 mg/L	99.1	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	9.7 mg/L	10 mg/L	96.8	50.0	140	----
		Barium, TCLP	7440-39-3	E444	12.0 mg/L	12.5 mg/L	96.0	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	10.2 mg/L	10 mg/L	102	50.0	140	----
		Boron, TCLP	7440-42-8	E444	9.10 mg/L	10 mg/L	91.0	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	9.71 mg/L	10 mg/L	97.1	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	25 mg/L	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	9.55 mg/L	10 mg/L	95.5	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	10.0 mg/L	10 mg/L	100	50.0	140	----
		Copper, TCLP	7440-50-8	E444	9.35 mg/L	10 mg/L	93.5	50.0	140	----
		Iron, TCLP	7439-89-6	E444	47.4 mg/L	50 mg/L	94.9	50.0	140	----
		Lead, TCLP	7439-92-1	E444	9.48 mg/L	10 mg/L	94.8	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	21.4 mg/L	25 mg/L	85.5	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	9.40 mg/L	10 mg/L	94.0	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	9.87 mg/L	10 mg/L	98.7	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.098 mg/L	0.1 mg/L	98.0	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	9.4 mg/L	10 mg/L	94.3	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	9.48 mg/L	10 mg/L	94.8	50.0	140	----
		Vanadium, TCLP	7440-62-2	E444	9.59 mg/L	10 mg/L	95.9	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	9.73 mg/L	10 mg/L	97.3	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	10 mg/L	10 mg/L	96.7	50.0	140	----
TCLP Metals (QCLot: 1259156)										
EO2310960-001	Anonymous	Antimony, TCLP	7440-36-0	E444	8.74 mg/L	10 mg/L	87.4	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	9.0 mg/L	10 mg/L	90.0	50.0	140	----



Sub-Matrix: Soil/Solid					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
TCLP Metals (QCLot: 1259156) - continued										
EO2310960-001	Anonymous	Barium, TCLP	7440-39-3	E444	11.3 mg/L	12.5 mg/L	90.3	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	9.07 mg/L	10 mg/L	90.7	50.0	140	----
		Boron, TCLP	7440-42-8	E444	8.98 mg/L	10 mg/L	89.8	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	8.57 mg/L	10 mg/L	85.7	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	25 mg/L	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	8.79 mg/L	10 mg/L	87.9	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	8.88 mg/L	10 mg/L	88.8	50.0	140	----
		Copper, TCLP	7440-50-8	E444	8.84 mg/L	10 mg/L	88.4	50.0	140	----
		Iron, TCLP	7439-89-6	E444	43.0 mg/L	50 mg/L	86.0	50.0	140	----
		Lead, TCLP	7439-92-1	E444	8.31 mg/L	10 mg/L	83.1	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	22.8 mg/L	25 mg/L	91.4	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	8.74 mg/L	10 mg/L	87.4	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	9.06 mg/L	10 mg/L	90.6	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.099 mg/L	0.1 mg/L	98.9	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	7.8 mg/L	10 mg/L	77.7	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	7.71 mg/L	10 mg/L	77.1	50.0	140	----
		Vanadium, TCLP	7440-62-2	E444	9.00 mg/L	10 mg/L	90.0	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	8.48 mg/L	10 mg/L	84.8	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	7 mg/L	10 mg/L	73.3	50.0	140	----
		Leachable Metals (QCLot: 1217652)								
EO2309073-015	TP23-15-0.1	Arsenic, IVBA (leachate)	7440-38-2	E452	1.64 mg/L	2 mg/L	82.2	75.0	125	----
		Lead, IVBA (leachate)	7439-92-1	E452	1.67 mg/L	2 mg/L	83.5	75.0	125	----
Leachable Metals (QCLot: 1236014)										
EO2309073-039	OMR23-39-0.1	Arsenic, IVBA (leachate)	7440-38-2	E452	1.99 mg/L	2 mg/L	99.5	75.0	125	----
		Lead, IVBA (leachate)	7439-92-1	E452	1.96 mg/L	2 mg/L	97.8	75.0	125	----
Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1170550)										
FC2302881-013	Anonymous	Chloride	16887-00-6	E235.Cl	89.8 mg/L	100 mg/L	89.8	75.0	125	----
Anions and Nutrients (QCLot: 1170551)										
FC2302881-013	Anonymous	Fluoride	16984-48-8	E235.F	0.852 mg/L	1 mg/L	85.2	75.0	125	----
Anions and Nutrients (QCLot: 1170552)										



