2023

PHASE 2 ENVIRONMENTAL SITE ASSESSMENT REPORT

1802 – 11th Street SE Calgary, AB

Submitted to:

GBS Development Group Inc.

Completed By: CORE Environmental
a division of CORE Geomatics Group Inc.

March 24, 2023

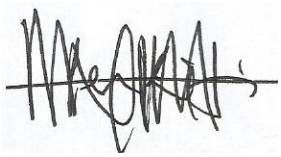
coreenvironmental
a division of CORE Geomatics

March 24, 2023

GBS Development Group Inc.
600 12220 Stony Plain Rd NW,
Edmonton, AB. T5N3Y4.

RE: Phase 2 ESA – 1802 – 11th St. SE Calgary, AB

We trust this report will meet the AEP and City of Calgary's Phase 2 ESA requirements. If you should have any questions, please contact the undersigned at your convenience.



Nnamdi Menkiti, EIT
Environmental Scientist

Mark Cross, RPF
Lead – Environmental / Regulatory Division
Senior Project Manager
780.975.8713
mark.cross@coregeomatics.com

EXECUTIVE SUMMARY

CORE Environmental, a division of CORE Geomatics Group Inc. (CORE) was retained by GBS Development Group Inc (GBS) to conduct a Phase 2 Environmental Site Assessment (ESA) of the Property located at 1802 – 11th Street SE Calgary, AB, herein referred to as "the Site" or "Subject Property".

The Site is approximately 0.55 ha in size and is currently vacant. The Site was a former MFI Terminal operating between 1940 and 1990. The Site formerly contained nine (9) above ground storage tanks (ASTs), two underground storage tanks (USTs), a loading pad, pump house, warehouse and an attached garage. The ASTs were removed between lates 1970s and early 1980s, and the USTs were removed in 1995. Buildings on the property were removed in 2007.

A Phase 1 ESA was completed by Levelton Consultants Ltd. in April 2015, which recommended that Phase 2 ESA be completed due to concerns identified within historical ESA's completed for the Site in 1987,1988, 1993 and 2013, which suggested that eastern half of the Site would not meet current *Alberta Tier 1 Soil and Groundwater Remediation Guidelines* (AEP, 2019) for *Residential Land use*. The west half of the site met Residential criteria.

The objective of the Phase 2 ESA is to identify and characterize potential soil impacts associated with historical operations at the Subject Property, and develop a Remediation Action Plan, if required, for planned excavation works. The program focused on areas of the property that did not previously meet residential guidelines.

Surficial soil deposits encountered consisted of coarse-grained mineral soils and imported fill to a maximum depth of 6.0 meters below grade (mbg).

Hydrocarbon (BTEX, F1-F4) exceedances were identified at only one location (BH23-02) between 3 and 3.5 mbgl. The sources of the hydrocarbon contamination include a former warehouse on the east side of the property which are likely the result of historical fuel spills, and residual impacts which could have remained after the previous remediation activities. Backfill material previously used on the property included segregated materials excavated from the site and materials sourced from Burnco, located in Calgary Alberta, which only met Alberta tier 2 guidelines.

Polycyclic aromatic hydrocarbons (PAHs) exceedances were identified between 1.0 – 3.0 mbgl, to be above Alberta Tier 1 Guidelines within several boreholes at the east and southeast boundaries. Their presence could have been as a result of the historical site use of the property or fill material hauled in during previous remediation activities.

Metals including boron, chromium, and molybdenum were discovered above Alberta Tier 1 Guidelines within boreholes BH23-2, BH23-4, BH23-6, and BH23-8. Exceedances were identified between 0 and 3.0 mbgl. The presence of these metals is consistent with the historical site use as a MFI terminal and bulk station; however, some metals identified during the investigation may be naturally occurring.

Since the Property Development requires excavation for underground parkade and foundation works, CORE recommends that a Remediation Action Plan (RAP) be prepared to address the exceedances identified on the property. CORE recommends that hydrocarbon, PAH, and metal

impacts found on the property be excavated and hauled to a facility for disposal or be used as industrial/commercial fill where appropriate. Additional delineation or confirmatory sampling work post-excavation will also be required to fully delineate and manage exceedances outside the property boundary. Groundwater testing in the installed wells will be completed in spring 2023.

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1 INTRODUCTION

CORE Environmental, a division of CORE Geomatics Group Inc. (CORE) was retained GBS Development Group Inc. (GBS) to conduct a Phase 2 Environmental Site Assessment (ESA) of the Property located at 1802 – 11th Street SE, Calgary, AB.

1.1 SCOPE OF WORK

The scope of work for the project meets the terms of reference for a standard Phase 2 Environmental Site assessment and is consistent with Canadian Standards Association (CSA Z769-00) Phase II ESA (2000, R2018, as amended) and the Government of Alberta's Environmental Site Assessment Standard (Alberta Environment and Park (AEP) 2016) and Phase 2 ESA Checklist (May 2013, as amended). This ESA was also completed in accordance with The City of Calgary Phase II ESA Terms of Reference.

1.1.1 Authorization

Authorization for completion of this Phase 2 ESA was granted by Michael A. Smith, Partner of GBS Development Group Inc.

1.2 OBJECTIVES

The objective of the Phase 2 ESA is to identify and characterize potential soil impacts associated with historical operations at the Subject Property, and develop a Remediation Action Plan, if required, for planned excavation works on the property. The program focused on areas of the property that did not previously meet residential guidelines, according to the exceedances map from Levelton Consultants Ltd. (Appendix B).

1.3 QUALIFICATIONS

Mr. Nnamdi Menkiti, EIT conducted the soil sampling activities and prepared this report. Mr. Menkiti is a Jr. Environmental Engineer with CORE's Environmental Division.

Mr. Hillard MacDonald, RPF supervised the soil sampling field work and prepared the figures in the report. Mr. MacDonald is a Senior Environmental Consultant with CORE's Environmental Division and has over eight (8) years of experience in Phase 1, 2, and 3 ESA's.

Mr. Mark Cross, RPF prepared this report, assisted with the interpretation of the findings, acted as the Project Manager and conducted the final review of the report. Mr. Cross is a Senior Environmental Project Manager and CORE's Environmental Division Lead and has over fifteen (15) years of environmental consulting experience.

1.4 PREVIOUS ENVIRONMENTAL ASSESSMENTS

A Phase 1 ESA was conducted by Levelton Consultants Ltd. in April 2015. The following is a summary of the findings of the Phase 1 ESA.

- O'Conner Associates Environmental Inc (OAEI) completed environmental investigation activities in 1987, 1988 and 1993 in relation to the site formerly containing petroleum storage sites. OAEI reported the onsite soils contained petroleum constituents which

exceeded applicable guidelines. Groundwater samples from onsite wells were well below the guidelines for petroleum hydrocarbons.

- Parsons (formerly OAEI) had completed remediation on the site in 2013. The site remediation included 11 excavations, designated as Excavation one (EX1) to Excavation 11 (EX11) completed between May 2012 and June 2013.
- Confirmatory sampling on the walls and bases of excavations indicated that soil from EX1 to EX11 had met the Alberta Tier 2 Site specific Soil and Groundwater Remediation Guidelines (2010) for commercial land use (AB Tier 2 Guidelines) for benzene, toluene, ethylbenzene, xylene (BTEX), PHC fractions F1 to F4, lead and metals with the exception of four soils samples located along the eastern property line.
- Sample EX7 located on the east boundary had a barium concentration that exceeded the guideline concentration. Sample EX9 located on the southeast corner of the property had benzene, barium and boron concentrations that exceeded the guidelines.
- Levelton compared the results of the confirmatory sampling to Alberta Tier 1 guidelines for commercial land use and found that the potential subsurface or groundwater contamination which would exceed the guidelines to be low.
- Levelton also compared the results of the confirmatory sampling completed after excavation of impacted areas to *AB Tier 1 Guidelines for residential land use*, there were isolated locations that exceeded the residential guidelines for benzene, toluene, PHC F1 to F3, lead, barium, boron copper, nickel and tin. This is shown in the map (Appendix B) from the report.
- Levelton recommended that the soil with identified exceedances be removed from site in other for the site to meet the AB Tier 1 Guidelines for residential land use during development. Levelton also identified one onesite Area of Potential Environmental Concern (APEC) along the east and south areas of the Site.

2 SITE CHARACTERIZATION

A summary of the regional information, physical geography, soils, and hydrogeological setting are presented below.

2.1 REGIONAL AND SITE CHARACTERISTICS

Client: GBS Development Group Inc.

Property Owner: TH Property Inc.

Legal Land Description: NE 11-24-1 W5M

Municipal Address: Plan 1594F Block R

Land parcel size: 0.55 acres

2.1.1 Description of Adjacent Properties and Land Uses

Direction	Description	Land Use
North	Grassed vacant lot	Residential
East	CP Railway	Industrial and Residential
South	Commercial housing	Commercial
West	Residential housing and City Street	Residential

2.1.2 30 m Land Use Buffer

Not applicable. The Subject Property is located within the most sensitive Residential / Parkland land use zone.

2.1.3 Surface Waterbodies within 300m

Surface waterbodies within 1 Km include the Elbow River, which is located approximately 880m to the west of the site and runs south; and the Bow River approximately 760m to the north.

2.1.4 Groundwater

A search of groundwater wells was conducted in the Alberta Water Well Information Database (http://groundwater.alberta.ca/waterwells/d/). The search indicated that there are no groundwater wells present on the Site; however, there are two (2) water wells located within a 500m radius. (Appendix A – Water Well Drilling records). The closest water well to the Site is located within the SW 14-024-01 W5M, approximately 100m to the west. A review of the water well reports suggests that the groundwater in the area is relatively shallow with static water levels between 3.66 and 4.88 m below original ground.

However according to a pre-remedial groundwater assessment and remedial excavation report completed by Parsons in 2013, the hydraulic conductivity of the sand and gravel unit at the Site ranged from 1.1 x 10^{-3} m/s and 5.5 x 10^{-3} m/s. Since the hydraulic conductivity of the shallow overburden is greater than 1 x 10-6, the shallow aquifer at the Site is sufficiently permeable to be a Domestic Use Aquifer (DUA). The depth to groundwater was reported to range from 5.4 mbg to 7.9 mbg and flow direction was inferred to be southeast.

2.1.5 Topography

The Site is generally flat with a berm along the east and south boundaries. General topography was sloping northeast. Soil in the area consisted of surficial gravel fill or silt overlying gravel to a maximum depth of 12.8m.

2.1.6 On-site Utility Services

Not applicable. There are no pipelines or other utilities located on the Site.

2.2 Applicable Site Remediation Guidelines

Alberta Tier 1 Soil and Groundwater Remediation Guidelines (AEP 2022)

Guideline selection is based upon land use category, particle size analysis, and relevant exposure pathways for both human and ecological receptors.

The According to the City of Calgary, the Site is currently zoned as M-H1 Multi-Residential and surrounding areas are zones for commercial, residential and industrial land use.

Selected samples were submitted for particle size analysis by 75µm sieve, percent retained. Particle size analysis indicated that soils at the Subject property were majority of coarse-grained texture.

Based upon land use and Subject Property characteristics, all Alberta Tier 1 receptors and exposure pathways presented below were considered applicable for the Phase 2 ESA at the site:

Summary of Applicable Receptors and Exposure Pathways

UWID	
Receptor	**Pathway**
Human	Direct Soil Contact, Vapor Inhalation, Drinking Water – Protection of Domestic Use Aquifer
Ecological	Direct Soil Contact, Wildlife Ingestion, Protection of Freshwater Aquatic Life, Protection of Wildlife Water

For this location, analysis of Alberta Tier 1 hydrocarbons (BTEX, PHC fractions F1-F4), Alberta Tier 1 metals, and select samples of Alberta Tier 1 salinity, and polyaromatic hydrocarbons (PAHs) were collected from soil samples and compared to the Alberta Tier 1 guidelines for Residential / Parkland land use for coarse-grained soil.

3 Site Assessment Process

3.1 Scope of Work and Methodology

The primary objectives of this Phase 2 ESA were to investigate the Areas of Potential Environmental Concern (APEC) and/or Contaminants of Potential Concern (CoPC) identified in the Phase 1 ESA. Based on the review of the previous ESAs and historical records, the APECs addressed during this assessment included areas with historical above-ground storage tanks (ASTs) and underground storage tanks (USTs) associated with the historical MFI Terminal and pumphouse use.

This Phase 2 ESA was conducted in four main stages:

Records Review

The purpose of the records review is to present the history of the site and to identify the potential contaminant sources. The records review includes: a review of any previous environmental assessments (e.g., geotech, ESA, etc.) that were completed for the Subject Property.

Ground Disturbance

Prior to the commencement of the borehole drilling program of the Phase 2 ESA, on-site utility locates were completed through Alberta One-Call in addition to private utilities locate completed by the client. All ground disturbance safety documentation was completed prior to the borehole drilling portion of the Phase 2 ESA.

Field Work

Field work included the advancement of on-site boreholes and soil sampled at depth to evaluate soil conditions, organic vapor analysis (OVA) values, and field EC values. Best management practices related to borehole advancement, soil sampling, field EC and organic vapor screening were utilized. Select soil samples (based on visual observations, field screening values and guideline requirements) were submitted to an accredited laboratory (Element Materials Technology) in Calgary for analysis.

Analyses of Laboratory Results

The information obtained was assessed to identify exceedances above reference guidelines, and determine any obvious locations or areas of concern, so that recommendations can be made.

3.1.1 Borehole Rationale

Borehole locations were planned across the north, south and east boundaries of the property, while also ensuring that the APEC previously identified were covered by borehole locations and that onsite vertical delineation could be achieved. A summary of the borehole location rationale is provided below.

Borehole Rationale

Borehole Identification	APEC	Laboratory Parameters Analyzed
BH23-01	North boundary	Metals, Salinity, PAH
BH23-02	Former warehouse / East boundary	Metals, BTEX, F1-F4, Salinity, PAH
BH23-04	North boundary	Metals, BTEX, F1-F4, Salinity, PAH
BH23-05	Northeast boundary	Metals, BTEX, F1-F4
BH23-06	Northeast boundary	Metals, BTEX, F1-F4, Salinity, PAH
BH23-07	Former warehouse / East boundary	Metals, BTEX, F1-F4
BH23-08	Former garage / Southeast boundary	Metals, BTEX, F1-F4, Salinity, PAH, Particle Size
BH23-09	Former garage / Southeast boundary	Metals, BTEX, F1-F4, Salinity, PAH
BH23-10	Buildings / South boundary	Metals, BTEX, F1-F4, Salinity, PAH
BH23-11	Former pumphouse / South boundary	Metals, BTEX, F1-F4, Salinity, PAH, Particle Size
BH22-12	UST, Buildings	Metals, BTEX, F1-F4
BH22-13	UST, Buildings	Metals, BTEX, F1-F4

4 FIELD WORK

Two (2) groundwater wells (BH23-1 and BH23-2), and ten (10) boreholes (BH23-4 to BH23-13) were advanced along the North, East and South boundary of the property on February 16th – 17th, 2023, to assess the APEC identified in the Phase 1 ESA. The groundwater wells were utilized using a truck mounted pneumatic drill rig on BH23-1 and BH23-2. A more traditional truck mounted drill rig equipped with a six-inch diameter solid-stem auger were utilized on the ten (10) boreholes. The truck mounted rig was operated by Core Drilling Corp. Borehole locations were surveyed with GPS and are presented on the site schematic in Appendix C. Groundwater wells were advanced to a maximum depth of 6.0 meters below ground (mbg), while the boreholes were

advanced to a maximum depth of 3.5 mbg as auger refusal was encountered. A depth of 6.0 meters was selected for the groundwater wells because the depth to groundwater was reported to range from 5.4 mbg to 7.9 according to previous studies.

4.1.1 Groundwater Monitoring and Sampling

Two (2) groundwater wells were advanced to a maximum depth of 6.0 meters below ground (mbg). CORE was prepared to install third groundwater monitoring well on the west boundary; however due to snow and sloppy terrain, it was impossible for the drill rig to drive to that section.

4.1.2 Quality Assurance/Quality Control

The following field quality control procedures were used:

- Samples collection followed CORE's Standard Operating Procedures.
- CORE staff wore new disposable Nitrile gloves during sample collection.
- Laboratory bottles filled for analysis of petroleum hydrocarbons were filled to maximum headspace as much as possible.
- Samples were stored in insulated coolers prior to and during transportations to Element laboratories. The samples were delivered to Element according to chain-of-custody protocols.
- Samples selected for analysis were analyzed by Element Materials Technologies. Element is both certified and accredited by the Canadian Association for Laboratory Accreditation Inc (CALA)

4.1.3 Materials Management

All bore holes were backfilled in accordance with provincial requirements upon completion of logging. The site investigation was supervised, and the soils encountered were logged, by qualified personnel from our office.