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1170552) - continued										
FC2302881-013	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	2.38 mg/L	2.5 mg/L	95.4	75.0	125	----
Anions and Nutrients (QCLot: 1170553)										
FC2302881-013	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.427 mg/L	0.5 mg/L	85.4	75.0	125	----
Anions and Nutrients (QCLot: 1170554)										
FC2302881-013	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L	100 mg/L	ND	75.0	125	----
Anions and Nutrients (QCLot: 1172843)										
CG2314063-011	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.106 mg/L	0.1 mg/L	106	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1173597)										
CG2314072-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.08 mg/L	5 mg/L	102	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1178648)										
FC2302925-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.50 mg/L	5 mg/L	90.1	70.0	130	----
Total Metals (QCLot: 1178205)										
EO2309028-002	Anonymous	Aluminum, total	7429-90-5	E420	0.183 mg/L	0.2 mg/L	91.5	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0192 mg/L	0.02 mg/L	95.9	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0195 mg/L	0.02 mg/L	97.5	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0397 mg/L	0.04 mg/L	99.2	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00871 mg/L	0.01 mg/L	87.1	70.0	130	----
		Boron, total	7440-42-8	E420	0.096 mg/L	0.1 mg/L	95.8	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00387 mg/L	0.004 mg/L	96.8	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00993 mg/L	0.01 mg/L	99.3	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0368 mg/L	0.04 mg/L	91.9	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	----
		Copper, total	7440-50-8	E420	0.0184 mg/L	0.02 mg/L	92.1	70.0	130	----
		Iron, total	7439-89-6	E420	1.87 mg/L	2 mg/L	93.4	70.0	130	----
		Lead, total	7439-92-1	E420	0.0182 mg/L	0.02 mg/L	90.8	70.0	130	----
		Lithium, total	7439-93-2	E420	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0192 mg/L	0.02 mg/L	95.9	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0375 mg/L	0.04 mg/L	93.8	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.90 mg/L	10 mg/L	99.0	70.0	130	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1178205) - continued										
EO2309028-002	Anonymous	Potassium, total	7440-09-7	E420	3.56 mg/L	4 mg/L	88.9	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0382 mg/L	0.04 mg/L	95.5	70.0	130	----
		Silicon, total	7440-21-3	E420	9.47 mg/L	10 mg/L	94.7	70.0	130	----
		Silver, total	7440-22-4	E420	0.00385 mg/L	0.004 mg/L	96.2	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	19.0 mg/L	20 mg/L	94.8	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0379 mg/L	0.04 mg/L	94.7	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00361 mg/L	0.004 mg/L	90.3	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0193 mg/L	0.02 mg/L	96.5	70.0	130	----
		Tin, total	7440-31-5	E420	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0380 mg/L	0.04 mg/L	94.9	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0192 mg/L	0.02 mg/L	96.0	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00379 mg/L	0.004 mg/L	94.7	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0979 mg/L	0.1 mg/L	97.9	70.0	130	----
		Zinc, total	7440-66-6	E420	0.349 mg/L	0.4 mg/L	87.3	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0387 mg/L	0.04 mg/L	96.7	70.0	130	----
Total Metals (QCLot: 1178206)										
EO2309073-049	DUP-5	Aluminum, total	7429-90-5	E420	0.179 mg/L	0.2 mg/L	89.3	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0187 mg/L	0.02 mg/L	93.7	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0193 mg/L	0.02 mg/L	96.3	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0378 mg/L	0.04 mg/L	94.4	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00906 mg/L	0.01 mg/L	90.6	70.0	130	----
		Boron, total	7440-42-8	E420	0.086 mg/L	0.1 mg/L	85.6	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00399 mg/L	0.004 mg/L	99.7	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00986 mg/L	0.01 mg/L	98.6	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0384 mg/L	0.04 mg/L	95.9	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0197 mg/L	0.02 mg/L	98.5	70.0	130	----
		Copper, total	7440-50-8	E420	0.0192 mg/L	0.02 mg/L	96.1	70.0	130	----
		Iron, total	7439-89-6	E420	1.94 mg/L	2 mg/L	97.2	70.0	130	----
		Lead, total	7439-92-1	E420	0.0186 mg/L	0.02 mg/L	92.8	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0959 mg/L	0.1 mg/L	95.9	70.0	130	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Total Metals (QCLot: 1178206) - continued										
EO2309073-049	DUP-5	Magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0183 mg/L	0.02 mg/L	91.7	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0185 mg/L	0.02 mg/L	92.6	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0392 mg/L	0.04 mg/L	97.9	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.73 mg/L	10 mg/L	97.3	70.0	130	----
		Potassium, total	7440-09-7	E420	3.82 mg/L	4 mg/L	95.6	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0401 mg/L	0.04 mg/L	100	70.0	130	----
		Silicon, total	7440-21-3	E420	9.47 mg/L	10 mg/L	94.7	70.0	130	----
		Silver, total	7440-22-4	E420	0.00383 mg/L	0.004 mg/L	95.7	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	18.9 mg/L	20 mg/L	94.6	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0389 mg/L	0.04 mg/L	97.3	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00366 mg/L	0.004 mg/L	91.6	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0191 mg/L	0.02 mg/L	95.3	70.0	130	----
		Tin, total	7440-31-5	E420	0.0187 mg/L	0.02 mg/L	93.6	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0379 mg/L	0.04 mg/L	94.7	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0186 mg/L	0.02 mg/L	92.9	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00380 mg/L	0.004 mg/L	95.0	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.1000 mg/L	0.1 mg/L	100.0	70.0	130	----
		Zinc, total	7440-66-6	E420	0.367 mg/L	0.4 mg/L	91.8	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0379 mg/L	0.04 mg/L	94.7	70.0	130	----
Dissolved Metals (QCLot: 1173480)										
EO2309028-011	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.180 mg/L	0.2 mg/L	90.1	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0188 mg/L	0.02 mg/L	94.0	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0417 mg/L	0.04 mg/L	104	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00858 mg/L	0.01 mg/L	85.8	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.098 mg/L	0.1 mg/L	98.1	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00387 mg/L	0.004 mg/L	96.8	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	4 mg/L	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00957 mg/L	0.01 mg/L	95.7	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1173480) - continued										
EO2309028-011	Anonymous	Cobalt, dissolved	7440-48-4	E421	0.0189 mg/L	0.02 mg/L	94.3	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0183 mg/L	0.02 mg/L	91.7	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.85 mg/L	2 mg/L	92.4	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0181 mg/L	0.02 mg/L	90.5	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.100 mg/L	0.1 mg/L	100	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	1 mg/L	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0180 mg/L	0.02 mg/L	89.8	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0196 mg/L	0.02 mg/L	98.2	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0381 mg/L	0.04 mg/L	95.3	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.56 mg/L	10 mg/L	95.6	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	3.41 mg/L	4 mg/L	85.2	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0186 mg/L	0.02 mg/L	93.3	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0413 mg/L	0.04 mg/L	103	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.56 mg/L	10 mg/L	95.6	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00382 mg/L	0.004 mg/L	95.6	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	2 mg/L	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	ND mg/L	20 mg/L	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0386 mg/L	0.04 mg/L	96.6	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00366 mg/L	0.004 mg/L	91.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0197 mg/L	0.02 mg/L	98.5	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0194 mg/L	0.02 mg/L	97.2	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0382 mg/L	0.04 mg/L	95.6	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0188 mg/L	0.02 mg/L	94.0	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00358 mg/L	0.004 mg/L	89.4	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0969 mg/L	0.1 mg/L	96.9	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.358 mg/L	0.4 mg/L	89.6	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0396 mg/L	0.04 mg/L	99.0	70.0	130	----



Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:

Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report			
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%)	
							Low	High
Physical Tests (QCLot: 1181266)								
	RM	pH (1:2 soil:water)	----	E108	8.06 pH units	100	96.0	104
Physical Tests (QCLot: 1181267)								
	RM	pH (1:2 soil:water)	----	E108	8.06 pH units	100	96.0	104
Physical Tests (QCLot: 1181268)								
	RM	pH (1:2 soil:water)	----	E108	8.06 pH units	100	96.0	104
Physical Tests (QCLot: 1181798)								
	RM	pH (1:2 soil:CaCl2-aq)	----	E108B	7.74 pH units	98.8	96.0	104
Physical Tests (QCLot: 1181799)								
	RM	pH (1:2 soil:CaCl2-aq)	----	E108B	7.74 pH units	97.5	96.0	104
Physical Tests (QCLot: 1181800)								
	RM	pH (1:2 soil:CaCl2-aq)	----	E108B	7.74 pH units	98.4	96.0	104
Particle Size (QCLot: 1180956)								
	RM	Sand (>0.075mm)	----	E178	38.6 %	96.9	86.0	114
Organic / Inorganic Carbon (QCLot: 1176485)								
	RM	Carbon, inorganic [IC]	----	E354	0.383 %	104	80.0	120
Organic / Inorganic Carbon (QCLot: 1176487)								
	RM	Carbon, inorganic [IC]	----	E354	0.383 %	98.3	80.0	120
Organic / Inorganic Carbon (QCLot: 1178293)								
	RM	Carbon, total [TC]	----	E351	1.4 %	106	80.0	120
Organic / Inorganic Carbon (QCLot: 1178294)								
	RM	Carbon, total [TC]	----	E351	1.4 %	101	80.0	120
Organic / Inorganic Carbon (QCLot: 1178663)								
	RM	Carbon, inorganic [IC]	----	E354	0.383 %	103	80.0	120
Organic / Inorganic Carbon (QCLot: 1181137)								
	RM	Carbon, total [TC]	----	E351	1.4 %	94.5	80.0	120
Plant Available Nutrients (QCLot: 1177327)								
	RM	Sulfate, available (as S)	14808-79-8	E497.SO4	459 mg/kg	104	70.0	130
Plant Available Nutrients (QCLot: 1177342)								



Sub-Matrix:					Reference Material (RM) Report				
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%)		Qualifier
							Low	High	
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method					
Plant Available Nutrients (QCLot: 1177342) - continued									
	RM	Sulfate, available (as S)	14808-79-8	E497.SO4	459 mg/kg	97.7	70.0	130	----
Plant Available Nutrients (QCLot: 1177343)									
	RM	Sulfate, available (as S)	14808-79-8	E497.SO4	459 mg/kg	99.8	70.0	130	----
Plant Available Nutrients (QCLot: 1177364)									
	RM	Ammonium, available (as N)	14798-03-9	E312A	70.1 mg/kg	86.0	80.0	120	----
Plant Available Nutrients (QCLot: 1177367)									
	RM	Ammonium, available (as N)	14798-03-9	E312A	70.1 mg/kg	101	80.0	120	----
Plant Available Nutrients (QCLot: 1177373)									
	RM	Ammonium, available (as N)	14798-03-9	E312A	70.1 mg/kg	94.5	80.0	120	----
Saturated Paste Extractables (QCLot: 1181221)									
	RM	Conductivity, saturated paste	----	E102	5970 µS/cm	94.6	80.0	120	----
Saturated Paste Extractables (QCLot: 1181222)									
	RM	Chloride, soluble ion content	16887-00-6	E266.Cl	1237 mg/L	87.0	70.0	130	----
Saturated Paste Extractables (QCLot: 1181223)									
	RM	% Saturation	----	E141	48.3 %	92.0	80.0	120	----
Saturated Paste Extractables (QCLot: 1181224)									
	RM	Calcium, soluble ion content	7440-70-2	E485	776 mg/L	97.4	70.0	130	----
	RM	Magnesium, soluble ion content	7439-95-4	E485	261 mg/L	87.9	70.0	130	----
	RM	Potassium, soluble ion content	7440-09-7	E485	111 mg/L	87.8	70.0	130	----
	RM	Sodium, soluble ion content	17341-25-2	E485	330 mg/L	97.6	70.0	130	----
	RM	Sulfur (as SO4), soluble ion content	14808-79-8	E485	1841 mg/L	92.4	70.0	130	----
Saturated Paste Extractables (QCLot: 1181225)									
	RM	Calcium, soluble ion content	7440-70-2	E485	776 mg/L	112	70.0	130	----
	RM	Magnesium, soluble ion content	7439-95-4	E485	261 mg/L	98.6	70.0	130	----
	RM	Potassium, soluble ion content	7440-09-7	E485	111 mg/L	93.8	70.0	130	----
	RM	Sodium, soluble ion content	17341-25-2	E485	330 mg/L	104	70.0	130	----
	RM	Sulfur (as SO4), soluble ion content	14808-79-8	E485	1841 mg/L	96.0	70.0	130	----
Saturated Paste Extractables (QCLot: 1181226)									
	RM	Conductivity, saturated paste	----	E102	5970 µS/cm	102	80.0	120	----
Saturated Paste Extractables (QCLot: 1181227)									
	RM	Chloride, soluble ion content	16887-00-6	E266.Cl	1237 mg/L	85.8	70.0	130	----
Saturated Paste Extractables (QCLot: 1181228)									



Sub-Matrix:					Reference Material (RM) Report				
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%)		Qualifier
							Low	High	
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method					
Saturated Paste Extractables (QCLot: 1181228) - continued									
	RM	% Saturation	----	E141	48.3 %	96.6	80.0	120	----
Saturated Paste Extractables (QCLot: 1181229)									
	RM	Calcium, soluble ion content	7440-70-2	E485	776 mg/L	112	70.0	130	----
	RM	Magnesium, soluble ion content	7439-95-4	E485	261 mg/L	99.4	70.0	130	----
	RM	Potassium, soluble ion content	7440-09-7	E485	111 mg/L	95.2	70.0	130	----
	RM	Sodium, soluble ion content	17341-25-2	E485	330 mg/L	104	70.0	130	----
	RM	Sulfur (as SO4), soluble ion content	14808-79-8	E485	1841 mg/L	96.5	70.0	130	----
Saturated Paste Extractables (QCLot: 1181230)									
	RM	Conductivity, saturated paste	----	E102	5970 µS/cm	97.8	80.0	120	----
Saturated Paste Extractables (QCLot: 1181231)									
	RM	Chloride, soluble ion content	16887-00-6	E266.Cl	1237 mg/L	86.1	70.0	130	----
Saturated Paste Extractables (QCLot: 1181232)									
	RM	% Saturation	----	E141	48.3 %	89.7	80.0	120	----
Metals (QCLot: 1180744)									
	RM	Mercury	7439-97-6	E510	0.062 mg/kg	83.1	70.0	130	----
Metals (QCLot: 1180745)									
	RM	Aluminum	7429-90-5	E440	9817 mg/kg	112	70.0	130	----
	RM	Antimony	7440-36-0	E440	3.99 mg/kg	97.5	70.0	130	----
	RM	Arsenic	7440-38-2	E440	3.73 mg/kg	113	70.0	130	----
	RM	Barium	7440-39-3	E440	105 mg/kg	112	70.0	130	----
	RM	Beryllium	7440-41-7	E440	0.349 mg/kg	107	70.0	130	----
	RM	Boron	7440-42-8	E440	8.5 mg/kg	112	40.0	160	----
	RM	Cadmium	7440-43-9	E440	0.91 mg/kg	100	70.0	130	----
	RM	Calcium	7440-70-2	E440	31082 mg/kg	95.2	70.0	130	----
	RM	Chromium	7440-47-3	E440	101 mg/kg	109	70.0	130	----
	RM	Cobalt	7440-48-4	E440	6.9 mg/kg	106	70.0	130	----
	RM	Copper	7440-50-8	E440	123 mg/kg	107	70.0	130	----
	RM	Iron	7439-89-6	E440	23558 mg/kg	108	70.0	130	----
	RM	Lead	7439-92-1	E440	267 mg/kg	100	70.0	130	----
	RM	Lithium	7439-93-2	E440	9.5 mg/kg	112	70.0	130	----
	RM	Magnesium	7439-95-4	E440	5509 mg/kg	111	70.0	130	----
	RM	Manganese	7439-96-5	E440	269 mg/kg	112	70.0	130	----



Sub-Matrix:					Reference Material (RM) Report				
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%)		Qualifier
							Low	High	
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method					
Metals (QCLot: 1180745) - continued									
	RM	Molybdenum	7439-98-7	E440	1.03 mg/kg	105	70.0	130	----
	RM	Nickel	7440-02-0	E440	26.7 mg/kg	108	70.0	130	----
	RM	Phosphorus	7723-14-0	E440	752 mg/kg	101	70.0	130	----
	RM	Potassium	7440-09-7	E440	1587 mg/kg	112	70.0	130	----
	RM	Silver	7440-22-4	E440	4.06 mg/kg	89.4	70.0	130	----
	RM	Sodium	7440-23-5	E440	797 mg/kg	106	70.0	130	----
	RM	Strontium	7440-24-6	E440	86.1 mg/kg	103	70.0	130	----
	RM	Thallium	7440-28-0	E440	0.0786 mg/kg	111	40.0	160	----
	RM	Tin	7440-31-5	E440	10.6 mg/kg	96.2	70.0	130	----
	RM	Titanium	7440-32-6	E440	839 mg/kg	102	70.0	130	----
	RM	Uranium	7440-61-1	E440	0.52 mg/kg	107	70.0	130	----
	RM	Vanadium	7440-62-2	E440	32.7 mg/kg	109	70.0	130	----
	RM	Zinc	7440-66-6	E440	297 mg/kg	106	70.0	130	----
	RM	Zirconium	7440-67-7	E440	5.73 mg/kg	103	70.0	130	----
Metals (QCLot: 1181140)									
	RM	Aluminum	7429-90-5	E440	9817 mg/kg	94.6	70.0	130	----
	RM	Antimony	7440-36-0	E440	3.99 mg/kg	102	70.0	130	----
	RM	Arsenic	7440-38-2	E440	3.73 mg/kg	96.4	70.0	130	----
	RM	Barium	7440-39-3	E440	105 mg/kg	99.6	70.0	130	----
	RM	Beryllium	7440-41-7	E440	0.349 mg/kg	97.2	70.0	130	----
	RM	Boron	7440-42-8	E440	8.5 mg/kg	104	40.0	160	----
	RM	Cadmium	7440-43-9	E440	0.91 mg/kg	93.4	70.0	130	----
	RM	Calcium	7440-70-2	E440	31082 mg/kg	91.7	70.0	130	----
	RM	Chromium	7440-47-3	E440	101 mg/kg	98.9	70.0	130	----
	RM	Cobalt	7440-48-4	E440	6.9 mg/kg	97.5	70.0	130	----
	RM	Copper	7440-50-8	E440	123 mg/kg	95.4	70.0	130	----
	RM	Iron	7439-89-6	E440	23558 mg/kg	97.9	70.0	130	----
	RM	Lead	7439-92-1	E440	267 mg/kg	94.1	70.0	130	----
	RM	Lithium	7439-93-2	E440	9.5 mg/kg	103	70.0	130	----
	RM	Magnesium	7439-95-4	E440	5509 mg/kg	99.3	70.0	130	----
	RM	Manganese	7439-96-5	E440	269 mg/kg	98.1	70.0	130	----