4.1.4 Samples submitted for Analysis

Field sampling consisted of collecting samples off the auger every 50cm from all twelve (12) boreholes. Select samples of surface soils (top 3m), bottom-hole, and additional samples based on field screening results were submitted to Element within 24 hours from the time of collection. Detailed descriptions of the soil samples submitted for analysis listed in the above Table 6 are presented in the borehole logs located in Appendix D. From the time of sampling until receipt at Element, all samples were kept in insulated coolers and kept at optimal temperatures for laboratory submission.

4.1.5 Background Samples

The groundwater well BH23-1 was used as the control sample. Samples were submitted to Element for analysis of metals, detailed salinity values and metal concentrations.

4.1.6 Former Warehouse and Garage

Seven (7) boreholes (BH23-2 through BH23-9) were advanced in and around the former garage and warehouse. Four of the boreholes were advanced directly in the location of the former warehouse and garage and the surrounding ten boreholes were utilized for delineation purposes. Samples were submitted to Element for analysis of Alberta Tier 1 hydrocarbons, metals, detailed salinity and select samples for PAHs.

4.1.7 Former UST, Pumphouse, and Building Boreholes

Four (4) boreholes (BH23-10 through BH23-13) were advanced in and around the former UST, pumphouse, and building. Samples were submitted to Element for analysis of Alberta Tier 1 hydrocarbons, metals, detailed salinity and select samples for PAHs.

4.2 Field Restrictions

During the investigation due to the soil texture, auger refusal was encountered in ten (10) boreholes (BH23-4 – BH23-13) at a depth of approximately 0.5 – 3.5m, which may have impacted contaminant delineation across the east and south boundaries.

5 Assessment Results

5.1 Soil Conditions and Results

A summary of the results and comparison to the referenced guidelines are presented here and in Table 1 - *Particle Size Analytical Results;* Table 2 - *Petroleum Hydrocarbon Analytical Results;* Table 3 - *Metals Concentration Analytical Results;* Table 4 - *Detailed Salinity Analytical Results;* and Table 5 – *Polycyclic Aromatic Hydrocarbon Analytical Results* presented in Appendix E. Analytical laboratory reports with Certificates of Analysis are presented in Appendix F.

5.1.1 Field Screening Results

Soil organic vapor and field EC screening was completed on soil samples obtained from each borehole. Soil organic vapor was measured using an RKI Eagle 2 OVA meter set to methane elimination; field EC was measured using an Oakton field portable EC meter.

Organic vapor concentrations for collected soil samples ranged from 0 to 2 parts per million (ppm), with the majority of samples registering as 0 on the Eagle. Onsite field EC ranged from 0 to 1.96 dS/m. Field screening values are presented in the borehole logs located in Appendix D.

5.1.2 Background Boreholes

Background soil samples were found to be in compliance of Alberta Tier 1 guidelines, for metals, salinity and PAH.

5.1.3 Former Warehouse and Garage

Soil samples from the former warehouse and garage delineation boreholes (BH23-02, BH23-04 thru BH23-09) were obtained on February 16-17, 2023, and submitted to Element for analysis of BTEX, PHC fractions F1-F4, metals, salinity, and select samples for PAHs.

The presence of metals exceedances along the east boundary indicate that horizontal delineation has not been achieved, however horizontal delineation was achieved to the north of the property.

- Laboratory analytical results indicated that soil samples from BH23-02 contained PHC fractions F4, and PAH in excess of Tier 1 Guidelines.
  PHC fractions F1-F4 exceedances were not observed on any other part of the property.

- BH23-04 failed to meet criteria for PAH parameter Anthracene from 1.0 – 1.5 mbg and 2.5 - 3.0 mbg.

- BH23-05 failed to meet criteria for Chromium and molybdenum from 0.5 – 1.0 mbg
- BH23-06 failed to meet criteria for molybdenum and chromium and PAH parameter Anthracene from 0.5 – 2.0 mbg.
- BH23-07 failed to meet criteria for chromium from 1.0 – 1.5 mbg.
- BH23-08 failed to meet criteria for chromium and PAH parameter Anthracene from 0.5 – 1.0 mbg and 2.0 – 2.5 mbg.
- BH23-06 failed to meet criteria for Molybdenum and chromium and PAH parameter Anthracene from 0.5 – 2.0 mbg.

5.1.4 Former UST, Pumphouse and Loading Building

Soil samples from the former UST, Pumphouse and buildings delineation boreholes (BH23-10 thru BH23-12 and BH23-13) were obtained on February 17, 2023, and submitted to Element for analysis of BTEX, PHC fractions F1-F4, metals, salinity, and select samples for PAHs.

Laboratory analytical results indicated that soil samples from BH23-10, BH23-12 and BH23-13 contained only metals in excess of Tier 1 Guidelines.

The presence of exceedances along south boundaries indicate that horizontal delineation has not been achieved.

- BH23-10 failed to meet criteria for boron, molybdenum and chromium from 0.0 - 0.5 mbg and 2.0- 2.5 mbg.
- BH23-12 failed to meet criteria for boron, molybdenum and chromium from 0.5 -1.0 mbg.
- BH23-13 failed to meet criteria for molybdenum from 1.5 - 4.0 mbg.

5.1.5 Impacts of Imported Fill Material

Backfill material previously used on the property included segregated materials excavated from the site and materials sourced from Burnco, located in Calgary Alberta, which only met Alberta tier 2 guidelines, not the more stringent Alberta Tier 1 guidelines.

5.2 Groundwater Conditions and Results

Groundwater was not accessed as at the time of this report. Groundwater testing will be completed in Spring 2023.

5.3 Laboratory and Field QA/QC Results

Element Materials Technology produced laboratory replicate samples for analysis as part of their QA/QC program. Results of the QA/QC samples are included in the laboratory results in Appendix F.

6 CONCLUSIONS AND RECOMMENDATIONS

A summary of the findings of this Phase 2 ESA are presented below:

Delineation of Impacts

- Hydrocarbons (BTEX, F1-F4) exceedances were discovered above Alberta Tier 1 Guidelines. Exceedances were identified at only one location: BH 23-02 on the east boundary between 3.0 and 3.5 mbg. This could be as a result of residual impacts which remain after the previous remediation activities.

- Metal exceedances including boron, chromium, and molybdenum were discovered above Alberta Tier 1 Guidelines. Exceedances were identified between 0 and 2.5 mbg. Horizontal delineation was achieved to the north of the property.

- Vertical onsite delineation was achieved, but horizontal delineation outside the property boundary was not achieved. The ESA results indicate that soil contamination could extend beyond the east and south properties boundaries. CORE recommends further delineation outside the property boundaries to determine the full extent of impacts to the surrounding properties, if possible.

- As at the time of this report, groundwater had not yet been assessed in any of the boreholes. Since groundwater wells would have been destroyed by excavation works, the groundwater wells installed will be assessed before construction activities in spring 2023.

Naturally Occurring Metals

- The presence of hydrocarbons is consistent with the historical site use as MFI terminal; however, metals such as boron, chromium and molybdenum identified during the investigation may be naturally occurring, the result of imported fill, or from unknown contaminant sources.

Next Steps

- CORE recommends that hydrocarbon, PAH, and metal impacts found on the property (1802 – 11th Street SE, Calgary, AB) be excavated and hauled to a facility for disposal or be used as industrial/commercial fill where appropriate.

- A Remediation Action Plan is recommended to support onsite excavation works.

7 LIMITATIONS AND SIGNOFF

7.1 LIMITATION AND LIABILITY

This report was prepared by CORE Geomatics Group Inc. (the "Consultant") on behalf of GBS Development Group Inc. (the "Client"). It has been prepared for the benefit and use of the Client only and may only be relied upon by the Client in connection to the Phase 2 ESA for the Property located at 1802 – 11th Street SE, Calgary, AB.

Unless otherwise specified in the document, any findings, descriptions, opinions, estimates, representations, or summaries provided do not constitute warranties or guarantees and are limited to:

- The property specified in the document.
- The information known to the Consultant at the time of the work.
- The professional standards in place at the time of the work.
- The accuracy of the information provided by third parties, including, without limitation, data provided by the client, government agencies and other sources of anecdotal information regarding the property provided to the Consultant.

Deliverables are valid to the date of the Environmental Report and limited by the information that was shared by the third parties involved. No other party may use or rely upon this document or any portions thereof without the written consent of the Consultant. Any use which a third party makes of this document, or any reliance or decisions based on it are the responsibility of that third party. The Consultant accepts no responsibility for damages suffered by anyone because of decisions made or actions based on this report.

The Consultants' servants, employees, agents, sub-consultants, contractors, principals and representatives assume no liability in their personal capacity with respect to this report or the completion of the work.

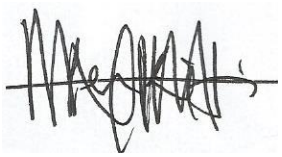
Any and all claims which the Client has or hereafter may have against the Consultant, the Consultant's servants, employees, agents, sub-consultants, contractors, principals and representatives, howsoever arising, whether in contract, in tort or otherwise, shall be absolutely limited to:

a. Claims brought within a period of 1 year from the date of the termination or completion of the Project by the Consultant; and
b. b. Not more than the total amount paid by the Client to the Consultant for its services under this agreement (excluding disbursements) to a maximum of $5,000.00.

The Consultant's liability with respect to any claims arising from this work shall be absolutely limited to direct damages arising out of its services under this work and the Consultant shall bear no liability whatsoever for any consequential loss, injury or damage suffered by the Client. The Consultant is not responsible for any project delays caused because of event(s) beyond its control.

7.2 SIGNOFF

We trust this report meets your requirements. If you should have any questions, please contact the undersigned at your convenience.

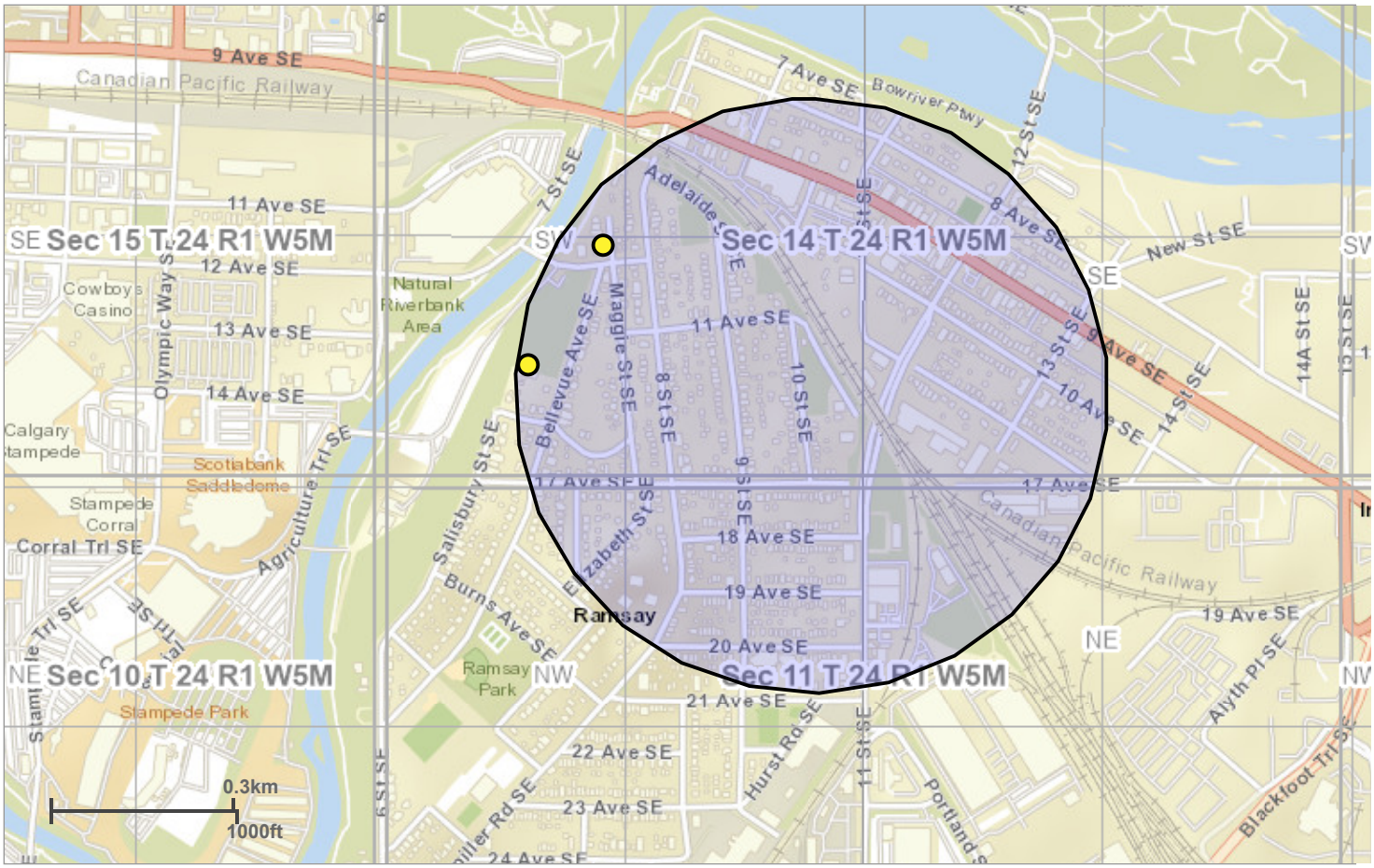


Nnamdi Menkiti, EIT
Environmental Scientist

Mark Cross, RPF
Lead – Environmental / Regulatory Division

Citation: Alberta Environment and Parks (AEP). 2022. Alberta Tier 1 Soil and Groundwater Remediation Guidelines. Land Policy Branch, Policy and Planning Division.

APPENDIX A – WATER WELLS WITHIN 500M



Alberta Water Well Information Database Map

Projection
Web Mercator (Auxillary Sphere)

Datum
WGS 84

Date
3/12/2023, 8:43:38 PM

Legend
- Groundwater Drilling Report
- Baseline Water Well Report

http://groundwater.alberta.ca/WaterWells/d/

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GIC Well ID 1125031
GoA Well Tag No.
Drilling Company Well ID
Date Report Received

GOWN ID

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
CALGARY, CITY OF	P.O. BOX 2100 POSTAL STATION M	CALGARY	AB	CA	T2P 2M5

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	4	14	24	1	5				40' FROM THE ELBOW RIVER EDGE, 9TH AVE & 7TH ST S

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 51.039590 Longitude -114.044810
How Location Obtained
Not Verified

Elevation ft
How Elevation Obtained
Not Obtained

Drilling Information

Method of Drilling
Unknown

Proposed Well Use
Unknown

Type of Work
Existing Well-Decommissioned

Plugged 2008/01/18
Plugged with Bentonite Product
Amount

Formation Log

Measurement in Imperial

Depth from ground level (ft)	Water Bearing	Lithology Description
30.00		Old Well

Yield Test Summary

Measurement in Imperial

Recommended Pump Rate igpm

Test Date	Water Removal Rate (igpm)	Static Water Level (ft)
		12.00

Well Completion

Measurement in Imperial

Total Depth Drilled	Finished Well Depth	Start Date	End Date
30.00 ft			

Borehole

Diameter (in)	From (ft)	To (ft)

Surface Casing (if applicable)
Unknown
Size OD : 6.63 in
Wall Thickness : in
Bottom at : ft

Well Casing/Liner
Unknown
Size OD : in
Wall Thickness : in
Top at : ft
Bottom at : ft

Perforations

From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)

Perforated by Unknown

Annular Seal Unknown
Placed from ft to ft
Amount

Other Seals

Type	At (ft)

Screen Type
Size OD : in

From (ft)	To (ft)	Slot Size (in)

Attachment
Top Fittings Bottom Fittings

Pack
Type Unknown Grain Size
Amount Unknown

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
GARRY WEGLEITNER

Certification No
0000

Company Name
BECK DRILLING & ENVIRONMENTAL SERVICES LTD.

Copy of Well report provided to owner Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GIC Well ID 1125031
GoA Well Tag No.
Drilling Company Well ID
Date Report Received

GOWN ID

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
CALGARY, CITY OF	P.O. BOX 2100 POSTAL STATION M	CALGARY	AB	CA	T2P 2M5

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	4	14	24	1	5				40' FROM THE ELBOW RIVER EDGE, 9TH AVE & 7TH ST S

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 51.039590 Longitude -114.044810
How Location Obtained: Not Verified

Elevation ft
How Elevation Obtained: Not Obtained

Additional Information

Measurement in Imperial

Distance From Top of Casing to Ground Level in
Is Artesian Flow
Rate igpm
Is Flow Control Installed
Describe

Recommended Pump Rate igpm
Recommended Pump Intake Depth (From TOC) ft
Pump Installed
Type
Depth ft
Make
H.P.
Model (Output Rating)

Did you Encounter Saline Water (>4000 ppm TDS)
Depth ft
Gas
Depth ft
Well Disinfected Upon Completion
Geophysical Log Taken
Remedial Action Taken
Submitted to ESRD
Sample Collected for Potability
Submitted to ESRD

Additional Comments on Well

ALL OF THE CASING & SCREEN & PUMP WAS REMOVED, THIS WELL WAS SERVING A WATER FOUNTAIN AND IT HAS BEEN ELIMINATED, THE ENVIRO-PLUG MONITORING WELL GROUT WAS USED TO BACKFILL THE WELL (6 BAGS), THE ELEVATION DROPPED AND BEING CLOSE TO THE RIVER IT WAS AGREED TO USE (6 BAGS) BENTONITE CHIPS SO THE GROUT WOULD NOT FILTRATE INTO THE RIVER, THE ENVIRO-PLUG WAS TREMIE PUMPED INTO THE HOLE

Yield Test

Taken From Ground Level
Measurement in Imperial

Test Date	Start Time	Static Water Level
	12:00 AM	12.00 ft

Depth to water level

Pumping (ft)	Elapsed Time Minutes:Sec	Recovery (ft)

Method of Water Removal

Type Unknown
Removal Rate igpm
Depth Withdrawn From ft

If water removal period was < 2 hours, explain why

Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
GARRY WEGLEITNER

Certification No
0000

Company Name
BECK DRILLING & ENVIRONMENTAL SERVICES LTD.

Copy of Well report provided to owner

Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

GIC Well ID 1021204
GoA Well Tag No.
Drilling Company Well ID
Date Report Received

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
WATERLINE RES	531 24 AVE NW	CALGARY	AB	CA	T2M 1X4

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	SW	14	24	1	5				5921

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 51.041400 Longitude -114.043000
How Location Obtained
Field

Elevation ft
How Elevation Obtained
Survey-Air

Drilling Information

Method of Drilling
Rotary

Type of Work
New Well

Proposed Well Use
Dewatering

Formation Log

Measurement in Imperial

Depth from ground level (ft)	Water Bearing	Lithology Description
9.00		Sandy Till
17.00		Sandy Gravel
40.00		Gravel
41.00		Gray Shale

Yield Test Summary

Measurement in Imperial

Recommended Pump Rate 500.00 igpm

Test Date	Water Removal Rate (igpm)	Static Water Level (ft)
2006/02/15	500.00	16.00

Well Completion

Measurement in Imperial

Total Depth Drilled	Finished Well Depth	Start Date	End Date
41.00 ft		2006/02/15	2006/02/15

Borehole

Diameter (in)	From (ft)	To (ft)

Surface Casing (if applicable)
Steel
Size OD : 12.75 in
Wall Thickness : 0.309 in
Bottom at : 28.00 ft

Well Casing/Liner
Unknown
Size OD : in
Wall Thickness : in
Top at : ft
Bottom at : ft

Perforations

From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)

Perforated by Unknown

Annular Seal Drive Shoe
Placed from 26.00 ft to 28.00 ft
Amount

Other Seals

Type	At (ft)

Screen Type Stainless Steel
Size OD : 11.00 in

From (ft)	To (ft)	Slot Size (in)
29.00	39.00	0.250

Attachment Telescoped
Top Fittings Packer Bottom Fittings Plug

Pack
Type Natural Grain Size
Amount Unknown

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
BRAD MEYERS

Certification No
VA4996

Company Name
AARON DRILLING INC.

Copy of Well report provided to owner Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GIC Well ID 1021204
GoA Well Tag No.
Drilling Company Well ID
Date Report Received

GOWN ID

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
WATERLINE RES	531 24 AVE NW	CALGARY	AB	CA	T2M 1X4

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	SW	14	24	1	5				5921

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 51.041400 Longitude -114.043000
How Location Obtained: Field

Elevation ft
How Elevation Obtained: Survey-Air

Additional Information

Measurement in Imperial

Distance From Top of Casing to Ground Level in
Is Artesian Flow
Rate igpm
Is Flow Control Installed
Describe

Recommended Pump Rate 500.00 igpm
Recommended Pump Intake Depth (From TOC) 28.00 ft
Pump Installed
Type
Depth ft
Make
H.P.
Model (Output Rating)

Did you Encounter Saline Water (>4000 ppm TDS)
Depth ft
Gas
Depth ft
Well Disinfected Upon Completion
Geophysical Log Taken
Remedial Action Taken
Submitted to ESRD

Sample Collected for Potability
Submitted to ESRD

Additional Comments on Well

CONSTANT RATE PUMP TST AND WATER ANALYSIS BY WATERLINE RES.

Yield Test

Taken From Ground Level
Measurement in Imperial

Test Date	Start Time	Static Water Level
2006/02/15	12:00 AM	16.00 ft

Depth to water level

Pumping (ft)	Elapsed Time Minutes:Sec	Recovery (ft)

Method of Water Removal

Type Air
Removal Rate 500.00 igpm
Depth Withdrawn From 40.00 ft

If water removal period was < 2 hours, explain why

Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
BRAD MEYERS

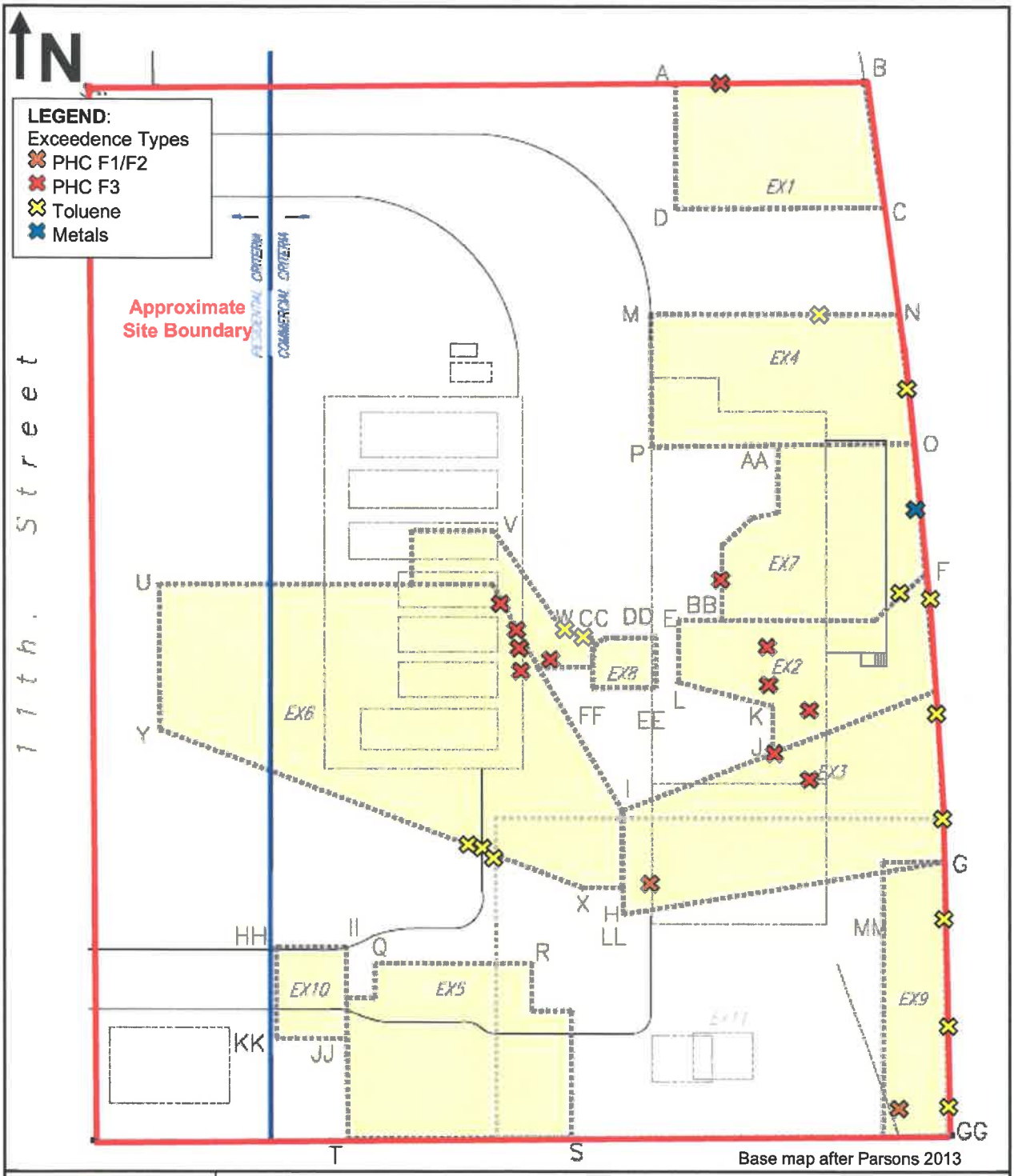
Certification No
VA4996

Company Name
AARON DRILLING INC.

Copy of Well report provided to owner

Date approval holder signed

APPENDIX B – EXCEEDANCES MAP



Base map after Parsons 2013

LEVELTON

PROJECT: Phase I Environmental Site Assessment, 1802 – 11 Street SE, Calgary					
TITLE: Site Plan With Remedial Excavations and Exceedance Locations					
CLIENT: 11 Street LP					
FIGURE NO.: 6	DATE: March 2014	FILE NO.: R715-0344-00	SCALE: NTS	DRAWN BY: LR	REV NO.: 1

APPENDIX C – DETAILED SITE PLAN

Duke Management - 23-0118 - Phase 2
ESA - 1802 - 11th Street SE

GeoPDF

Scale: 1:400

Sampling Plan Feb 2023

- Borehole
- Well

Enviro Sketch		
2		
1		
0	Borehole Plan	Feb14/23
No.	Revision:	Date:
	DR: HM	CH: MC
GIS: 23-0118-ES1		

P: 403-648-2772
F: 403-648-2767
www.coregeomatics.com

AFE#:

Client File #:

Project ID: 23-0118

APPENDIX D – BOREHOLE LOGS

Borehole Log: BH23-01

Client:	Duke Management	**Project:**	23-0118 Soil Sampling	**Logged by:**	Nnamdi Menkiti
Site:	1802 11th Street SE	**Date:**	16-Feb-23	**Driller:**	Core Drilling Corp
GPS:		**Start:**	8:00	**Drill Type:**	Pneumatic Air drill
Location:	North Boundary	**Finish:**	17:00	**Sample method:**	Discrete
Area:		**Total Depth (m):**	6.0	**Weather:**	-7 degrees

Depth (m)	Lithology	Description (observed): Major soil type, minor soil type, consistency-structure/density, plasticity/gradation, moisture, colour, parent material, inclusions (mottling, concretions, salinity, carbonates, coarse fragments, inclusions, roots, effervescence)	Sample Interval (m)	OVA (ppm)	EC (mS/cm)	Lab Analysis
		0.00 - 1.00 m: Clay and Silt Clay, hard, medium plasticity, fine grain, moist, gray- brown	0.00 - 0.50	0	54.50	
1		0.50 m: Clayey , hard, medium plasticity, fine grain, coarse fragments, moist, gray-brown	0.50 - 1.00	0	26.30	ABT1SAL-S
		1.00 - 1.50 m: Clay Silt Clayey, hard, medium plasticity, fine grain, moist, gray brown, coarse fragments	1.00 - 1.50	0	26.50	
2		**1.5 - 2.0 m: Sand and Silt, Clayey** Clayey, hard, medium plasticity, fine grain, moist, gray brown, coarse fragments	1.50 - 2.00	1	3.10	ABT1SAL-S ABT1MET-S
		2.50 - 3.0 m: Sand and Silt, Clayey Sand and silt, clayey, hard, fine, dry, gray brown	2.00 - 2.50	1	5.20	
3			2.5 - 3.00	1	2.90	
		3.0 - 6.0 m: Sand and Silt, Clayey Sand, silt and gravel. Coarse fragments, dry, grey black brown	3.00 - 3.50	2	1.30	ABT1SAL-S ABT1MET-S
4		Same, more coarse fragments and gravel	3.50-4.00	2	1.30	
		Same, more fine grain, less coarse fragments,	4.00-4.50	1	1.90	
5		Same as above	4.50-5.00	1	4.00	
		Same, coarse fragments	5.00-5.50	1	1.60	ABT1SAL-S ABT1MET-S
6		Same, more coarse fragments	5.50-6.00	1	3.1	

Sand
Sand, silty
Sand and Silt
Sand and Silt, clayey
Sand and Silt, gravely

Silt
Silt, sandy
Silt, clayey
Silt, clayey, sandy

Gravel
Sand and Gravel
Sand and Gravel, silty

Clay, Silty

PHC BTEX, F1-4
PAH Polycyclic Aro...
SAL Detailed Salinity
GLY Glycols Screen
MTH Methanol Screen

MTL AT1 Metals
STL Sterilant Screen
TXT 75 um Sieve
PSA Hydrometer
HLD Hold

Borehole Log: BH23-02

Client:	Duke Management	**Project:**	23-0118 Soil Sampling	**Logged by:**	Nnamdi Menkiti/Tristan Hennig
Site:	1802 11th Street SE	**Date:**	16-Feb-23	**Driller:**	Core Drilling Corp
GPS:		**Start:**	8:00	**Drill Type:**	Pneumatic Air drill
Location:	East Boundary	**Finish:**	17:00	**Sample method:**	Discrete
Area:		**Total Depth (m):**	6.0	**Weather:**	-7 degrees

Depth (m)	Lithology	Description (observed): Major soil type, minor soil type, consistency-structure/density, plasticity/gradation, moisture, colour, parent material, inclusions (mottling, concretions, salinity, carbonates, coarse fragments, inclusions, roots, effervescence)	Sample Interval (m)	OVA (ppm)	EC (mS/cm)	Lab Analysis
		0.00 - 1.00 m: Clay and Silt Clay, Silty, moist, hard, medium plasticity, fine grain, grey brown	0.00 - 0.50	0	14.30	ABT1SAL-S CCMEC
1		0.50 m: Same	0.50 - 1.00	0	195.90	
		1.00 - 1.50 m: Same as above with some coarse fragments	1.00 - 1.50	0	10.20	ABT1MET-S CCMEC PAH2
2		**1.5 - 2.5 m: Clay and Silt, Clayey** Same as above	1.50 - 2.00	1	14.10	
			2.00 - 2.50	0	9.80	
3		**2.50 - 3.0 m: Sand and Silt, Clayey** Moist, medium plasticity, medium grain, coarse fragments, grey light brown	2.5 - 3.00	0	4.20	
		3.0 - 6.0 m: Sand and gravel Sand, moist, low plasticity, medium grain, coarse fragments, light brown	3.00 - 3.50	0	4.10	ABT1MET-S CCMEC PAH2
4		Same, more coarse fragments	3.50-4.00	1	2.10	
		Same, more coarse fragments	4.00-4.50	0	0.50	
5		Same as above	4.50-5.00	0	0.50	
		Same, more fine grained	5.00-5.50	0	0.70	
6		Same, more fine grained	5.50-6.00	0	0.9	

Sand
Sand, silty
Sand and Silt
Sand and Silt, clayey
Sand and Silt, gravely

Silt
Silt, sandy
Silt, clayey
Silt, clayey, sandy

Gravel
Sand and Gravel
Sand and Gravel, silty
Clay, Silty

PHC BTEX, F1-4
PAH Polycyclic Aro...
SAL Detailed Salinity
GLY Glycols Screen
MTH Methanol Screen

MTL AT1 Metals
STL Sterilant Screen
TXT 75 um Sieve
PSA Hydrometer
HLD Hold

Borehole Log: BH23-04

Client:	Duke Management	**Project:**	23-0118 Soil Sampling	**Logged by:**	Nnamdi Menkiti/Tristan Hennig
Site:	1802 11th Street SE	**Date:**	16-Feb-23	**Driller:**	Core Drilling Corp
GPS:		**Start:**	8:00	**Drill Type:**	Solid Stem
Location:	North Boundary	**Finish:**	17:00	**Sample method:**	Discrete
Area:		**Total Depth (m):**	3.0	**Weather:**	-7 degrees