Sub-Matrix:					Reference Material (RM) Report				
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%)		Qualifier
							Low	High	
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method					
Metals (QCLot: 1181140) - continued									
	RM	Molybdenum	7439-98-7	E440	1.03 mg/kg	99.2	70.0	130	----
	RM	Nickel	7440-02-0	E440	26.7 mg/kg	98.0	70.0	130	----
	RM	Phosphorus	7723-14-0	E440	752 mg/kg	92.2	70.0	130	----
	RM	Potassium	7440-09-7	E440	1587 mg/kg	98.6	70.0	130	----
	RM	Silver	7440-22-4	E440	4.06 mg/kg	96.9	70.0	130	----
	RM	Sodium	7440-23-5	E440	797 mg/kg	87.4	70.0	130	----
	RM	Strontium	7440-24-6	E440	86.1 mg/kg	99.0	70.0	130	----
	RM	Thallium	7440-28-0	E440	0.0786 mg/kg	103	40.0	160	----
	RM	Tin	7440-31-5	E440	10.6 mg/kg	94.8	70.0	130	----
	RM	Titanium	7440-32-6	E440	839 mg/kg	94.3	70.0	130	----
	RM	Uranium	7440-61-1	E440	0.52 mg/kg	88.6	70.0	130	----
	RM	Vanadium	7440-62-2	E440	32.7 mg/kg	96.9	70.0	130	----
	RM	Zinc	7440-66-6	E440	297 mg/kg	96.1	70.0	130	----
	RM	Zirconium	7440-67-7	E440	5.73 mg/kg	96.0	70.0	130	----
Metals (QCLot: 1181141)									
	RM	Mercury	7439-97-6	E510	0.062 mg/kg	95.0	70.0	130	----
Metals (QCLot: 1181737)									
	RM	Mercury	7439-97-6	E510	0.062 mg/kg	80.2	70.0	130	----
Metals (QCLot: 1181738)									
	RM	Aluminum	7429-90-5	E440	9817 mg/kg	97.6	70.0	130	----
	RM	Antimony	7440-36-0	E440	3.99 mg/kg	89.5	70.0	130	----
	RM	Arsenic	7440-38-2	E440	3.73 mg/kg	95.0	70.0	130	----
	RM	Barium	7440-39-3	E440	105 mg/kg	101	70.0	130	----
	RM	Beryllium	7440-41-7	E440	0.349 mg/kg	92.9	70.0	130	----
	RM	Boron	7440-42-8	E440	8.5 mg/kg	107	40.0	160	----
	RM	Cadmium	7440-43-9	E440	0.91 mg/kg	96.5	70.0	130	----
	RM	Calcium	7440-70-2	E440	31082 mg/kg	87.5	70.0	130	----
	RM	Chromium	7440-47-3	E440	101 mg/kg	95.8	70.0	130	----
	RM	Cobalt	7440-48-4	E440	6.9 mg/kg	95.1	70.0	130	----
	RM	Copper	7440-50-8	E440	123 mg/kg	95.0	70.0	130	----
	RM	Iron	7439-89-6	E440	23558 mg/kg	96.4	70.0	130	----



Sub-Matrix:					Reference Material (RM) Report				
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%)		Qualifier
							Low	High	
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method					
Metals (QCLot: 1181738) - continued									
	RM	Lead	7439-92-1	E440	267 mg/kg	90.7	70.0	130	----
	RM	Lithium	7439-93-2	E440	9.5 mg/kg	97.8	70.0	130	----
	RM	Magnesium	7439-95-4	E440	5509 mg/kg	97.5	70.0	130	----
	RM	Manganese	7439-96-5	E440	269 mg/kg	95.6	70.0	130	----
	RM	Molybdenum	7439-98-7	E440	1.03 mg/kg	92.6	70.0	130	----
	RM	Nickel	7440-02-0	E440	26.7 mg/kg	96.3	70.0	130	----
	RM	Phosphorus	7723-14-0	E440	752 mg/kg	96.2	70.0	130	----
	RM	Potassium	7440-09-7	E440	1587 mg/kg	99.7	70.0	130	----
	RM	Silver	7440-22-4	E440	4.06 mg/kg	94.5	70.0	130	----
	RM	Sodium	7440-23-5	E440	797 mg/kg	98.4	70.0	130	----
	RM	Strontium	7440-24-6	E440	86.1 mg/kg	94.1	70.0	130	----
	RM	Thallium	7440-28-0	E440	0.0786 mg/kg	97.6	40.0	160	----
	RM	Tin	7440-31-5	E440	10.6 mg/kg	94.5	70.0	130	----
	RM	Titanium	7440-32-6	E440	839 mg/kg	96.7	70.0	130	----
	RM	Uranium	7440-61-1	E440	0.52 mg/kg	87.7	70.0	130	----
	RM	Vanadium	7440-62-2	E440	32.7 mg/kg	95.2	70.0	130	----
	RM	Zinc	7440-66-6	E440	297 mg/kg	94.7	70.0	130	----
	RM	Zirconium	7440-67-7	E440	5.73 mg/kg	92.7	70.0	130	----
Metals (QCLot: 1217651)									
	SCP SS-2	Arsenic	7440-38-2	E440B	3.73 mg/kg	119	70.0	130	----
	SCP SS-2	Lead	7439-92-1	E440B	267 mg/kg	110	70.0	130	----
Metals (QCLot: 1236013)									
	SCP SS-2	Arsenic	7440-38-2	E440B	3.73 mg/kg	93.7	70.0	130	----
	SCP SS-2	Lead	7439-92-1	E440B	267 mg/kg	97.3	70.0	130	----



CERTIFICATE OF ANALYSIS

Work Order	: LE2316161	Page	: 1 of 5
Client	: ALS Laboratory Group Vancouver	Project	: EO2309073
Contact	: Megha Walia	Purchase Number	: EO2309073
Address	: NW Edmonton AB 9450-17 Avenue, Canada	Sampler	: ----
E-mail	: alsedclientservices@alsglobal.com	Site	: ----
Telephone	: ----	Date Samples Received	: 2023-11-06 09:43
C-O-C number	: ----	Date Analysis Commenced	: 2023-11-07
Quote number	: HL2023SE-ALS-VAN0001 (OF231442)	Issue Date	: 2023-11-09 12:05
		No. of samples received	: 10
		No. of samples analysed	: 10

General Comments

This certificate represents the original certificate and may not be modified or reproduced other than in full, except with the prior written approval of the issuing lab. The results apply only to the material that has been identified, received, and tested. The laboratory has no responsibility for information in this certificate that has been provided by the customer, or results that may be affected by such information. Regarding the laboratory's liability in relation to assignment, please refer to our website <http://www.alsglobal.se>

Signatories

Position

Emma Engstrom

Laboratory Manager

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Analytical Results

Client sample ID

Laboratory sample ID

Client sampling date / time

Sub-Matrix

EO2309073-005

LE2316161-001

2023-09-28

SOIL

Parameter	Result	MU	Unit	LOR	Method	Issuer
Sample Preparation						
P-As-S						
Extraction	Yes *	----	-	-	S-P62	LE
Organometallic compounds						
OJ-19d						
Arsenic (III)	1.55 *	----	mg/kg	0.0100	S-HPLC-62	LE
Arsenic (V)	25.9 *	----	mg/kg	0.0100	S-HPLC-62	LE
Dimethylarsinate	0.0904 *	----	mg/kg	0.0100	S-HPLC-62	LE
Monomethylarsonate(V)	<0.02 *	----	mg/kg	0.0200	S-HPLC-62	LE