Depth (m)	Lithology	Description (observed): Major soil type, minor soil type, consistency-structure/density, plasticity/gradation, moisture, colour, parent material, inclusions (mottling, concretions, salinity, carbonates, coarse fragments, inclusions, roots, effervescence)	Sample Interval (m)	OVA (ppm)	EC (mS/cm)	Lab Analysis
		0.00 - 3.00 m: Sand, Silt and Gravely Low plasticity, fine graned, coarse fragments, dry, grey brown	0.00 - 0.50	0	1.90	
1		0.50 m: Same	0.50 - 1.00	0	10.30	ABT1MET-S CCMEC
			1.00 - 1.50	0	2.60	ABT1MET-S CCMEC PAH2
2			1.50 - 2.00	0	2.40	
			2.00 - 2.50	1	2.60	
3			2.5 - 3.00	1	0.90	CCMEC

Sand
Sand, silty
Sand and Silt
Sand and Silt, clayey
Sand and Silt, gravely

Silt
Silt, sandy
Silt, clayey
Silt, clayey, sandy

Gravel
Sand and Gravel
Sand and Gravel, silty

Clay, Silty

PHC BTEX, F1-4
PAH Polycyclic Aro...
SAL Detailed Salinity
GLY Glycols Screen
MTH Methanol Screen

MTL AT1 Metals
STL Sterilant Screen
TXT 75 um Sieve
PSA Hydrometer
HLD Hold

Borehole Log: BH23-05

Client:	Duke Management	**Project:**	23-0118 Soil Sampling	**Logged by:**	Nnamdi Menkiti/Tristan Hennig
Site:	1802 11th Street SE	**Date:**	16-Feb-23	**Driller:**	Core Drilling Corp
GPS:		**Start:**	8:00	**Drill Type:**	Solid Stem
Location:	Northeast Boundary	**Finish:**	17:00	**Sample method:**	Discrete
Area:		**Total Depth (m):**	1.0	**Weather:**	-7 degrees

Depth (m)	Lithology	Description (observed): Major soil type, minor soil type, consistency-structure/density, plasticity/gradation, moisture, colour, parent material, inclusions (mottling, concretions, salinity, carbonates, coarse fragments, inclusions, roots, effervescence)	Sample Interval (m)	OVA (ppm)	EC (mS/cm)	Lab Analysis
		0.00 - 3.00 m: Sand, Silt and Gravely Low plasticity, medium graned, coarse fragments, dry, grey brown	0.00 - 0.50	0	8.40	
1		0.50 m: Same	0.50 - 1.00	0	12.70	ABT1MET-S CCMEC

Sand
Sand, silty
Sand and Silt
Sand and Silt, clayey
Sand and Silt, gravely

Silt
Silt, sandy
Silt, clayey
Silt, clayey, sandy

Gravel
Sand and Gravel
Sand and Gravel, silty

Clay, Silty

PHC BTEX. F1-4
PAH Polycyclic Aro...
SAL Detailed Salinity
GLY Glycols Screen
MTH Methanol Screen

MTL AT1 Metals
STL Sterilant Screen
TXT 75 um Sieve
PSA Hydrometer
HLD Hold

Borehole Log: BH23-06

Client:	Duke Management	**Project:**	23-0118 Soil Sampling	**Logged by:**	Nnamdi Menkiti/Tristan Hennig
Site:	1802 11th Street SE	**Date:**	16-Feb-23	**Driller:**	Core Drilling Corp
GPS:		**Start:**	8:00	**Drill Type:**	Solid Stem
Location:	Northeast Boundary	**Finish:**	17:00	**Sample method:**	Discrete
Area:		**Total Depth (m):**	3.0	**Weather:**	-7 degrees

Depth (m)	Lithology	Description (observed): Major soil type, minor soil type, consistency-structure/density, plasticity/gradation, moisture, colour, parent material, inclusions (mottling, concretions, salinity, carbonates, coarse fragments, inclusions, roots, effervescence)	Sample Interval (m)	OVA (ppm)	EC (mS/cm)	Lab Analysis
		0.00 - 3.00 m: Sand, Silt and Gravely Low plasticity, fine grained, coarse fragments, dry, grey brown	0.00 - 0.50	0	1.90	
1		0.50 m: Same	0.50 - 1.00	0	10.30	ABT1MET-S ABT1SAL-S CCMEC
			1.00 - 1.50	0	2.60	ABT1MET-S CCMEC PAH2
2			1.50 - 2.00	0	2.40	
			2.00 - 2.50	1	2.60	
3			2.5 - 3.00	1	0.90	

Sand
Sand, silty
Sand and Silt
Sand and Silt, clayey
Sand and Silt, gravely

Silt
Silt, sandy
Silt, clayey
Silt, clayey, sandy

Gravel
Sand and Gravel
Sand and Gravel, silty

Clay, Silty

PHC BTEX, F1-4
PAH Polycyclic Aro...
SAL Detailed Salinity
GLY Glycols Screen
MTH Methanol Screen

MTL AT1 Metals
STL Sterilant Screen
TXT 75 um Sieve
PSA Hydrometer
HLD Hold

Borehole Log: BH23-07

Client:	Duke Management	**Project:**	23-0118 Soil Sampling	**Logged by:**	Nnamdi Menkiti/Tristan Hennig
Site:	1802 11th Street SE	**Date:**	16-Feb-23	**Driller:**	Core Drilling Corp
GPS:		**Start:**	8:00	**Drill Type:**	Solid Stem
Location:	East Boundary	**Finish:**	17:00	**Sample method:**	Discrete
Area:		**Total Depth (m):**	2.5	**Weather:**	-7 degrees

Depth (m)	Lithology	Description (observed): Major soil type, minor soil type, consistency-structure/density, plasticity/gradation, moisture, colour, parent material, inclusions (mottling, concretions, salinity, carbonates, coarse fragments, inclusions, roots, effervescence)	Sample Interval (m)	OVA (ppm)	EC (mS/cm)	Lab Analysis
		0.00 - 3.00 m: Sand, Silt and Gravely Low plasticity, medium grained, coarse fragments, dry, grey brown	0.00 - 0.50	1	2.10	
1		0.50 m: Same	0.50 - 1.00	2	1.50	ABT1MET-S CCMEC
			1.00 - 1.50	2	1.30	ABT1MET-S CCMEC
2			1.50 - 2.00	2	4.30	
			2.00 - 2.50	1	1.30	

Sand
Sand, silty
Sand and Silt
Sand and Silt, clayey
Sand and Silt, gravely

Silt
Silt, sandy
Silt, clayey
Silt, clayey, sandy

Gravel
Sand and Gravel
Sand and Gravel, silty

Clay, Silty

PHC BTEX, F1-4
PAH Polycyclic Aro...
SAL Detailed Salinity
GLY Glycols Screen
MTH Methanol Screen

MTL AT1 Metals
STL Sterilant Screen
TXT 75 um Sieve
PSA Hydrometer
HLD Hold

Borehole Log: BH23-08

Client:	Duke Management	**Project:**	23-0118 Soil Sampling	**Logged by:**	Nnamdi Menkiti/Tristan Hennig
Site:	1802 11th Street SE	**Date:**	17-Feb-23	**Driller:**	Core Drilling Corp
GPS:		**Start:**	8:00	**Drill Type:**	Solid Stem
Location:	Southeast Boundary	**Finish:**	12:00	**Sample method:**	Discrete
Area:		**Total Depth (m):**	3.0	**Weather:**	-5 degrees

Depth (m)	Lithology	Description (observed): Major soil type, minor soil type, consistency-structure/density, plasticity/gradation, moisture, colour, parent material, inclusions (mottling, concretions, salinity, carbonates, coarse fragments, inclusions, roots, effervescence)	Sample Interval (m)	OVA (ppm)	EC (mS/cm)	Lab Analysis
		0.00 - 3.00 m: Sand, Silt and Gravely Low plasticity, fine grained, coarse fragments, dry, grey brown	0.00 - 0.50	0	1.90	
1		0.50 m: Same	0.50 - 1.00	0	10.30	ABT1MET-S CCMEC
			1.00 - 1.50	0	2.60	
2			1.50 - 2.00	0	2.40	
			2.00 - 2.50	1	2.60	PS24 ABT1MET-S CCMEC PAH2
3			2.5 - 3.00	1	0.90	

Sand
Sand, silty
Sand and Silt
Sand and Silt, clayey
Sand and Silt, gravely

Silt
Silt, sandy
Silt, clayey
Silt, clayey, sandy

Gravel
Sand and Gravel
Sand and Gravel, silty

Clay, Silty

PHC BTEX, F1-4
PAH Polycyclic Aro...
SAL Detailed Salinity
GLY Glycols Screen
MTH Methanol Screen

MTL AT1 Metals
STL Sterilant Screen
TXT 75 um Sieve
PSA Hydrometer
HLD Hold

Borehole Log: BH23-09

Client:	Duke Management	**Project:**	23-0118 Soil Sampling	**Logged by:**	Nnamdi Menkiti/Tristan Hennig
Site:	1802 11th Street SE	**Date:**	17-Feb-23	**Driller:**	Core Drilling Corp
GPS:		**Start:**	8:00	**Drill Type:**	Solid Stem
Location:	Southeast Boundary	**Finish:**	12:00PM	**Sample method:**	Discrete
Area:		**Total Depth (m):**	2.5	**Weather:**	-5 degrees

Depth (m)	Lithology	Description (observed): Major soil type, minor soil type, consistency-structure/density, plasticity/gradation, moisture, colour, parent material, inclusions (mottling, concretions, salinity, carbonates, coarse fragments, inclusions, roots, effervescence)	Sample Interval (m)	OVA (ppm)	EC (mS/cm)	Lab Analysis
		0.00 - 2.5.00 m: Sand, Silt and Gravely Low plasticity, medium grained, moist, coarse fragments, dry, grey brown	0.00 - 0.50	0	4.90	
1		0.50 m: Moisture from surface water	0.50 - 1.00	0	13.10	ABT1MET-S ABT1SAL-S CCMEC PAH2
			1.00 - 1.50	0	3.50	
2			1.50 - 2.00	0	6.40	
			2.00 - 2.50	0	5.40	ABT1MET-S ABT1SAL-S CCMEC PAH2

Sand
Sand, silty
Sand and Silt
Sand and Silt, clayey
Sand and Silt, gravely

Silt
Silt, sandy
Silt, clayey
Silt, clayey, sandy

Gravel
Sand and Gravel
Sand and Gravel, silty

Clay, Silty

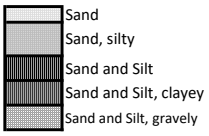
PHC BTEX, F1-4
PAH Polycyclic Aro...
SAL Detailed Salinity
GLY Glycols Screen
MTH Methanol Screen

MTL AT1 Metals
STL Sterilant Screen
TXT 75 um Sieve
PSA Hydrometer
HLD Hold

Borehole Log: BH23-10

Client:	Duke Management	**Project:**	23-0118 Soil Sampling	**Logged by:**	Nnamdi Menkiti/Tristan Hennig
Site:	1802 11th Street SE	**Date:**	17-Feb-23	**Driller:**	Core Drilling Corp
GPS:		**Start:**	8:00	**Drill Type:**	Solid Stem
Location:	South Boundary	**Finish:**	12:00PM	**Sample method:**	Discrete
Area:		**Total Depth (m):**	2.5	**Weather:**	-5 degrees

Depth (m)	Lithology	Description (observed): Major soil type, minor soil type, consistency-structure/density, plasticity/gradation, moisture, colour, parent material, inclusions (mottling, concretions, salinity, carbonates, coarse fragments, inclusions, roots, effervescence)	Sample Interval (m)	OVA (ppm)	EC (mS/cm)	Lab Analysis
		0.00 - 2.5.00 m: Sand, Silt and Gravely Low plasticity, medium grained, moist, coarse fragments, dry, grey brown	0.00 - 0.50	0	38.10	ABT1MET-S ABT1SAL-S CCMEC PAH2
1		0.50 m: Moisture from surface water	0.50 - 1.00	0	21.50	
			1.00 - 1.50	0	8.90	
2			1.50 - 2.00	1	23.90	
			2.00 - 2.50	1	30.80	ABT1MET-S ABT1SAL-S CCMEC PAH2



PHC	BTEX, F1-4	**MTL**	AT1 Metals
PAH	Polycyclic Aro...	**STL**	Sterilant Screen
SAL	Detailed Salinity	**TXT**	75 um Sieve
GLY	Glycols Screen	**PSA**	Hydrometer
MTH	Methanol Screen	**HLD**	Hold

Borehole Log: BH23-11

Client:	Duke Management	**Project:**	23-0118 Soil Sampling	**Logged by:**	Nnamdi Menkiti/Tristan Hennig
Site:	1802 11th Street SE	**Date:**	17-Feb-23	**Driller:**	Core Drilling Corp
GPS:		**Start:**	8:00	**Drill Type:**	Solid Stem
Location:	South Boundary	**Finish:**	12:00PM	**Sample method:**	Discrete
Area:		**Total Depth (m):**	0.5	**Weather:**	-5 degrees

Depth (m)	Lithology	Description (observed): Major soil type, minor soil type, consistency-structure/density, plasticity/gradation, moisture, colour, parent material, inclusions (mottling, concretions, salinity, carbonates, coarse fragments, inclusions, roots, effervescence)	Sample Interval (m)	OVA (ppm)	EC (mS/cm)	Lab Analysis
		0.00 - 0.5.00 m: Sand, Silt and Gravely Low plasticity, medium grained, coarse fragments, grey brown, moist from surface water	0.00 - 0.50	0	66.80	PS24 ABT1SAL-S ABT1MET-S CCMEC

- Sand
- Sand, silty
- Sand and Silt
- Sand and Silt, clayey
- Sand and Silt, gravely
- Silt
- Silt, sandy
- Silt, clayey
- Silt, clayey, sandy
- Gravel
- Sand and Gravel
- Sand and Gravel, silty
- Clay, Silty

PHC	BTEX, F1-4	**MTL**	AT1 Metals
PAH	Polycyclic Aro…	**STL**	Sterilant Screen
SAL	Detailed Salinity	**TXT**	75 um Sieve
GLY	Glycols Screen	**PSA**	Hydrometer
MTH	Methanol Screen	**HLD**	Hold

Borehole Log: BH23-12

Client:	Duke Management	**Project:**	23-0118 Soil Sampling	**Logged by:**	Nnamdi Menkiti/Tristan Hennig
Site:	1802 11th Street SE	**Date:**	17-Feb-23	**Driller:**	Core Drilling Corp
GPS:		**Start:**	8:00	**Drill Type:**	Solid Stem
Location:	Central Boundary	**Finish:**	12:00PM	**Sample method:**	Discrete
Area:		**Total Depth (m):**	1.5	**Weather:**	-5 degrees

Depth (m)	Lithology	Description (observed): Major soil type, minor soil type, consistency-structure/density, plasticity/gradation, moisture, colour, parent material, inclusions (mottling, concretions, salinity, carbonates, coarse fragments, inclusions, roots, effervescence)	Sample Interval (m)	OVA (ppm)	EC (mS/cm)	Lab Analysis
		0.00 - 1.50 m: Sand, Silt and Gravely Low plasticity, medium grained, coarse fragments, grey brown, all samples were moist from surface water	0.00 - 0.50	0	12.50	
1			0.50 - 1.00	0	10.80	ABT1MET-S CCMEC
			1.00 - 1.50	0	12.60	ABT1MET-S CCMEC

Sand
Sand, silty
Sand and Silt
Sand and Silt, clayey
Sand and Silt, gravely

Silt
Silt, sandy
Silt, clayey
Silt, clayey, sandy

Gravel
Sand and Gravel
Sand and Gravel, silty

Clay, Silty

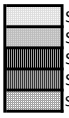
PHC BTEX, F1-4
PAH Polycyclic Aro...
SAL Detailed Salinity
GLY Glycols Screen
MTH Methanol Screen

MTL AT1 Metals
STL Sterilant Screen
TXT 75 um Sieve
PSA Hydrometer
HLD Hold

Borehole Log: BH23-13

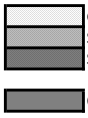
Client:	Duke Management	**Project:**	23-0118 Soil Sampling	**Logged by:**	Nnamdi Menkiti/Tristan Hennig
Site:	1802 11th Street SE	**Date:**	17-Feb-23	**Driller:**	Core Drilling Corp
GPS:		**Start:**	8:00	**Drill Type:**	Solid Stem
Location:	Central Boundary	**Finish:**	12:00PM	**Sample method:**	Discrete
Area:		**Total Depth (m):**	1.5	**Weather:**	-5 degrees

Depth (m)	Lithology	Description (observed): Major soil type, minor soil type, consistency-structure/density, plasticity/gradation, moisture, colour, parent material, inclusions (mottling, concretions, salinity, carbonates, coarse fragments, inclusions, roots, effervescence)	Sample Interval (m)	OVA (ppm)	EC (mS/cm)	Lab Analysis
		0.00 - 1.50 m: Sand, Silt and Gravely Low plasticity, medium grained, coarse fragments, dry	0.00 - 0.50	0	8.50	
1			0.50 - 1.00	0	3.80	ABT1MET-S CCMEC
			1.00 - 1.50	0	3.30	ABT1MET-S CCMEC



Sand
Sand, silty
Sand and Silt
Sand and Silt, clayey
Sand and Silt, gravely

Silt
Silt, sandy
Silt, clayey
Silt, clayey, sandy



Gravel
Sand and Gravel
Sand and Gravel, silty

Clay, Silty

PHC	BTEX, F1-4	**MTL**	AT1 Metals
PAH	Polycyclic Aro…	**STL**	Sterilant Screen
SAL	Detailed Salinity	**TXT**	75 um Sieve
GLY	Glycols Screen	**PSA**	Hydrometer
MTH	Methanol Screen	**HLD**	Hold

APPENDIX E – ANALYTICAL RESULTS TABLES

Table 1: Particle Size Analytical Results - Soil

Sample Identification	**BH23-08**	**BH23-11**
Sample Location	East Boundary	South Boundary
Depth (mbg)	200.0 - 250.0	0.0 - 50.0
Date Sampled	2023-02-17	2023-02-17
Laboratory Sample Identification	1633380-5	1633380-16
Laboratory Report Number	2851448	2851448
Grain Size 75 µm Sieve		
Percent Retained on Sieve	86.4	76.9
Soil Type (fine / coarse)	Coarse	Coarse

Notes:

Units are Percent (%) unless otherwise noted.

mbg = metres below grade; na = not analyzed; µm = micron.

Table 2: Petroleum Hydrocarbons Analytical Results - Soil

Sample Identification	BH23-02	BH23-02	BH23-02	BH23-02	BH23-04	BH23-04	BH23-04	BH23-05	BH23-06	BH23-06
Sample Location	East Boundary	East Boundary	East Boundary	East Boundary	North Boundary	North Boundary	North Boundary	Northeast Boundary	Northeast Boundary	Northeast Boundary
Depth (mbg)	0.0 - 50.0	100.0 - 150.0	300.0 - 350.0	400.0 - 450.0	50.0 - 100.0	100.0 - 150.0	100.0 - 150.0	50.0 - 100.0	50.0 - 100.0	100.0 - 150.0
Date Sampled	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16
Sample Identification	1633254-13	1633254-15	1633254-19	1633254-21	1633254-26	1633254-27	1633254-30	1633254-32	1633254-34	1633254-35
Laboratory Report Number	2851441	2851441	2851441	2851441	2851441	2851441	2851441	2851441	2851441	2851441
Surface Soil/Subsoil	Surface Soil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil
OVA (ppm)										
Grain Size 75 µm Sieve (% retained)										
Soil Type (fine/coarse)										
BTEXS										
Benzene	0.007	0.006	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005
Toluene	0.03	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	0.007	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Xylenes	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Styrene										
PHC (F1-F4)										
$F1_{(C6-C10)}$	21	<10	<10	<10	<10	<10	<10	<10	<10	<10
$F1_{-BTEX}$ [a]	21	<10	<10	<10	<10	<10	<10	<10	<10	<10
$F2_{(C11-C16)}$	71	<25	29	<25	<25	<25	<25	<25	<25	<25
$F3_{(C17-C34)}$	<100	52	705	132	<50	<50	69	<50	<50	<50
$F4_{(C34-C50+)}$	850	242	5880	839	<100	<100	<100	<100	<100	<100
Moisture Content (%)	7.08	8.98	3.03	1.58	5.23	5.65	5.57	6.11	6.14	7.29

Notes:

bold and highlighted value is above referenced guideline.

Units are mg/kg unless otherwise noted.

BTEXS = benzene, toluene, ethylbenzene, xylenes, and styrene; F1-F4 = fraction 1 - fraction 4; mbg = metres below grade; mg/kg = milligrams per kilogram; na = not analyzed; ng = no guideline;

OVA = organic vapour analysis; PHC = petroleum hydrocarbons; ppm = parts per million; µm = micron; < = below laboratory method detection limit.

All combustible vapour readings measured using a RKI Eagle portable gas monitor (or equivalent).

[a] = F1(C6-C10) includes the entire C6-C10 fraction including BTEX. The F1-BTEX value is compared to the guideline as BTEX parameters have seperate guidelines.

[b] = $F4G_{-SG}$ reported as F4 fraction when chromatogram does not descend to baseline at C50.

Guideline

[c] Alberta Environment and Sustainable Resource Development (ESRD). 2022. *Alberta Tier 1 Soil and Groundwater Remediation Guidelines*.

Table 2: Petroleum Hydrocarb

Sample Identification	BH23-06	BH23-07	BH23-07	BH23-08	BH23-08	BH23-09	BH23-09	BH23-10	BH23-10	BH23-11
Sample Location	Northeast Boundary	East Boundary	East Boundary	Southeast Boundary	Southeast Boundary	Southeast Boundary	Southeast Boundary	South Boundary	South Boundary	South Boundary
Depth (mbg)	150.0 - 200.0	50.0 - 100.0	100.0 - 150.0	50.0 - 100.0	200.0 - 250.0	50.0 - 100.0	200.0 - 250.0	0.0-50.0	200.0 - 250.0	0.0 - 50.0
Date Sampled	2023-02-16	2023-02-16	2023-02-16	2023-02-17	2023-02-17	2023-02-17	2023-02-17	2023-02-17	2023-02-17	2023-02-17
Sample Identification	1633254-36	1633254-38	1633254-39	1633380-2	1633380-5	1633380-7	1633380-10	1633380-11	1633380-16	1633380-18
Laboratory Report Number	2851441	2851441	2851441	2851448	2851448	2851448	2851448	2851448	2851448	2851448
Surface Soil/Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Surface Soil	Subsoil	Subsoil
OVA (ppm)										
Grain Size 75 µm Sieve (% retained)					86.4					
Soil Type (fine/coarse)					Coarse					
BTEXS										
Benzene	<0.005	<0.005	<0.005	0.014	0.016	<0.005	<0.005	0.009	0.016	<0.005
Toluene	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	0.06	0.03	<0.02
Ethylbenzene	<0.005	<0.005	<0.005	0.006	0.007	<0.005	<0.005	<0.005	0.008	<0.005
Xylenes	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	0.07	<0.03
Styrene										
PHC (F1-F4)										
$F1_{(C6-C10)}$	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
$F1_{-BTEX}$[a]	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
$F2_{(C11-C16)}$	<25	<25	<25	<25	25	<25	<25	<25	<25	<25
$F3_{(C17-C34)}$	<50	<50	<50	82	<50	<50	<50	<50	<50	<50
$F4_{(C34-C50+)}$	<100	<100	<100	<100	542	<100	<100	<100	1160	<100
Moisture Content (%)	7.38	4.34	3.34	3.55	3.5	8.36	4.06	8.66	7.8	17.1

Notes:

bold and highlighted

Units are mg/kg unless otherwise noted.

BTEXS = benzene, toluene, ethylbenzene, xyl

OVA = organic vapour analysis; PHC = petrol

All combustible vapour readings measured us

[a] = F1(C6-C10) includes the entire C6-C10 fra

[b] = $F4G_{-SG}$ reported as F4 fraction when chron

Guideline

[c] Alberta Environment and Sustainable Resou

Table 2: Petroleum Hydrocarb

Sample Identification	**BH23-12**	**BH23-12**	**BH23-13**	**BH23-13**	**Residential/Parkland**	**Residential/Parkland**	**Residential/Parkland**	**Residential/Parkland**
Sample Location	Central Boundary	Central Boundary	Central Boundary	Central Boundary				
Depth (mbg)	50.0 - 100.0	100.0 - 150.0	50.0 - 100.0	100.0 - 150.0	**Surface Soil**	**Subsoil**	**Surface Soil**	**Subsoil**
Date Sampled	2023-02-17	2023-02-17	2023-02-17	25-Jan-22				
Sample Identification	1633380-18	1633380-19	1633380-21	1633380-22	**Land Use Guidelines**	**Land Use Guidelines**	**Land Use Guidelines**	**Land Use Guidelines**
Laboratory Report Number	2851448	2851448	2851448	2851448				
Surface Soil/Subsoil	Subsoil	Subsoil	Subsoil	Surface Soil				
OVA (ppm)								
Grain Size 75 µm Sieve (% retained)					**Fine[c]**		**Coarse[c]**	
Soil Type (fine/coarse)								
BTEXS					**BTEXS**		**BTEXS**	
Benzene	0.023	0.04	0.019	<0.005	0.046	0.046	0.073	0.078
Toluene	0.09	0.12	<0.02	<0.02	0.52	0.52	0.12	0.12
Ethylbenzene	0.01	0.013	0.006	<0.005	0.073	0.073	0.14	0.14
Xylenes	0.17	0.19	<0.03	<0.03	0.99	0.99	1.9	1.9
Styrene					0.68	0.68	0.80	0.80
PHC (F1-F4)					**PHC (F1-F4)**		**PHC (F1-F4)**	
$F1_{(C6-C10)}$	<10	<10	<10	<10	ng	ng	ng	ng
$F1_{-BTEX}$[a]	<10	<10	<10	<10	210	420	24	30
$F2_{(C11-C16)}$	<25	<25	<25	<25	150	300	130	160
$F3_{(C17-C34)}$	<50	<50	<50	<50	1,300	2,600	300	600
$F4_{(C34-C50+)}$	<100	<100	<100	<100	5,600	10,000	2,800	5,600
Moisture Content (%)	4.09	6.1	3.02	2.2	ng	ng	ng	ng

Notes:

bold and highlighted

Units are mg/kg unless otherwise noted.

BTEXS = benzene, toluene, ethylbenzene, xyl

OVA = organic vapour analysis; PHC = petrol

All combustible vapour readings measured us

[a] = F1(C6-C10) includes the entire C6-C10 fra

[b] = $F4G_{-SG}$ reported as F4 fraction when chron

Guideline

[c] Alberta Environment and Sustainable Resou

Table 3: Metals Concentration Analytical Results - Soil

Sample Identification	BH23-01	BH23-01	BH23-01	BH23-02	BH23-02	BH23-04	BH23-04	BH23-05	BH23-06	BH23-06
Sample Location	North Boundary	North Boundary	North Boundary	East Boundary	East Boundary	North Boundary	North Boundary	Northeast Boundary	Northeast Boundary	Northeast Boundary
Depth (mbg)	150.0 - 200.0	300.0 - 350.0	500.0 - 550.0	100.0 - 150.0	300.0 - 350.0	50.0 - 100.0	100.0 - 150.0	50.0 - 100.0	50.0 - 100.0	100.0 - 150.0
Date Sampled	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16
Laboratory Sample Identification	1633254-4	1633254-7	1633254-11	1633254-15	1633254-19	1633254-26	1633254-27	1633254-32	1633254-34	1633254-35
Laboratory Report Number	2851441	2851441	2851441	2851441	2851441	2851441	2851441	2851441	2851441	2851441
Boron (B)	0.84	0.26	0.25	0.24	0.31	0.27	0.24	0.67	0.21	0.2
Antimony (Sb)	<0.2	<0.2	0.2	0.5	0.2	0.3	0.3	0.4	0.3	0.3
Arsenic (As)	3.0	2.3	4.2	4.7	3.0	3.7	3.4	3.6	3.2	3.2
Total Barium (Ba) (strong acid)	95	47	78	173	64	102	106	134	75	73
Beryllium (Be)	0.1	<0.1	0.1	0.3	0.2	0.2	0.2	0.2	0.1	0.1
Cadmium (Cd)	0.15	0.17	0.27	0.44	0.18	0.22	0.23	0.23	0.21	0.24
Chromium (Cr) (total)	32.2	19.9	13.9	11.2	8.3	27.4	28.0	149	157	95.5
Cobalt (Co)	6.7	1.7	2.9	3.7	2.2	2.7	2.4	2.7	2.6	2.6
Copper (Cu)	7.4	6.1	8.9	10.2	18.8	6.5	6.3	6.9	7.3	5.0
Lead (Pb)	3.9	2.0	3.2	18.2	3.3	6.2	8.5	8.6	3.8	4.4
Mercury (Hg)	0.23	0.06	0.06	0.07	<0.05	<0.05	<0.05	<0.05	0.40	0.52
Molybdenum (Mo)	3.7	6.6	2.9	1.7	1.6	1.7	2.1	6.2	9.5	3.9
Nickel (Ni)	17.9	24.5	13.9	13.9	10.4	8.9	8.4	10.1	36.5	35.2
Selenium (Se)	<0.30	<0.29	<0.29	<0.30	<0.29	<0.30	<0.29	<0.30	<0.30	<0.29
Silver (Ag)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium (Tl)	<0.05	<0.05	0.05	0.08	<0.05	<0.05	<0.05	0.05	<0.05	0.05
Tin (Sn)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Uranium (U)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.5
Vanadium (V)	8.7	6.6	8.7	13.4	7.5	9.2	8.4	11.9	8.4	8.2
Zinc (Zn)	26	18	30	66	43	30	31	34	23	25

Notes:

bold and highlighted value is above referenced guideline and background.

bold value is above referenced guideline.

Units are mg/kg unless otherwise noted.

HWS = hot water soluble; mbg = metres below grade; mg/kg = milligrams per kilogram;
na = not analyzed; < = below laboratory method detection limit.

Guidelines

[b] Alberta Environment and Sustainable Resource Development (ESRD). 2022. *Alberta Tier 1 Soil and Groundwater Remediation Guidelines.*

[q] AENV. 2009. *Soil Remediation Guidelines for Barite: Environmental Health and Human Health, February, 2009.*

Residential	
Extractable Barium ($CaCl_2$)	**True Total Barium (XRF/ICP)**
(mg/kg)	(mg/kg)
≤ 250	10,000

Table 3: Metals Concentration An

Sample Identification	BH23-06	BH23-07	BH23-07	BH23-07	BH23-08	BH23-08	BH23-09	BH23-09	BH23-10	BH23-10
Sample Location	Northeast Boundary	East Boundary	East Boundary	East Boundary	Southeast Boundary	Southeast Boundary	Southeast Boundary	Southeast Boundary	South Boundary	South Boundary
Depth (mbg)	150.0 - 200.0	50.0 - 100.0	100.0 - 150.0	200.0 - 250.0	50.0 - 100.0	200.0 - 250.0	50.0 - 100.0	200.0 - 250.0	0.0-50.0	200.0 - 250.0
Date Sampled	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-17	2023-02-17	2023-02-17	2023-02-17	2023-02-17	2023-02-17
Laboratory Sample Identification	1633254-36	1633254-38	1633254-39	1633254-41	1633380-2	1633380-5	1633380-7	1633380-10	1633380-11	1633380-15
Laboratory Report Number	2851441	2851441	2851441	2851441	2851448	2851448	2851448	2851448	2851448	2851448
Boron (B)	0.23	0.15	0.11	0.15	0.25	0.22	0.11	0.13	3.96	4.76
Antimony (Sb)	0.3	0.2	0.7	0.3	1.9	0.4	0.3	0.2	0.4	0.4
Arsenic (As)	3.5	3.6	3.8	5.3	3.9	3.1	3.2	3.0	6.0	5.9
Total Barium (Ba) (strong acid)	82	127	127	137	142	86	72	61	194	174
Beryllium (Be)	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.3	0.3
Cadmium (Cd)	0.22	0.19	0.21	0.27	0.24	0.17	0.50	0.18	0.29	0.28
Chromium (Cr) (total)	128	35.4	78.9	24.7	128	30.9	13.9	12.9	40.6	80.8
Cobalt (Co)	3.3	2.6	2.6	2.7	3.3	2.4	2.0	2.1	4.7	4.4
Copper (Cu)	6.7	5.4	7.1	7.1	9.4	5.7	4.6	5.5	12.8	11.7
Lead (Pb)	4.7	4.8	23.0	7.4	19.2	6.4	3.5	3.7	9.6	8.8
Mercury (Hg)	0.45	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Molybdenum (Mo)	10.5	2.4	6.4	1.9	9.1	1.7	<1.0	1.3	2.0	6.3
Nickel (Ni)	37.4	8.9	9.9	9.2	11.0	7.8	6.7	7.3	14.9	14.3
Selenium (Se)	<0.30	<0.30	<0.29	<0.29	<0.30	<0.29	<0.29	<0.30	<0.29	<0.30
Silver (Ag)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium (Tl)	<0.05	0.06	0.06	0.07	0.07	0.05	<0.05	<0.05	0.10	0.10
Tin (Sn)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Uranium (U)	<0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.6
Vanadium (V)	8.1	8.9	8.9	10.4	12.7	8.9	8.4	7.7	18	15.5
Zinc (Zn)	24	27	25	29	42	28	44	23	53	47

Notes:

bold and highlighted value is above reference

bold value is above reference

Units are mg/kg unless otherwise noted.