Client sample ID

Laboratory sample ID

Client sampling date / time

Sub-Matrix

EO2309073-006

LE2316161-002

2023-09-28

SOIL

Parameter	Result	MU	Unit	LOR	Method	Issuer
Sample Preparation						
P-As-S						
Extraction	Yes *	----	-	-	S-P62	LE
Organometallic compounds						
OJ-19d						
Arsenic (III)	88.8 *	----	mg/kg	0.0100	S-HPLC-62	LE
Arsenic (V)	4.52 *	----	mg/kg	0.0100	S-HPLC-62	LE
Dimethylarsinate	0.0353 *	----	mg/kg	0.0100	S-HPLC-62	LE
Monomethylarsonate(V)	<0.02 *	----	mg/kg	0.0200	S-HPLC-62	LE

Client sample ID

Laboratory sample ID

Client sampling date / time

Sub-Matrix

EO2309073-008

LE2316161-003

2023-09-28

SOIL

Parameter	Result	MU	Unit	LOR	Method	Issuer
Sample Preparation						
P-As-S						
Extraction	Yes *	----	-	-	S-P62	LE
Organometallic compounds						
OJ-19d						
Arsenic (III)	5.96 *	----	mg/kg	0.0100	S-HPLC-62	LE
Arsenic (V)	12.0 *	----	mg/kg	0.0100	S-HPLC-62	LE
Dimethylarsinate	0.0401 *	----	mg/kg	0.0100	S-HPLC-62	LE
Monomethylarsonate(V)	<0.02 *	----	mg/kg	0.0200	S-HPLC-62	LE



Client sample ID

Laboratory sample ID

Client sampling date / time

Sub-Matrix

EO2309073-015

LE2316161-004

2023-09-28

SOIL

Parameter	Result	MU	Unit	LOR	Method	Issuer
Sample Preparation						
P-As-S						
Extraction	Yes *	----	-	-	S-P62	LE
Organometallic compounds						
OJ-19d						
Arsenic (III)	0.911 *	----	mg/kg	0.0100	S-HPLC-62	LE
Arsenic (V)	21.9 *	----	mg/kg	0.0100	S-HPLC-62	LE
Dimethylarsinate	0.0246 *	----	mg/kg	0.0100	S-HPLC-62	LE
Monomethylarsonate(V)	<0.02 *	----	mg/kg	0.0200	S-HPLC-62	LE

Client sample ID

Laboratory sample ID

Client sampling date / time

Sub-Matrix

EO2309073-018

LE2316161-005

2023-09-28

SOIL

Parameter	Result	MU	Unit	LOR	Method	Issuer
Sample Preparation						
P-As-S						
Extraction	Yes *	----	-	-	S-P62	LE
Organometallic compounds						
OJ-19d						
Arsenic (III)	219 *	----	mg/kg	0.0100	S-HPLC-62	LE
Arsenic (V)	7.80 *	----	mg/kg	0.0100	S-HPLC-62	LE
Dimethylarsinate	0.154 *	----	mg/kg	0.0100	S-HPLC-62	LE
Monomethylarsonate(V)	0.0258 *	----	mg/kg	0.0200	S-HPLC-62	LE

Client sample ID

Laboratory sample ID

Client sampling date / time

Sub-Matrix

EO2309073-023

LE2316161-006

2023-09-28

SOIL

Parameter	Result	MU	Unit	LOR	Method	Issuer
Sample Preparation						
P-As-S						
Extraction	Yes *	----	-	-	S-P62	LE
Organometallic compounds						
OJ-19d						
Arsenic (III)	6.67 *	----	mg/kg	0.0100	S-HPLC-62	LE
Arsenic (V)	9.75 *	----	mg/kg	0.0100	S-HPLC-62	LE
Dimethylarsinate	0.0835 *	----	mg/kg	0.0100	S-HPLC-62	LE
Monomethylarsonate(V)	0.0389 *	----	mg/kg	0.0200	S-HPLC-62	LE



Client sample ID

Laboratory sample ID

Client sampling date / time

Sub-Matrix

EO2309073-040

LE2316161-007

2023-09-28

SOIL

Parameter	Result	MU	Unit	LOR	Method	Issuer
Sample Preparation						
P-As-S						
Extraction	Yes *	----	-	-	S-P62	LE
Organometallic compounds						
OJ-19d						
Arsenic (III)	1.65 *	----	mg/kg	0.0100	S-HPLC-62	LE
Arsenic (V)	28.5 *	----	mg/kg	0.0100	S-HPLC-62	LE
Dimethylarsinate	<0.01 *	----	mg/kg	0.0100	S-HPLC-62	LE
Monomethylarsonate(V)	<0.02 *	----	mg/kg	0.0200	S-HPLC-62	LE

Client sample ID

Laboratory sample ID

Client sampling date / time

Sub-Matrix

EO2309073-041

LE2316161-008

2023-09-28

SOIL

Parameter	Result	MU	Unit	LOR	Method	Issuer
Sample Preparation						
P-As-S						
Extraction	Yes *	----	-	-	S-P62	LE
Organometallic compounds						
OJ-19d						
Arsenic (III)	3.37 *	----	mg/kg	0.0100	S-HPLC-62	LE
Arsenic (V)	68.3 *	----	mg/kg	0.0100	S-HPLC-62	LE
Dimethylarsinate	<0.01 *	----	mg/kg	0.0100	S-HPLC-62	LE
Monomethylarsonate(V)	<0.02 *	----	mg/kg	0.0200	S-HPLC-62	LE

Client sample ID

Laboratory sample ID

Client sampling date / time

Sub-Matrix

EO2309073-042

LE2316161-009

2023-09-28

SOIL

Parameter	Result	MU	Unit	LOR	Method	Issuer
Sample Preparation						
P-As-S						
Extraction	Yes *	----	-	-	S-P62	LE
Organometallic compounds						
OJ-19d						
Arsenic (III)	2.47 *	----	mg/kg	0.0100	S-HPLC-62	LE
Arsenic (V)	23.7 *	----	mg/kg	0.0100	S-HPLC-62	LE
Dimethylarsinate	<0.01 *	----	mg/kg	0.0100	S-HPLC-62	LE
Monomethylarsonate(V)	<0.02 *	----	mg/kg	0.0200	S-HPLC-62	LE



Client sample ID EO2309073-020_AD
Laboratory sample ID LE2316161-010
Client sampling date / time 2023-09-28
Sub-Matrix SOIL

Parameter	Result	MU	Unit	LOR	Method	Issuer
Sample Preparation						
P-As-S						
Extraction	Yes *	----	-	-	S-P62	LE
Organometallic compounds						
OJ-19d						
Arsenic (III)	5.96 *	----	mg/kg	0.0100	S-HPLC-62	LE
Arsenic (V)	22.8 *	----	mg/kg	0.0100	S-HPLC-62	LE
Dimethylarsinate	0.191 *	----	mg/kg	0.0100	S-HPLC-62	LE
Monomethylarsonate(V)	<0.02 *	----	mg/kg	0.0200	S-HPLC-62	LE

The end of result part of the certificate of analysis

Brief Method Summaries

Analytical Methods	Method Reference
S-HPLC-62*	Arsenic speciation in soil, sludge and sediment by HPLC-ICP according to SOP-0601.

Preparation Methods	Method Reference
S-EU-not*	Sample from outside EU
S-P62*	Arsenic extraction according to SOP-0601.

Key: LOR = Limit of reporting represents the standard LOR for the respective parameters in each method. 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.
MU = Measurement Uncertainty
* = Symbol succeeding any result indicates laboratory or subcontractor non-accredited test.