HWS = hot water soluble; mbg = metres below gra

na = not analyzed; < = below laboratory method d

Guidelines

[b] Alberta Environment and Sustainable Resource

[a] AENV. 2009. *Soil Remediation Guidelines for Ba*

Residential	
Extractable Barium ($CaCl_2$)	**True Total Barium (XRF/ICP)**
(mg/kg)	(mg/kg)
≤ 250	10,000

Table 3: Metals Concentration An

Sample Identification	BH23-11	BH23-12	BH23-12	BH23-13	BH23-13	Residential / Parkland
Sample Location	South Boundary	Central Boundary	Central Boundary	Central Boundary	Central Boundary	Land Use
Depth (mbg)	0.0 - 500.0	50.0 - 100.0	100.0 - 150.0	50.0 - 100.0	100.0 - 150.0	
Date Sampled	2023-02-17	2023-02-17	2023-02-17	2023-02-17	25-Jan-22	
Laboratory Sample Identification	1633380-16	1633380-18	1633380-19	1633380-21	1633380-22	Guidelines[b]
Laboratory Report Number	2851448	2851448	2851448	2851448	2851448	
Boron (B)	1.15	0.31	0.24	0.17	0.11	3.3
Antimony (Sb)	0.4	0.5	0.3	0.2	0.2	20
Arsenic (As)	4.8	3.6	3.8	3.4	3.2	17
Total Barium (Ba) (strong acid)	436	111	110	209	169	500
Beryllium (Be)	0.3	0.1	0.2	0.2	0.1	5
Cadmium (Cd)	0.41	0.26	0.30	0.22	0.18	10
Chromium (Cr) (total)	32.1	74.9	23.8	35.7	63.6	64
Cobalt (Co)	3.6	2.9	2.6	2.6	2.6	20
Copper (Cu)	8.6	7.4	7.8	7.0	6.5	63
Lead (Pb)	10.5	19.5	25.8	3.7	3.7	140
Mercury (Hg)	0.2	<0.05	<0.05	<0.05	<0.05	6.6
Molybdenum (Mo)	1.7	6.9	2.2	3.4	5.6	4
Nickel (Ni)	21.2	9.9	9.4	9.3	9.5	45
Selenium (Se)	<0.29	<0.30	<0.29	<0.30	<0.29	1
Silver (Ag)	<0.10	<0.10	<0.10	<0.10	<0.10	20
Thallium (Tl)	0.08	<0.05	<0.05	0.06	0.05	1
Tin (Sn)	<1.0	<1.0	<1.0	<1.0	<1.0	5
Uranium (U)	0.7	<0.5	<0.5	1.1	1.1	23
Vanadium (V)	13.0	9.8	10.2	12.1	11.3	130
Zinc (Zn)	39	36	40	30	26	250

Notes:

bold and highlighted value is above reference

bold value is above reference

Units are mg/kg unless otherwise noted.

HWS = hot water soluble; mbg = metres below gra

na = not analyzed; < = below laboratory method d

Guidelines

[b] Alberta Environment and Sustainable Resource

[a] AENV. 2009. *Soil Remediation Guidelines for Ba*

Residential	
Extractable Barium ($CaCl_2$)	**True Total Barium (XRF/ICP)**
(mg/kg)	(mg/kg)
≤ 250	10,000

Table 4: Detailed Salinity Analytical Results - Soil

Sample Identification		**BH23-01**	**BH23-01**	**BH23-01**	**BH23-01**	**BH23-02**	**BH23-06**	**BH23-06**	**BH23-09**	**BH23-09**	**BH23-10**	**BH23-10**
Sample Location		North Boundary	North Boundary	North Boundary	North Boundary	East Boundary	Northeast Boundary	Northeast Boundary	Southeast Boundary	Southeast Boundary	South Boundary	South Boundary
Depth (mbg)		50.0 - 100.0	150.0 - 200.0	300.0 - 350.0	500.0 - 550.0	0.0 - 50.0	50.0 - 100.0	150.0 - 200.0	50.00 - 100.0	200.0 - 250.0	0.0 - 50.0	200.0 - 250.0
Date Sampled		2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-17	2023-02-17	2023-02-17	2023-02-17
Laboratory Sample Identification		1633254-2	1633254-4	1633254-7	1633254-11	1633254-13	1633254-34	1633254-36	1633380-7	1633380-10	1633380-11	1633380-15
Laboratory Report Number		2851441	2851441	2851441	2851441	2851441	2851441	2851441	2851448	2851448	2851448	2851448
pH ($CaCl_2$)		7.2	7.8	7.3	7.6	7.5	7.6	7.9	8	7.7	7.8	7.8
Electrical Conductivity (EC) (dS/m)		0.60	0.71	0.28	0.25	0.40	0.51	0.71	0.25	0.25	0.55	0.69
Sodium Adsorption Ratio[b] (SAR)		3.4	0.8	0.4	0.6	0.8	0.8	0.8	0.2	0.2	1.5	1.5
TGR(sodic) (t/ha)		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TGR(brine) (t/ha)												
Saturation Percentage (%)		129	32	49	83	41	43	43	126	111	75	67
Soluble Ions												
Sodium (Na)		112	10	6	11	10	11	10	8	8	36	36
Calcium (Ca)		43.5	15.3	16.1	18.4	16.4	19.7	18.5	52.9	49.7	42.6	54.5
Magnesium (Mg)		12	11.3	8.2	9.9	5.8	8.4	6.3	13	12.6	7.5	5.6
Potassium (K)		5	2	3	4	2	3	3	9	9	5	6
Chloride (Cl)		77	43	8	10	16	31	13	16	15	32	50
Sulphate-S (SO_4-S)		52.6	6.9	5.6	8.1	11	36.9	22.6	11	11	61.8	78.2
Soil Quality Guidelines[c]	Soil Horizon	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil	Subsoil
	Salinity Rating (EC)	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
	Sodicity Rating (SAR)	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good

Notes:

bold and highlighted value is above or outside of the referenced guideline and background.

bold value is above or outside of the referenced guideline.

Units are mg/kg unless otherwise noted.

$CaCl_2$ = calcium chloride extraction method; dS/m = deciSiemens per metre; EC = electrical conductivity; mbg = metres below grade; mg/kg = milligrams per kilogram; na = not analyzed; ng = no guideline; SAR = sodium adsorption ratio; TGR = theoretical gypsum requirement; t/ha = tonnes per hectare; < = below laboratory method detection limit.

Guidelines

[a] Alberta Environment and Sustainable Resource Development (ESRD). 2022. *Alberta Tier 1 Soil and Groundwater Remediation Guidelines.*

[b] Material characterized by SAR of 12 to 20 may be rated as poor if texture is sandy loam or coarser and saturation % is less than 100 (AENV, 2001).

[c] AENV. 2001. *Salt Contamination Assessment & Remediation Guidelines*

Good topsoil		EC <3 dS/m; SAR <4
Fair topsoil		EC 3 to 5 dS/m; SAR 4 to 8
Poor topsoil		EC 5 to 10 dS/m; SAR 8 to 12
Unsuitable topsoil		EC >10 dS/m; SAR >12
Commercial / Industrial topsoil		EC <4 dS/m; SAR <12

Table 4: Detailed Salinity Analytical Re

Sample Identification		BH23-11	Directive 50 Equivalent Salinity Guidelines Topsoil Below Topsoil to 1mbg > 1mbg	ESRD Guideline[a]
Sample Location		South Boundary		
Depth (mbg)		0.0 - 50.0		
Date Sampled		2023-02-17		
Laboratory Sample Identification		1633380-16		
Laboratory Report Number		2851448		
pH ($CaCl_2$)		7.8		6-8.5
Electrical Conductivity (EC) (dS/m)		0.46	2 3 6	-
Sodium Adsorption Ratio[b] (SAR)		2.4	6 8 10	-
TGR(sodic) (t/ha)		<0.1		ng
TGR(brine) (t/ha)				ng
Saturation Percentage (%)		109		ng
Soluble Ions				
Sodium (Na)		65		ng
Calcium (Ca)		34.8		ng
Magnesium (Mg)		9.1		ng
Potassium (K)		7		ng
Chloride (Cl)		41		ng
Sulphate-S (SO_4-S)		57.3		ng
Soil Quality Guidelines[c]	Soil Horizon	Subsoil		-
	Salinity Rating (EC)	Good		-
	Sodicity Rating (SAR)	Good		-

Notes:

bold and highlighted value is above or outside of th

bold value is above or outside of th

Units are mg/kg unless otherwise noted.

$CaCl_2$ = calcium chloride extraction method; dS/m = deci

SAR = sodium adsorption ratio; TGR = theoretical gypsun

Guidelines

[a] Alberta Environment and Sustainable Resource Develop

[b] Material characterized by SAR of 12 to 20 may be rated

[c] AENV. 2001. *Salt Contamination Assessment & Remedi*

Good topsoil
Fair topsoil
Poor topsoil
Unsuitable topsoil
Commercial / Industrial topsoil

Table 5: Polycyclic Aromatic Hydrocarbon Analytical Results - Soil

Sample Identification	BH23-02	BH23-02	BH23-04	BH23-04	BH23-06	BH23-07	BH23-08	BH23-09	BH23-09	BH23-10	BH23-10	Residential / Parkland	
Sample Location	East Boundary	East Boundary	North Boundary	North Boundary	Northeast Boundary	East Boundary	Southeast Boundary	Southeast Boundary	Southeast Boundary	South Boundary	South Boundary		
Depth (mbg)	100.0 - 150.0	300.0 - 350.0	100.0 - 150.0	250.0 - 300.0	100.0 - 150.0	200.0 - 250.0	200.0 - 250.0	50.0 - 100.0	200.0 - 250.0	0.0-50.0	200.0 - 250.0	Land Use	
Date Sampled	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-16	2023-02-17	2023-02-17	2023-02-17	2023-02-17	2023-02-17	2023-02-17		
Laboratory Sample Identification	1633254-15	1633254-19	1633254-27	1633254-30	1633254-35	1633254-41	1633380-5	1633380-7	1633380-10	1633380-11	1633380-15	Guidelines[a]	
Laboratory Report Number	2851441	2851441	2851441	2851441	2851441	2851441	2851448	2851448	2851448	2851448	2851448		
Grain Size 75 µm Sieve (% retained)												Fine	Coarse
Soil Type (fine/coarse)													
Carcinogenic PAHs (IACR, Coarse Grained)	1.27	<0.001	0.004	0.359	0.028	<0.001	0.066	<0.001	<0.001	0.005	0.007	IACR<1.0	
Carcinogenic PAHs (IACR, Fine Grained)	**2.41**	<0.001	0.009	0.683	0.054	<0.001	0.125	<0.001	<0.001	0.009	0.014	IACR<1.0	
Carcinogenic PAHs (as B[a]P TPE)	2.09	0.005	0.028	0.610	0.115	<0.001	0.105	<0.001	<0.001	0.030	0.046	TPE<5.3	
Acenaphthene	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.33	0.38
Acenaphthylene	0.66	<0.05	<0.05	<0.05	<0.05							ng	ng
Acridine												ng	ng
Anthracene	1.20	0.004	0.015	0.230	0.054	<0.003	0.063	<0.003	<0.003	0.018	0.036	1.3	0.0056
Benz[a]anthracene[b]	1.70	<0.01	0.03	0.33	0.11	<0.01	0.10	<0.01	<0.01	0.03	0.05	ng	ng
Benzo[a]pyrene[b]	1.33	<0.05	<0.05	0.34	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	20.00	20.00
Benzo[b]fluoranthene												ng	ng
Benzo[b+j]fluoranthene[b]	2.11	<0.05	<0.05	0.8	0.10	<0.05	0.10	<0.05	<0.05	<0.05	<0.05	ng	ng
Benzo[g,h,i]perylene[c]	0.71	<0.05	<0.05	0.52	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ng	ng
Benzo[k]fluoranthene[b]	0.88	<0.05	<0.05	0.23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ng	ng
Chrysene[b]	1.73	<0.05	<0.05	0.29	0.11	<0.05	0.11	<0.05	<0.05	<0.05	<0.05	ng	ng
Dibenzo[a,h]anthracene[b]	0.19	<0.05	<0.05	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ng	ng
Fluoranthene	5.23	0.014	0.041	0.360	0.198	<0.01	0.214	<0.01	<0.01	0.088	0.16	50	0.055
Fluorene	0.67	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.4	0.34
Indeno[1,2,3-c,d]pyrene[c]	0.77	<0.05	<0.05	0.34	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ng	ng
2-Methylnaphthalene												ng	ng
Naphthalene	0.401	<0.010	0.015	0.032	0.020	<0.010	0.031	<0.010	<0.010	0.011	0.019	0.014	0.017
Phenanthrene	6.14	0.02	0.03	0.13	0.21	0.01	0.21	<0.01	<0.01	0.08	0.15	0.11	0.061
Pyrene	4.15	0.015	0.040	0.327	0.229	<0.01	0.199	<0.01	<0.01	0.079	0.146	2100	0.150
Perylene												ng	ng
Quinoline												ng	ng

Notes:
bold and highlighted value is above referenced guideline.
Units are mg/kg unless otherwise noted.
B[a]P = Benzo[a]pyrene; IACR = Index of Additive Cancer Risk; mbg = metres below grade; mg/kg = milligrams per kilogram; na = not analyzed; ng = no guideline
TPE =Total Potency Equivalent; < = below laboratory method detection limit.

Guideline
[a] Alberta Environment and Sustainable Resource Development (ESRD). 2022. *Alberta Tier 1 Soil and Groundwater Remediation Guidelines. Land and Forestry Policy Branch, Policy Division, 2022.*

APPENDIX F – ELEMENT LABORATORY REPORTS

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 street SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851441

Contact	Company	Address
Mark Cross	**Core Geomatics Group Inc.**	Suite 300, 4503 Brisebois Drive NW Calgary, AB T2L 2G3 Phone: (403) 648-2722 Fax: (403) 648-2767 Email: mark.cross@coregeomatics.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report
Email	Standard Crosstab With Tabs	Test Report
Email - Merge	PDF	COA
Email - Merge	PDF	Invoice

Contact	Company	Address
Nnamdi Menkiti	**Core Geomatics Group Inc.**	Suite 300, 4503 Brisebois Drive NW Calgary, AB T2L 2G3 Phone: (403) 648-2722 Fax: (403) 648-2767 Email: nnamdi.menkiti@coregeomatics.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report
Email	Standard Crosstab Without Tabs	Test Report
Email - Merge	PDF	COA

Contact	Company	Address
Tristan Hennig	**Core Geomatics Group Inc.**	Suite 300, 4503 Brisebois Drive NW Calgary, AB T2L 2G3 Phone: (403) 648-2722 Fax: (403) 648-2767 Email: tristan.hennig@coregeomatics.com

Delivery	Format	Deliverables
Email	PDF	COA
Email	Standard Crosstab With Tabs	Test Report
Email - Merge	PDF	COC / Test Report

Notes To Clients:

- Mar 09, 2023 - Report was issued to change the Project ID from 21-0832 to 23-0118, and project location from 1001-8th St SE to 1802 - 11 street SE as requested by Nnamdi Menkiti of Core Geomatics on March 9, 2023.
  Previous report 2845156.
- Mar 10, 2023 - Analysis was performed on samples 30, 41 that exceeded the recommended holding time for PAH2 analysis.
- Mar 10, 2023 - Analysis was performed on sample 21 that exceeded the recommended holding time for BTEX F2-F4 analysis.
- Mar 10, 2023 - Report was issued to include additional services requested by Nnamdi Menkiti of Core Geomatics Group Inc. on March 09,2023:
  ABT1MET-S service requested on sample 41.
  CCMEC service requested on sample 21.
  PAH2 service requested on samples 30, 41.
  Previous report 2851055.

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Analytical Report

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 street SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851441

Reference Number	1633254-2	1633254-4	1633254-7
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-01 / 50 - 100	BH 23-01 / 150 - 200	BH 23-01 / 300 - 350
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Salinity						
Electrical Conductivity	Saturated Paste	dS/m	0.60	0.71	0.28	0.01
SAR	Saturated Paste		3.4	0.8	0.4	
% Saturation		%	129	32	49	
Calcium	Saturated Paste	mg/kg	43.5	15.3	16.1	
Magnesium	Saturated Paste	mg/kg	12	11.3	8.2	
Sodium	Saturated Paste	mg/kg	112	10	6	
Potassium	Saturated Paste	mg/kg	5	2	3	
Chloride	Saturated Paste	mg/L	77	134	16	3
Chloride	Saturated Paste	mg/kg	99	43	8	
Sulfate (SO4)	Saturated Paste	mg/kg	52.6	6.9	5.6	
Boron	Saturated Paste	mg/L		0.84	0.26	0.05
TGR	Saturated Paste	T/ac	<0.1	<0.1	<0.1	
Soil Acidity						
pH	1:2 Soil:CaCl2 sol.	pH	7.2	7.8	7.3	

Element
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T1Y 5L3, Canada

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F: +1 (403) 291-2021
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W: www.element.com

Analytical Report

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 street SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851441

Reference Number	1633254-4	1633254-7	1633254-11
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-01 / 150 - 200	BH 23-01 / 300 - 350	BH 23-01 / 500 - 550
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Antimony	Strong Acid Extractable	mg/kg	<0.2	<0.2	0.2	0.2
Arsenic	Strong Acid Extractable	mg/kg	3.0	2.3	4.2	0.2
Barium	Strong Acid Extractable	mg/kg	95	47	78	1
Beryllium	Strong Acid Extractable	mg/kg	0.1	<0.1	0.1	0.1
Cadmium	Strong Acid Extractable	mg/kg	0.15	0.17	0.27	0.01
Chromium	Strong Acid Extractable	mg/kg	32.2	19.9	13.9	0.5
Cobalt	Strong Acid Extractable	mg/kg	6.7	1.7	2.9	0.1
Copper	Strong Acid Extractable	mg/kg	7.4	6.1	8.9	1
Lead	Strong Acid Extractable	mg/kg	3.9	2.0	3.2	0.1
Mercury	Strong Acid Extractable	mg/kg	0.23	0.06	0.06	0.05
Molybdenum	Strong Acid Extractable	mg/kg	3.7	6.6	2.9	1
Nickel	Strong Acid Extractable	mg/kg	17.9	24.5	13.9	0.5
Selenium	Strong Acid Extractable	mg/kg	<0.30	<0.29	<0.29	0.3
Silver	Strong Acid Extractable	mg/kg	<0.10	<0.10	<0.10	0.1
Thallium	Strong Acid Extractable	mg/kg	<0.05	<0.05	0.05	0.05
Tin	Strong Acid Extractable	mg/kg	<1.0	<1.0	<1.0	1
Uranium	Strong Acid Extractable	mg/kg	<0.5	<0.5	<0.5	0.5
Vanadium	Strong Acid Extractable	mg/kg	8.7	6.6	8.7	0.1
Zinc	Strong Acid Extractable	mg/kg	26	18	30	1
Water Soluble Parameters						
Chromium (VI)	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Analytical Report

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 street SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851441

Reference Number	1633254-11	1633254-13	1633254-15
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-01 / 500 - 550	BH 23-02 / 0 - 50	BH 23-02 / 100 - 150
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Salinity						
Electrical Conductivity	Saturated Paste	dS/m	0.25	0.40		0.01
SAR	Saturated Paste		0.6	0.8		
% Saturation		%	83	41	52	
Calcium	Saturated Paste	mg/kg	18.4	16.4		
Magnesium	Saturated Paste	mg/kg	9.9	5.8		
Sodium	Saturated Paste	mg/kg	11	10		
Potassium	Saturated Paste	mg/kg	4	2		
Chloride	Saturated Paste	mg/L	12	16		3
Chloride	Saturated Paste	mg/kg	10	6		
Sulfate (SO4)	Saturated Paste	mg/kg	8.1	11		
Boron	Saturated Paste	mg/L	0.25		0.24	0.05
TGR	Saturated Paste	T/ac	<0.1	<0.1		

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Report Number: 2851441

Reference Number	1633254-11	1633254-13	1633254-34
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-01 / 500 - 550	BH 23-02 / 0 - 50	BH 23-06 / 50 - 100
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Soil Acidity						
pH	1:2 Soil:CaCl2 sol.	pH	7.6	7.5	7.6	

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Reference Number	1633254-13	1633254-15	1633254-19
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-02 / 0 - 50	BH 23-02 / 100 - 150	BH 23-02 / 300 - 350
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	0.007	0.006	<0.005	0.005
Toluene	Dry Weight	mg/kg	0.03	0.04	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	0.007	0.007	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	0.04	<0.03	0.03
Methanol Field Preservation			Yes	Yes	Yes	
Volatile Petroleum Hydrocarbons - Soil						
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		23-Feb-23	23-Feb-23	23-Feb-23	
F2c C10-C16	Dry Weight	mg/kg	<25	<25	29	25
F3c C16-C34	Dry Weight	mg/kg	71	52	705	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	494	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	850	242	5880	100
% C50+		%	82.4	67.1	73.6	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	% by weight	7.08	8.98	3.03	

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Date Received: Feb 17, 2023
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Reference Number	1633254-15	1633254-19	1633254-26
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-02 / 100 - 150	BH 23-02 / 300 - 350	BH 23-04 / 50 - 100
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Antimony	Strong Acid Extractable	mg/kg	0.5	0.2	0.3	0.2
Arsenic	Strong Acid Extractable	mg/kg	4.7	3.0	3.7	0.2
Barium	Strong Acid Extractable	mg/kg	173	64	102	1
Beryllium	Strong Acid Extractable	mg/kg	0.3	0.2	0.2	0.1
Cadmium	Strong Acid Extractable	mg/kg	0.44	0.18	0.22	0.01
Chromium	Strong Acid Extractable	mg/kg	11.2	8.3	27.4	0.5
Cobalt	Strong Acid Extractable	mg/kg	3.7	2.2	2.7	0.1
Copper	Strong Acid Extractable	mg/kg	10.2	18.8	6.5	1
Lead	Strong Acid Extractable	mg/kg	18.2	3.3	6.2	0.1
Mercury	Strong Acid Extractable	mg/kg	0.07	<0.05	<0.05	0.05
Molybdenum	Strong Acid Extractable	mg/kg	1.7	1.6	1.7	1
Nickel	Strong Acid Extractable	mg/kg	13.9	10.4	8.9	0.5
Selenium	Strong Acid Extractable	mg/kg	<0.30	<0.29	<0.30	0.3
Silver	Strong Acid Extractable	mg/kg	<0.10	<0.10	<0.10	0.1
Thallium	Strong Acid Extractable	mg/kg	0.08	<0.05	<0.05	0.05
Tin	Strong Acid Extractable	mg/kg	<1.0	<1.0	<1.0	1
Uranium	Strong Acid Extractable	mg/kg	<0.5	<0.5	<0.5	0.5
Vanadium	Strong Acid Extractable	mg/kg	13.4	7.5	9.2	0.1
Zinc	Strong Acid Extractable	mg/kg	66	43	30	1
Water Soluble Parameters						
Chromium (VI)	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

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Reference Number	1633254-15	1633254-19	1633254-27
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-02 / 100 - 150	BH 23-02 / 300 - 350	BH 23-04 / 100 - 150
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Polycyclic Aromatic Hydrocarbons - Soil						
Naphthalene	Dry Weight	mg/kg	0.401	<0.010	0.015	0.010
Acenaphthylene	Dry Weight	mg/kg	0.07	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg	0.66	<0.05	<0.05	0.05
Fluorene	Dry Weight	mg/kg	0.67	<0.05	<0.05	0.05
Phenanthrene	Dry Weight	mg/kg	6.14	0.02	0.03	0.01
Anthracene	Dry Weight	mg/kg	1.20	0.004	0.015	0.003
Fluoranthene	Dry Weight	mg/kg	5.23	0.014	0.041	0.010
Pyrene	Dry Weight	mg/kg	4.15	0.015	0.040	0.010
Benzo(a)anthracene	Dry Weight	mg/kg	1.70	<0.01	0.03	0.01
Chrysene	Dry Weight	mg/kg	1.73	<0.05	<0.05	0.05
Benzo(b+j)fluoranthene	Dry Weight	mg/kg	2.11	<0.05	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg	0.88	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg	1.33	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg	0.77	<0.05	<0.05	0.05
Dibenzo(a,h)anthracene	Dry Weight	mg/kg	0.19	<0.05	<0.05	0.05
Benzo(g,h,i)perylene	Dry Weight	mg/kg	0.71	<0.05	<0.05	0.05
CB(a)P	B(a)P Total Potency Equivalents	mg/kg	2.09	0.005	0.028	0.001
IACR_Coarse	Index of Additive Cancer Risk		1.27	<0.001	0.004	0.001
IACR_Fine	Index of Additive Cancer Risk		2.41	<0.001	0.009	0.001
PAH - Soil - Surrogate Recovery						
2-Fluorobiphenyl	PAH - Surrogate	%	98	96	103	50-140
Naphthalene-d8	PAH - Surrogate	%	83	80	76	50-140
p-Terphenyl-d14	PAH - Surrogate	%	102	105	116	50-140

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Reference Number	1633254-19	1633254-26	1633254-27
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-02 / 300 - 350	BH 23-04 / 50 - 100	BH 23-04 / 100 - 150
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Salinity						
% Saturation		%	32	59	89	
Boron	Saturated Paste	mg/L	0.31	0.27	0.24	0.05

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Reference Number	1633254-21	1633254-26	1633254-27
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-02 / 400 - 450	BH 23-04 / 50 - 100	BH 23-04 / 100 - 150
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Methanol Field Preservation			Yes	Yes	Yes	
Volatile Petroleum Hydrocarbons - Soil						
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		15-Mar-23	23-Feb-23	23-Feb-23	
F2c C10-C16	Dry Weight	mg/kg	<25	<25	<25	25
F3c C16-C34	Dry Weight	mg/kg	132	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	839	<100	<100	100
% C50+		%	67.7	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	% by weight	1.58	5.23	5.65	

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Reference Number	1633254-27	1633254-32	1633254-34
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-04 / 100 - 150	BH 23-05 / 50 - 100	BH 23-06 / 50 - 100
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Antimony	Strong Acid Extractable	mg/kg	0.3	0.4	0.3	0.2
Arsenic	Strong Acid Extractable	mg/kg	3.4	3.6	3.2	0.2
Barium	Strong Acid Extractable	mg/kg	106	134	75	1
Beryllium	Strong Acid Extractable	mg/kg	0.2	0.2	0.1	0.1
Cadmium	Strong Acid Extractable	mg/kg	0.23	0.23	0.21	0.01
Chromium	Strong Acid Extractable	mg/kg	28.0	149	157	0.5
Cobalt	Strong Acid Extractable	mg/kg	2.4	2.7	2.6	0.1
Copper	Strong Acid Extractable	mg/kg	6.3	6.9	7.3	1
Lead	Strong Acid Extractable	mg/kg	8.5	8.6	3.8	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	0.40	0.05
Molybdenum	Strong Acid Extractable	mg/kg	2.1	6.2	9.5	1
Nickel	Strong Acid Extractable	mg/kg	8.4	10.1	36.5	0.5
Selenium	Strong Acid Extractable	mg/kg	<0.29	<0.30	<0.30	0.3
Silver	Strong Acid Extractable	mg/kg	<0.10	<0.10	<0.10	0.1
Thallium	Strong Acid Extractable	mg/kg	<0.05	0.05	<0.05	0.05
Tin	Strong Acid Extractable	mg/kg	<1.0	<1.0	<1.0	1
Uranium	Strong Acid Extractable	mg/kg	<0.5	0.5	<0.5	0.5
Vanadium	Strong Acid Extractable	mg/kg	8.4	11.9	8.4	0.1
Zinc	Strong Acid Extractable	mg/kg	31	34	23	1
Water Soluble Parameters						
Chromium (VI)	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

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Reference Number	1633254-30	1633254-32	1633254-34
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-04 / 250 - 300	BH 23-05 / 50 - 100	BH 23-06 / 50 - 100
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Methanol Field Preservation			Yes	Yes	Yes	
Volatile Petroleum Hydrocarbons - Soil						
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		23-Feb-23	23-Feb-23	23-Feb-23	
F2c C10-C16	Dry Weight	mg/kg	<25	<25	<25	25
F3c C16-C34	Dry Weight	mg/kg	69	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+		%	<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	% by weight	5.57	6.11	6.14	

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Reference Number	1633254-30	1633254-35	1633254-41
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-04 / 250 - 300	BH 23-06 / 100 - 150	BH 23-07 / 200 - 250
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Polycyclic Aromatic Hydrocarbons - Soil						
Naphthalene	Dry Weight	mg/kg	0.032	0.020	<0.010	0.010
Acenaphthylene	Dry Weight	mg/kg	0.21	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Fluorene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Phenanthrene	Dry Weight	mg/kg	0.13	0.21	0.01	0.01
Anthracene	Dry Weight	mg/kg	0.230	0.054	<0.003	0.003
Fluoranthene	Dry Weight	mg/kg	0.360	0.198	<0.01	0.010
Pyrene	Dry Weight	mg/kg	0.327	0.229	<0.01	0.010
Benzo(a)anthracene	Dry Weight	mg/kg	0.33	0.11	<0.01	0.01
Chrysene	Dry Weight	mg/kg	0.29	0.11	<0.05	0.05
Benzo(b+j)fluoranthene	Dry Weight	mg/kg	0.80	0.10	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg	0.23	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg	0.34	0.09	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg	0.34	<0.05	<0.05	0.05
Dibenzo(a,h)anthracene	Dry Weight	mg/kg	0.10	<0.05	<0.05	0.05
Benzo(g,h,i)perylene	Dry Weight	mg/kg	0.52	<0.05	<0.05	0.05
CB(a)P	B(a)P Total Potency Equivalents	mg/kg	0.610	0.115	<0.001	0.001
IACR_Coarse	Index of Additive Cancer Risk		0.359	0.028	<0.001	0.001
IACR_Fine	Index of Additive Cancer Risk		0.683	0.054	<0.001	0.001
PAH - Soil - Surrogate Recovery						
2-Fluorobiphenyl	PAH - Surrogate	%	104	94	111	50-140
Naphthalene-d8	PAH - Surrogate	%	78	70	80	50-140
p-Terphenyl-d14	PAH - Surrogate	%	102	105	111	50-140

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Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

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F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Analytical Report

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 street SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851441

Reference Number	1633254-32	1633254-34	1633254-35
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-05 / 50 - 100	BH 23-06 / 50 - 100	BH 23-06 / 100 - 150
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Salinity						
Electrical Conductivity	Saturated Paste	dS/m		0.51		0.01
SAR	Saturated Paste			0.8		
% Saturation		%	55	43	48	
Calcium	Saturated Paste	mg/kg		19.7		
Magnesium	Saturated Paste	mg/kg		8.4		
Sodium	Saturated Paste	mg/kg		11		
Potassium	Saturated Paste	mg/kg		3		
Chloride	Saturated Paste	mg/L		31		3
Chloride	Saturated Paste	mg/kg		13		
Sulfate (SO4)	Saturated Paste	mg/kg		36.9		
Boron	Saturated Paste	mg/L	0.67	0.21	0.20	0.05
TGR	Saturated Paste	T/ac		<0.1		

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Project ID: 23-0118
Project Name: 1802 - 11 street SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851441

Reference Number	1633254-35	1633254-36	1633254-38
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-06 / 100 - 150	BH 23-06 / 150 - 200	BH 23-07 / 50 - 100
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Antimony	Strong Acid Extractable	mg/kg	0.3	0.3	0.2	0.2
Arsenic	Strong Acid Extractable	mg/kg	3.2	3.5	3.6	0.2
Barium	Strong Acid Extractable	mg/kg	73	82	127	1
Beryllium	Strong Acid Extractable	mg/kg	0.1	0.1	0.2	0.1
Cadmium	Strong Acid Extractable	mg/kg	0.24	0.22	0.19	0.01
Chromium	Strong Acid Extractable	mg/kg	95.5	128	35.4	0.5
Cobalt	Strong Acid Extractable	mg/kg	2.6	3.3	2.6	0.1
Copper	Strong Acid Extractable	mg/kg	5.0	6.7	5.4	1
Lead	Strong Acid Extractable	mg/kg	4.4	4.7	4.8	0.1
Mercury	Strong Acid Extractable	mg/kg	0.52	0.45	<0.05	0.05
Molybdenum	Strong Acid Extractable	mg/kg	3.9	10.5	2.4	1
Nickel	Strong Acid Extractable	mg/kg	35.2	37.4	8.9	0.5
Selenium	Strong Acid Extractable	mg/kg	<0.29	<0.30	<0.30	0.3
Silver	Strong Acid Extractable	mg/kg	<0.10	<0.10	<0.10	0.1
Thallium	Strong Acid Extractable	mg/kg	0.05	<0.05	0.06	0.05
Tin	Strong Acid Extractable	mg/kg	<1.0	<1.0	<1.0	1
Uranium	Strong Acid Extractable	mg/kg	0.5	<0.5	<0.5	0.5
Vanadium	Strong Acid Extractable	mg/kg	8.2	8.1	8.9	0.1
Zinc	Strong Acid Extractable	mg/kg	25	24	27	1
Water Soluble Parameters						
Chromium (VI)	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	<0.03	0.03
Methanol Field Preservation			Yes	Yes	Yes	
Volatile Petroleum Hydrocarbons - Soil						
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		23-Feb-23	23-Feb-23	23-Feb-23	
F2c C10-C16	Dry Weight	mg/kg	<25	<25	<25	25
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+		%	<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	