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

Issuing lab

	Issuer
LE	The analysis is provided by ALS Scandinavia AB Luleå, Aurorum 10 Luleå Sweden 977 75 Accredited by: SWEDAC Accreditation Number: 2030, ISO/IEC 17025



Report To		Contact and company name below will appear on the final report		
Company:		Associated Environmental Consultants		
Contact:		REBEKA LINDSKOG		
Phone:		250-938-5528		
Street:		Company address below will appear on the final report		
City/Province:		Edmonton, Alberta		
Postal Code:		T5J 6L6		
Invoice To		Same as Report To		
Company:		Copy of Invoice with Report		
Contact:		Associated Environmental Consultants Inc.		
ALS Account # / Quote #		Project Information		
Job #:		2023-8451		
PO / A/E:		2023-8451		
LSD:		Location:		
ALS Lab Work Order # (ALS use only):		ALS Contact: Megha Malik		
ALS Sample # (ALS use only)		Sample Identification and/or Coordinates (This description will appear on the report)		
		Date		
		Time		
		Sample Type		
	IP23-01-0.2	27-SEP-23	13:15	Soil
	IP23-02-0.2	27-SEP-23		
	IP23-03-0.1	27-SEP-23		
	IP23-04-0.1	28-SEP-23		
	IP23-05-0.1			
	IP23-06-0.1			
	IP23-07-0.1			
	IP23-08-0.2			
	IP23-09-0.2			
	IP23-10-0.2			
	IP23-11-0.2			
	IP23-12-0.2			
	IP23-13-0.2			
	IP23-14-0.2			
	IP23-15-0.2			
	IP23-16-0.2			
	IP23-17-0.2			
	IP23-18-0.2			
	IP23-19-0.2			
	IP23-20-0.2			
	IP23-21-0.2			
	IP23-22-0.2			
	IP23-23-0.2			
	IP23-24-0.2			
	IP23-25-0.2			
	IP23-26-0.2			
	IP23-27-0.2			
	IP23-28-0.2			
	IP23-29-0.2			
	IP23-30-0.2			
	IP23-31-0.2			
	IP23-32-0.2			
	IP23-33-0.2			
	IP23-34-0.2			
	IP23-35-0.2			
	IP23-36-0.2			
	IP23-37-0.2			
	IP23-38-0.2			
	IP23-39-0.2			
	IP23-40-0.2			
	IP23-41-0.2			
	IP23-42-0.2			
	IP23-43-0.2			
	IP23-44-0.2			
	IP23-45-0.2			
	IP23-46-0.2			
	IP23-47-0.2			
	IP23-48-0.2			
	IP23-49-0.2			
	IP23-50-0.2			
	IP23-51-0.2			
	IP23-52-0.2			
	IP23-53-0.2			
	IP23-54-0.2			
	IP23-55-0.2			
	IP23-56-0.2			
	IP23-57-0.2			
	IP23-58-0.2			
	IP23-59-0.2			
	IP23-60-0.2			
	IP23-61-0.2			
	IP23-62-0.2			
	IP23-63-0.2			
	IP23-64-0.2			
	IP23-65-0.2			
	IP23-66-0.2			
	IP23-67-0.2			
	IP23-68-0.2			
	IP23-69-0.2			
	IP23-70-0.2			
	IP23-71-0.2			
	IP23-72-0.2			
	IP23-73-0.2			
	IP23-74-0.2			
	IP23-75-0.2			
	IP23-76-0.2			
	IP23-77-0.2			
	IP23-78-0.2			
	IP23-79-0.2			
	IP23-80-0.2			
	IP23-81-0.2			
	IP23-82-0.2			
	IP23-83-0.2			
	IP23-84-0.2			
	IP23-85-0.2			
	IP23-86-0.2			
	IP23-87-0.2			
	IP23-88-0.2			
	IP23-89-0.2			
	IP23-90-0.2			
	IP23-91-0.2			
	IP23-92-0.2			
	IP23-93-0.2			
	IP23-94-0.2			
	IP23-95-0.2			
	IP23-96-0.2			
	IP23-97-0.2			
	IP23-98-0.2			
	IP23-99-0.2			
	IP23-100-0.2			
	IP2			

AFFIX ALS BARCODE LABEL HERE
(ALS use only)

Environmental Division
Edmonton
Work Order Reference
EO2309073



Telephone : +1 780 413 5227

Failure to complete all portions of this form may delay analysis. Please fill in this from the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy

REFER TO BACK PAGE FOR ALLOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT 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

COC Number: 20 - 1013253

Page 2 of 5

Contact and company name below will appear on the final report

Reports / Recipients

Turnaround Time (TAT) Requested

Indicate Filled (F), Preserved (P) or Filled and Preserved (FP) below

Analysis Request

SAMPLES ON HOLD

EXTENDED STORAGE REQUIRED

SUSPECTED HAZARD (see notes)

AFFIX ALS BARCODE LABEL HERE (ALS use only)

ROUTINE (R) If received by 3pm M-F - no surcharges apply

4 day (P4) If received by 3pm M-F - 20% rush surcharge minimum

3 day (P3) If received by 3pm M-F - 25% rush surcharge minimum

2 day (P2) If received by 3pm M-F - 50% rush surcharge minimum

1 day (P1) If received by 3pm M-F - 100% rush surcharge minimum

Some day (Z) If received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests

Date and Time Required for all EAP TATs:

For all tests with rush TATs requested, please contact your AM to confirm availability.

Company: Associated Environmental Consultants

Contact: Rebekka Zinkosky

Phone: 403-938-5528

Company address below will appear on the final report

Street: 9988 Jasper Ave

City/Province: Edmonton, Alberta

Postal Code: T5A 5T6

Invoice To: Same as Report To

Copy of Invoice with Report: YES NO

Select Invoice Distribution: FAX MAIL FAX

Select Report Format: PDF EXCEL EDD (DIGITAL)

Merge QC/QCI Reports with COA: YES NO N/A

Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: FAX MAIL FAX

Email 1 or Fax: zinkosky@ae-ca

Email 2: kathy.d@ae-ca

Email 3:

ALS Account # / Quote #: 2023-8451

Job #: 2023-8451

PO / AFE:

Major/Minor Code:

Requisitioner:

Location:

ALS Lab Work Order # (ALS use only):

ALS Contact: Megha Mala

Sample: Aaron

Sample Identification and/or Coordinates (This description will appear on the report)

TP23-13-0.1

TP23-14-0.1

TP23-15-0.1

TP23-16-0.1

TP23-17-0.3

TP23-18-0.1

TP23-19-0.1

TP23-20-0.1

TP23-21-0.3

TP23-22-0.2

TP23-23-0.1

TP23-24-0.2

Drinking Water (DW) Samples (client use)

Are samples taken from a Regulated DW System?

Are samples for human consumption/ use?

Released by: Jack Jenkins

Date: Sep 30, 2023

Time:

Received by:

Date:

Time:

Initial Shipment Reception (ALS use only)

Final Shipment Reception (ALS use only)

White - Laboratory Copy Yellow - Client Copy

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.

AMS 2023 PRELIM



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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 1013254

Page 3 of 5

Report To		Contact and company name below will appear on the final report	
Company:	Associated Environmental Consultants		
Contact:	Rebecca Janksoog		
Phone:	250-938-5528		
Company address below will appear on the final report			
Street:	988 Jasper Ave		
City/Province:	Edmonton, Alberta		
Postal Code:	T5J 5C6		
Invoice To	☒ Same as Report To ☐ YES ☐ NO		
Company:	Copy of Invoice with Report ☒ YES ☐ NO		
Contact:	Associated Environmental David Farber, Rebecca Janksoog		
Project Information			
ALS Account # / Quote #:	2003-8451		
Job #:	2003-8451		
PO / AFE:	AFECost Center: PO#		
LSD:	Major/Minor Code: Routing Code:		
ALS Lab Work Order # (ALS use only):			
ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	ALS Contact: Megha Malik	Sampler: Aaron
	TP23-25-0.1	29-SEP-23	SOIL
	TP23-26-0.2		
	TP23-27-0.1		
	TP23-28-0.2		
	TP23-29-0.3		
	TP23-30-0.4		
	TP23-31-0.5		
	TP23-32-0.3		
	TP23-33-0.1		
	TP23-34-0.2		
	TP23-35-0.2		
	TP23-36-0.2		
Drinking Water (DW) Samples (client use)			
Are samples taken from a Regulated DW System?		Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)	
☐ YES ☒ NO			
Are samples for human consumption/ use?			
☐ YES ☒ NO			
SHIPMENT RELEASE (client use)			
Released by: Jack Jenkins	Date: Sep 30, 2023	Time:	
INITIAL SHIPMENT RECEPTION (ALS use only)			
Received by:	Date:	Time:	
WHITE - LABORATORY COPY YELLOW - CLIENT COPY			
REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION			
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.			
NUMBER OF CONTAINERS		Turnaround Time (TAT) Requested	
Metals		☒ Routine [R] if received by 3pm M-F - no surcharges apply	
TCLP Metals		☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum	
Total Ammonia		☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum	
Organic carbon		☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum	
Sulphate		☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum	
Grain size		☐ Same day [Z2] if received by 10am M-S - 20% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests	
Detailed salinity		Date and Time Required for all EAP TATs:	
Moisture		For all tests with rush TATs requested, please contact your AM to confirm availability.	
Electrical conductivity		Analysis Request	
Indicate Filtered (F), Preserved (P) or Filtered and Preserved (FP) below		AFFIX ALS BARCODE LABEL HERE (ALS use only)	
SAMPLES ON HOLD			
EXTENDED STORAGE REQUIRED			
SUSPECTED HAZARD (see notes)			
SAMPLE RECEIPT DETAILS (ALS use only)			
Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED			
Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO			
Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A			
INITIAL COOLER TEMPERATURES °C: FINAL COOLER TEMPERATURES °C:			



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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 1013255

Page 4 of 5

Report To Company: Associated Environmental Consultants Inc. Contact: Rebecca Zinkovskoy Phone: 250-428-5538 Street: 9888 Jasper Ave City/Province: Edmonton, Alberta Postal Code: T5J 5L6 Invoice To: Same as Report To Company: Associated Environmental Contact: David Batory, Rebecca Zinkovskoy Project Information ALS Account # / Quote #: 2003-8451 Job #: 2003-8451 PO / AFE: LSD: ALS Lab Work Order # (ALS use only):		Reports / Recipients Select Report Format: ☒ PDF ☒ EXCEL ☐ EDO (DIGITAL) Merge QC/QCIC Reports with COA ☒ YES ☐ NO ☐ N/A Compare Results to Criteria on Report - provide details below if box checked Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX Email 1 or Fax: rebecca@ae.ca Email 2: rebecca@ae.ca Email 3: Invoice Recipients Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX Email 1 or Fax: rebecca@ae.ca Email 2: rebecca@ae.ca Email 3: Oil and Gas Required Fields (client use) AFECost Center: Major/Minor Code: Requisitioner: Location:		Turnaround Time (TAT) Requested ☒ Routine [R] if received by 3pm M-F - no surcharges apply ☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum ☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum ☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum ☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum Same day [Z] if received by 10am M-F - 20% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests Date and Time Required for all EAP TATs: Affix ALS BARCODE LABEL HERE (ALS use only)			
Sample Identification and/or Coordinates (This description will appear on the report) TPA3-37-0.1 OMRA3-38-0.1 OMRA3-39-0.1 OMRA3-40-0.1 OMRA3-41-0.1 OMRA3-42-0.1 DUP 1 DUP 2 DUP 3 DUP 4		Date (dd-mm-yy) 29-SEP-23 28-SEP-23 28-SEP-23 29-SEP-23 29-SEP-23 29-SEP-23		Time (hh:mm) SOIL SOIL SOIL SOIL SOIL SOIL		Sample Type SOIL SOIL SOIL SOIL SOIL SOIL	
Drinking Water (DW) Samples (client use) Are samples taken from a Regulated DW System? ☐ YES ☒ NO Are samples for human consumption/ use? ☐ YES ☒ NO		Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)		NUMBER OF CONTAINERS Metals TCLP Metals Total Ammonia Organic carbon Sulphate Grain size Detailed Salinity Moisture Electrical Conductivity		SAMPLES ON HOLD EXTENDED STORAGE REQUIRED SUSPECTED HAZARD (see notes)	
SHIPMENT RELEASE (client use) Released by: Jack Jenkins Date: Sep 30, 2023 Time:		INITIAL SHIPMENT RECEPTION (ALS use only) Received by: Date: Time:		WHITE - LABORATORY COPY COOLING METHOD: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO Cooler Custody Seals Intact: ☐ YES ☐ N/A INITIAL COOLER TEMPERATURES °C: FINAL COOLER TEMPERATURES °C: Time:		YELLOW - CLIENT COPY COOLING METHOD: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO Cooler Custody Seals Intact: ☐ YES ☐ N/A INITIAL COOLER TEMPERATURES °C: FINAL COOLER TEMPERATURES °C: Time:	

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION
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.



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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 1013252

Page 5 of 5

Contact and company name below will appear on the final report

Reports / Recipients

Turnaround Time (TAT) Requested

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Report To

Select Report Format:

PDF ☒ EXCEL ☐ EDD (DIGITAL)

☒ Routine [R] If received by 3pm M-F - no surcharges apply

4 day [F4] If received by 3pm M-F - 20% rush surcharge minimum

Company:

Merge QC/QCI Reports with COA ☒ YES ☐ NO ☐ N/A

3 day [F3] If received by 3pm M-F - 25% rush surcharge minimum

2 day [F2] If received by 3pm M-F - 50% rush surcharge minimum

Contact:

Compare Results to Criteria on Report - provide details below if box checked

1 day [F1] If received by 3pm M-F - 100% rush surcharge minimum

Same day [F0] If received by 10am M-F - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests

Phone:

Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX

Date and Time Required for all EAP TATs:

For all tests with rush TATs requested, please contact your AM to confirm availability.

Street:

Email 1 or Fax ☒ Email 2 ☐ Email 3 ☐

Indicate Filled (F), Preserved (P) or Filtered and Preserved (FP) below

Analysis Request

City/Province:

Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX

SAMPLES ON HOLD

EXTENDED STORAGE REQUIRED

Postal Code:

Invoice Recipients

SUSPECTED HAZARD (see notes)

Company:

Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Contact:

Oil and Gas Required Fields (client use)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

ALS Account # / Quote #:

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Job #:

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

PO / AFE:

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

LSD:

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

ALS Lab Work Order # (ALS use only):

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

ALS Sample # (ALS use only):

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Sample Identification and/or Coordinates (This description will appear on the report)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Date (dd-mm-yy)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Time (hh:mm)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Sample Type

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Drinking Water (DW) Samples (client use)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Are samples taken from a Regulated DW System?

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Are samples for human consumption/ use?

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

SHIPMENT RELEASE (client use)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Released by:

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Date:

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Time:

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Received by:

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Date:

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

Time:

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

AFRIS ALS BARCODE LABEL HERE (ALS use only)

CERTIFICATE OF ANALYSIS

Work Order	: YL2301551	Page	: 1 of 3
Client	: Associated Environmental Consultants Inc.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Gemma Simmons	Account Manager	: Oliver Gregg
Address	: 5103 48 St Unit 201 Yellowknife NT Canada X1A 3S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: 867-689-5315	Telephone	: 1 867 445 7143
Project	: 2023-8451	Date Samples Received	: 01-Nov-2023 11:10
PO	: 2023-8451	Date Analysis Commenced	: 06-Nov-2023
C-O-C number	: ----	Issue Date	: 14-Nov-2023 15:18
Sampler	: Chuck Gordon		
Site	: Tin Can Hill Site Assessment		
Quote number	: YL23-AEC100-003		
No. of samples received	: 2		
No. of samples analysed	: 2		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

Unit	Description
µg/L	micrograms per litre

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
DLA	Detection Limit adjusted for required dilution.
DLCI	Detection Limit Raised: Chromatographic interference due to co-elution.



Analytical Results

Sub-Matrix: Water					Client sample ID	SW23-01-BL	SW23-02-RL	----	----	----
(Matrix: Water)										
					Client sampling date / time	31-Oct-2023 12:30	31-Oct-2023 15:30	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2301551-001	YL2301551-002	-----	-----	-----	
					Result	Result	----	----	----	
Speciated Metals										
Arsenate [As V]	17428-41-0	E539/VA	0.020	µg/L	0.850	196	----	----	----	
Arsenite [As III]	22541-54-4	E539/VA	0.020	µg/L	0.240	<1.00 ^{DLA}	----	----	----	
Arsenobetaine [AsB], (as As)	64436-13-1	E539/VA	0.050	µg/L	<0.050	<2.50 ^{DLA}	----	----	----	
Dimethylarsinic acid [DMA], (as As)	75-60-5	E539/VA	0.020	µg/L	0.029	<1.00 ^{DLA}	----	----	----	
Monomethylarsonic acid [MMA], (as As)	2163-80-6	E539/VA	0.020	µg/L	<0.020	<1.24 ^{DLCI}	----	----	----	

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: YL2301551	Page	: 1 of 5
Client	: Associated Environmental Consultants Inc.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Gemma Simmons	Account Manager	: Oliver Gregg
Address	: 5103 48 St Unit 201 Yellowknife NT Canada X1A 3S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: 867-689-5315	Telephone	: 1 867 445 7143
Project	: 2023-8451	Date Samples Received	: 01-Nov-2023 11:10
PO	: 2023-8451	Issue Date	: 14-Nov-2023 15:18
C-O-C number	: ----		
Sampler	: Chuck Gordon		
Site	: Tin Can Hill Site Assessment		
Quote number	: YL23-AECI100-003		
No. of samples received	: 2		
No. of samples analysed	: 2		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Speciated Metals : Arsenic Species in Water by HPLC-CRC ICPMS										
Opaque HDPE (EDTA+acetic acid) SW23-01-BL	E539	31-Oct-2023	06-Nov-2023	28 days	6 days	✓	06-Nov-2023	28 days	0 days	✓
Speciated Metals : Arsenic Species in Water by HPLC-CRC ICPMS										
Opaque HDPE (EDTA+acetic acid) SW23-02-RL	E539	31-Oct-2023	06-Nov-2023	28 days	6 days	✓	06-Nov-2023	28 days	0 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Arsenic Species in Water by HPLC-CRC ICPMS	E539	1225349	1	2	50.0	5.0	✓
Laboratory Control Samples (LCS)							
Arsenic Species in Water by HPLC-CRC ICPMS	E539	1225349	1	2	50.0	5.0	✓
Method Blanks (MB)							
Arsenic Species in Water by HPLC-CRC ICPMS	E539	1225349	1	2	50.0	5.0	✓
Matrix Spikes (MS)							
Arsenic Species in Water by HPLC-CRC ICPMS	E539	1225349	1	2	50.0	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Arsenic Species in Water by HPLC-CRC ICPMS	E539 ALS Environmental - Vancouver	Water	USGS WRIR 02-4144	Speciated Arsenic (As) Analysis is by reverse phase HPLC-ICPMS. Sample handling, preservation and holding times outlined in USGS Report 02-4144 and AWWA Preservation of Arsenic Species, 2006. Instrumental analysis based on Afton et al, Journal of Chromatography A, 1208 (2008) 156-163 and Agilent Technologies application notes. Filtration is conducted prior to preservation. Results for unfiltered, preserved samples may be elevated due to extraction of arsenic species from particulate matter in the samples. Elevated iron (~100+ ppm) concentrations or sulfidic water can introduce biases to the reported results for some arsenic species.

QUALITY CONTROL REPORT

Work Order	: YL2301551	Page	: 1 of 4
Client	: Associated Environmental Consultants Inc.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Gemma Simmons	Account Manager	: Oliver Gregg
Address	: 5103 48 St Unit 201 Yellowknife NT Canada X1A 3S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	:	Telephone	: 1 867 445 7143
Project	: 2023-8451	Date Samples Received	: 01-Nov-2023 11:10
PO	: 2023-8451	Date Analysis Commenced	: 06-Nov-2023
C-O-C number	: ----	Issue Date	: 14-Nov-2023 15:31
Sampler	: Chuck Gordon 867-689-5315		
Site	: Tin Can Hill Site Assessment		
Quote number	: YL23-AECI100-003		
No. of samples received	: 2		
No. of samples analysed	: 2		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Dan Gebert	Laboratory Analyst	Vancouver Metals, Burnaby, British Columbia



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include 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 predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

- Key :
- Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
 - CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
 - DQO = Data Quality Objective.
 - LOR = Limit of Reporting (detection limit).
 - RPD = Relative Percent Difference
 - # = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Speciated Metals (QC Lot: 1225349)											
YL2301551-001	SW23-01-BL	Arsenate [As V]	17428-41-0	E539	0.020	µg/L	0.850	0.861	1.31%	20%	----
		Arsenite [As III]	22541-54-4	E539	0.020	µg/L	0.240	0.252	4.84%	20%	----
		Arsenobetaine [AsB], (as As)	64436-13-1	E539	0.050	µg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Dimethylarsinic acid [DMA], (as As)	75-60-5	E539	0.020	µg/L	0.029	0.026	0.003	Diff <2x LOR	----
		Monomethylarsonic acid [MMA], (as As)	2163-80-6	E539	0.020	µg/L	<0.020	<0.020	0	Diff <2x LOR	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Speciated Metals (QCLot: 1225349)						
Arsenate [As V]	17428-41-0	E539	0.02	µg/L	<0.020	----
Arsenite [As III]	22541-54-4	E539	0.02	µg/L	<0.020	----
Arsenobetaine [AsB], (as As)	64436-13-1	E539	0.05	µg/L	<0.050	----
Dimethylarsinic acid [DMA], (as As)	75-60-5	E539	0.02	µg/L	<0.020	----
Monomethylarsonic acid [MMA], (as As)	2163-80-6	E539	0.02	µg/L	<0.020	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Speciated Metals (QCLot: 1225349)									
Arsenate [As V]	17428-41-0	E539	0.02	µg/L	1 µg/L	87.4	80.0	120	----
Arsenite [As III]	22541-54-4	E539	0.02	µg/L	1 µg/L	110	80.0	120	----
Arsenobetaine [AsB], (as As)	64436-13-1	E539	0.05	µg/L	2.5 µg/L	109	80.0	120	----
Dimethylarsinic acid [DMA], (as As)	75-60-5	E539	0.02	µg/L	1 µg/L	98.9	80.0	120	----
Monomethylarsonic acid [MMA], (as As)	2163-80-6	E539	0.02	µg/L	1 µg/L	100	80.0	120	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Speciated Metals (QCLot: 1225349)										
YL2301551-002	SW23-02-RL	Arsenate [As V]	17428-41-0	E539	ND µg/L	50 µg/L	ND	70.0	130	----
		Arsenite [As III]	22541-54-4	E539	55.1 µg/L	50 µg/L	110	70.0	130	----
		Arsenobetaine [AsB], (as As)	64436-13-1	E539	130 µg/L	125 µg/L	104	70.0	130	----
		Dimethylarsinic acid [DMA], (as As)	75-60-5	E539	47.2 µg/L	50 µg/L	94.4	70.0	130	----
		Monomethylarsonic acid [MMA], (as As)	2163-80-6	E539	50.1 µg/L	50 µg/L	100	70.0	130	----

COC Number: **22 -**

Page 1 of 1

Canada Toll Free: 1 800 668 8878

Contact and company name below will appear on the final report

Contact and company name below will appear on the final report

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