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Project Name: 1802 - 11 street SE
Project Location: Calgary
LSD:
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Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
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Reference Number	1633254-35	1633254-36	1633254-38
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-06 / 100 - 150	BH 23-06 / 150 - 200	BH 23-07 / 50 - 100
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Soil % Moisture						
Moisture	Soil % Moisture	% by weight	7.29	7.38	4.34	

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Date Received: Feb 17, 2023
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Report Number: 2851441

Reference Number	1633254-36
Sample Date	Feb 16, 2023
Sample Time	NA
Sample Location	
Sample Description	BH 23-06 / 150 - 200
Matrix	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Soil Acidity						
pH	1:2 Soil:CaCl2 sol.	pH	7.9			

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Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851441

Reference Number	1633254-36	1633254-38	1633254-39
Sample Date	Feb 16, 2023	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA	NA
Sample Location			
Sample Description	BH 23-06 / 150 - 200	BH 23-07 / 50 - 100	BH 23-07 / 100 - 150
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Salinity						
Electrical Conductivity	Saturated Paste	dS/m	0.43			0.01
SAR	Saturated Paste		0.8			
% Saturation		%	43	53	67	
Calcium	Saturated Paste	mg/kg	18.5			
Magnesium	Saturated Paste	mg/kg	6.3			
Sodium	Saturated Paste	mg/kg	10			
Potassium	Saturated Paste	mg/kg	3			
Chloride	Saturated Paste	mg/L	31			3
Chloride	Saturated Paste	mg/kg	13			
Sulfate (SO4)	Saturated Paste	mg/kg	22.6			
Boron	Saturated Paste	mg/L	0.23	0.15	0.11	0.05
TGR	Saturated Paste	T/ac	<0.1			

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Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851441

Reference Number	1633254-39
Sample Date	Feb 16, 2023
Sample Time	NA
Sample Location	
Sample Description	BH 23-07 / 100 - 150
Matrix	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005			0.005
Toluene	Dry Weight	mg/kg	<0.02			0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005			0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03			0.03
Methanol Field Preservation			Yes			
Volatile Petroleum Hydrocarbons - Soil						
F1 C6-C10	Dry Weight	mg/kg	<10			10
F1 -BTEX	Dry Weight	mg/kg	<10			10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		23-Feb-23			
F2c C10-C16	Dry Weight	mg/kg	<25			25
F3c C16-C34	Dry Weight	mg/kg	<50			50
F4c C34-C50	Dry Weight	mg/kg	<100			100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100			100
% C50+		%	<5			
Silica Gel Cleanup						
Silica Gel Cleanup			Done			
Soil % Moisture						
Moisture	Soil % Moisture	% by weight	3.34			

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Project Location: Calgary
LSD:
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Proj. Acct. code:

Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851441

Reference Number	1633254-39	1633254-41
Sample Date	Feb 16, 2023	Feb 16, 2023
Sample Time	NA	NA
Sample Location		
Sample Description	BH 23-07 / 100 - 150	BH 23-07 / 200 - 250
Matrix	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Antimony	Strong Acid Extractable	mg/kg	0.7	0.3		0.2
Arsenic	Strong Acid Extractable	mg/kg	3.8	5.3		0.2
Barium	Strong Acid Extractable	mg/kg	127	137		1
Beryllium	Strong Acid Extractable	mg/kg	0.1	0.2		0.1
Cadmium	Strong Acid Extractable	mg/kg	0.21	0.27		0.01
Chromium	Strong Acid Extractable	mg/kg	78.9	24.7		0.5
Cobalt	Strong Acid Extractable	mg/kg	2.6	2.7		0.1
Copper	Strong Acid Extractable	mg/kg	7.1	7.1		1
Lead	Strong Acid Extractable	mg/kg	23.0	7.4		0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05		0.05
Molybdenum	Strong Acid Extractable	mg/kg	6.4	1.9		1
Nickel	Strong Acid Extractable	mg/kg	9.9	9.2		0.5
Selenium	Strong Acid Extractable	mg/kg	<0.29	<0.29		0.3
Silver	Strong Acid Extractable	mg/kg	<0.10	<0.10		0.1
Thallium	Strong Acid Extractable	mg/kg	0.06	0.07		0.05
Tin	Strong Acid Extractable	mg/kg	<1.0	<1.0		1
Uranium	Strong Acid Extractable	mg/kg	0.5	0.5		0.5
Vanadium	Strong Acid Extractable	mg/kg	8.9	10.4		0.1
Zinc	Strong Acid Extractable	mg/kg	25	29		1
Water Soluble Parameters						
Chromium (VI)	Dry Weight	mg/kg	<0.05	<0.05		0.05

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Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
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Reference Number	1633254-41
Sample Date	Feb 16, 2023
Sample Time	NA
Sample Location	
Sample Description	BH 23-07 / 200 - 250
Matrix	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Salinity						
% Saturation		%	37			
Boron	Saturated Paste	mg/L	0.15			0.05

Approved by:

Andrea Millen, PhD
Client Services Representative

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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Extractable Petroleum Hydrocarbons - Soil

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
F2c C10-C16	µg/mL	0	-10	10	yes
F3c C16-C34	µg/mL	0	-30	30	yes
F4c C34-C50	µg/mL	0	-20	20	yes
F4HTGCc C34-C50+	µg/mL	0	-20	20	yes
Date Acquired:	February 17, 2023				
Calibration Check	**Units**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Passed QC**
F2c C10-C16	µg/mL	102.87	80	120	yes
F3c C16-C34	µg/mL	102.73	80	120	yes
F4c C34-C50	µg/mL	100.94	80	120	yes
F4HTGCc C34-C50+	µg/mL	96.50	80	120	yes
Date Acquired:	February 17, 2023				

Metals Strong Acid Digestion

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Antimony	µg/L	0.00164829	-0.1	0.2	yes
Arsenic	µg/L	0.0017615	-0.2	0.2	yes
Barium	µg/L	0.0333845	-1	1	yes
Beryllium	µg/L	-0.010064	-0.1	0.1	yes
Cadmium	µg/L	0.000602189	-0.01	0.01	yes
Chromium	µg/L	0.00432543	-0.5	0.5	yes
Cobalt	µg/L	0.00157021	-0.1	0.1	yes
Copper	µg/L	0.0100743	-0.6	1.2	yes
Lead	µg/L	0.00410338	-5.0	5.0	yes
Mercury	µg/L	0.0126772	-0.04	0.04	yes
Molybdenum	µg/L	-0.0943043	-1.0	1.0	yes
Nickel	µg/L	0.0165556	-0.4	0.7	yes
Selenium	µg/L	0.0124172	-0.30	0.30	yes
Silver	µg/L	0.00104935	-0.09	0.14	yes
Thallium	µg/L	0.00399152	-0.04	0.04	yes
Tin	µg/L	-0.0186759	-0.4	0.4	yes
Uranium	µg/L	0.000968296	-0.5	0.5	yes
Vanadium	µg/L	-0.0933236	-0.1	0.1	yes
Zinc	µg/L	0.193222	-1	1	yes
Date Acquired:	February 21, 2023				
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**	**Passed QC**
Antimony	mg/kg	40.7	36.1	43.9	yes
Arsenic	mg/kg	39.7	36.3	43.9	yes
Barium	mg/kg	200	180	220	yes
Beryllium	mg/kg	19.8	17.4	22.2	yes
Cadmium	mg/kg	2.10	1.88	2.28	yes
Chromium	mg/kg	98.9	93.2	107.0	yes
Cobalt	mg/kg	19.9	18.3	21.5	yes
Copper	mg/kg	197	183.5	213.5	yes

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Metals Strong Acid Digestion - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Lead	mg/kg	20.5	18.3	21.3	yes
Mercury	mg/kg	3.23	2.64	3.36	yes
Molybdenum	mg/kg	213	185.1	222.3	yes
Nickel	mg/kg	101	92.4	106.2	yes
Selenium	mg/kg	42.4	35.20	44.20	yes
Silver	mg/kg	20.3	18.30	21.30	yes
Thallium	mg/kg	10.6	8.87	11.03	yes
Tin	mg/kg	207	183.1	223.3	yes
Uranium	mg/kg	103	86.0	116.0	yes
Vanadium	mg/kg	19.9	18.0	21.6	yes
Zinc	mg/kg	201	186	212	yes
Date Acquired:	February 21, 2023				
Antimony	mg/kg	3.8	2.9	4.7	yes
Arsenic	mg/kg	3.9	2.9	5.4	yes
Barium	mg/kg	92	76	126	yes
Beryllium	mg/kg	0.3	0.2	0.4	yes
Cadmium	mg/kg	0.92	0.68	1.16	yes
Chromium	mg/kg	74.8	58.2	97.2	yes
Cobalt	mg/kg	6.3	4.7	7.9	yes
Copper	mg/kg	124	90.6	150.6	yes
Lead	mg/kg	241	185.9	333.5	yes
Mercury	mg/kg	0.08	0.05	0.09	yes
Molybdenum	mg/kg	<1.0	0.9	1.4	yes
Nickel	mg/kg	24.9	20.9	31.7	yes
Selenium	mg/kg	<0.29	0.23	0.35	yes
Silver	mg/kg	3.1	2.30	5.30	yes
Thallium	mg/kg	0.07	0.05	0.10	yes
Tin	mg/kg	9.3	7.6	12.4	yes
Uranium	mg/kg	0.5	0.4	0.6	yes
Vanadium	mg/kg	28.0	20.4	34.2	yes
Zinc	mg/kg	326	244	408	yes
Date Acquired:	February 21, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Antimony	mg/kg	0.3	0.3	20	0.4	yes
Arsenic	mg/kg	7.0	7.7	20	0.4	yes
Barium	mg/kg	83	90	20	2	yes
Beryllium	mg/kg	0.3	0.4	20	0.2	yes
Cadmium	mg/kg	0.17	0.19	20	0.02	yes
Chromium	mg/kg	15.7	16.8	20	1.1	yes
Cobalt	mg/kg	6.0	6.5	20	0.2	yes
Copper	mg/kg	12.6	13.8	20	2.2	yes
Lead	mg/kg	6.5	7.2	20	0.2	yes
Mercury	mg/kg	0.07	0.08	20	0.05	yes
Molybdenum	mg/kg	1.1	1.1	20	2.2	yes

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Quality Control

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 street SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851441

Metals Strong Acid Digestion - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Nickel	mg/kg	18.9	22.6	20	1.1	yes
Selenium	mg/kg	<0.30	<0.29	20	0.66	yes
Silver	mg/kg	<0.10	<0.10	20	0.22	yes
Thallium	mg/kg	0.14	0.15	20	0.11	yes
Tin	mg/kg	<1.0	<1.0	20	2.2	yes
Uranium	mg/kg	0.8	1.9	20	1.1	yes
Vanadium	mg/kg	17.9	19.3	20	0.2	yes
Zinc	mg/kg	49	54	20	2	yes

Date Acquired: February 21, 2023

Mono-Aromatic Hydrocarbons - Soil

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Benzene	ng	0	-0.005	0.005	yes
Toluene	ng	0	-0.06	0.06	yes
Ethylbenzene	ng	0	-0.030	0.030	yes
Total Xylenes (m,p,o)	ng	0	-0.09	0.09	yes
Styrene	ng	0	-0.030	0.030	yes

Date Acquired: February 17, 2023

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Benzene	ng	98.13	80	120	yes
Toluene	ng	82.48	80	120	yes
Ethylbenzene	ng	85.91	80	120	yes
m,p-Xylene	ng	95.83	80	120	yes
Total Xylenes (m,p,o)	ng	95.88	80	120	yes
Styrene	ng	89.68	80	120	yes

Date Acquired: February 17, 2023

Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Benzene	mg/kg	76	70	130	yes
Toluene	mg/kg	97	70	130	yes
Ethylbenzene	mg/kg	86	70	130	yes
m,p-Xylene	mg/kg	79	70	130	yes
o-Xylene	mg/kg	86	70	130	yes
Styrene	mg/kg	95	70	130	yes

Date Acquired: February 17, 2023

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Benzene	mg/kg	<0.005	<0.005	50	0.010	yes
Toluene	mg/kg	<0.02	<0.02	50	0.04	yes
Ethylbenzene	mg/kg	<0.005	<0.005	50	0.020	yes
m,p-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
o-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
Total Xylenes (m,p,o)	mg/kg	<0.03	<0.03	50	0.06	yes
Styrene	mg/kg	<0.01	<0.01	50	0.020	yes

Date Acquired: February 17, 2023

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Proj. Acct. code:

Lot ID: **1633254**
Control Number:
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Date Reported: Mar 17, 2023
Report Number: 2851441

PAH - Soil - Surrogate Recovery

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
2-Fluorobiphenyl	%	121.82	50	140	yes
p-Terphenyl-d14	%	114.037	50	140	yes

Date Acquired: February 24, 2023

Polycyclic Aromatic Hydrocarbons - Soil

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Naphthalene	ng/mL	0	-0.010	0.010	yes
Acenaphthylene	ng/mL	0	-0.05	0.05	yes
Acenaphthene	ng/mL	0	-0.05	0.05	yes
Fluorene	ng/mL	0	-0.05	0.05	yes
Phenanthrene	ng/mL	0	-0.01	0.01	yes
Anthracene	ng/mL	0	-0.003	0.003	yes
Fluoranthene	ng/mL	0	-0.010	0.010	yes
Pyrene	ng/mL	0	-0.010	0.010	yes
Benzo(a)anthracene	ng/mL	0	-0.01	0.01	yes
Chrysene	ng/mL	0	-0.05	0.05	yes
Benzo(b)fluoranthene	ng/mL	0	-0.05	0.05	yes
Benzo(b+j)fluoranthene	ng/mL	0	-0.05	0.05	yes
Benzo(k)fluoranthene	ng/mL	0	-0.05	0.05	yes
Benzo(a)pyrene	ng/mL	0	-0.05	0.05	yes
Indeno(1,2,3-c,d)pyrene	ng/mL	0	-0.05	0.05	yes
Dibenzo(a,h)anthracene	ng/mL	0	-0.05	0.05	yes
Benzo(g,h,i)perylene	ng/mL	0	-0.05	0.05	yes

Date Acquired: February 24, 2023

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Naphthalene	ng/mL	95.00	80	120	yes
Acenaphthylene	ng/mL	105.40	80	120	yes
Acenaphthene	ng/mL	101.80	80	120	yes
Fluorene	ng/mL	101.80	80	120	yes
Phenanthrene	ng/mL	100.60	80	120	yes
Anthracene	ng/mL	113.00	80	120	yes
Fluoranthene	ng/mL	108.80	80	120	yes
Pyrene	ng/mL	108.80	80	120	yes
Benzo(a)anthracene	ng/mL	111.20	80	120	yes
Chrysene	ng/mL	97.20	80	120	yes
Benzo(b)fluoranthene	ng/mL	109.20	80	120	yes
Benzo(k)fluoranthene	ng/mL	115.80	80	120	yes
Benzo(a)pyrene	ng/mL	93.40	80	120	yes
Indeno(1,2,3-c,d)pyrene	ng/mL	94.80	80	120	yes
Dibenzo(a,h)anthracene	ng/mL	101.60	80	120	yes
Benzo(g,h,i)perylene	ng/mL	88.40	80	120	yes

Date Acquired: February 24, 2023

Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Naphthalene	mg/kg	93	50	140	yes

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

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Polycyclic Aromatic Hydrocarbons - Soil - Continued

Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Acenaphthylene	mg/kg	86	50	140	yes
Acenaphthene	mg/kg	98	50	140	yes
Fluorene	mg/kg	90	50	140	yes
Phenanthrene	mg/kg	105	50	140	yes
Anthracene	mg/kg	104	50	140	yes
Fluoranthene	mg/kg	103	50	140	yes
Pyrene	mg/kg	107	50	140	yes
Benzo(a)anthracene	mg/kg	95	50	140	yes
Chrysene	mg/kg	102	50	140	yes
Benzo(b)fluoranthene	mg/kg	84	50	140	yes
Benzo(k)fluoranthene	mg/kg	85	50	140	yes
Benzo(a)pyrene	mg/kg	97	50	140	yes
Indeno(1,2,3-c,d)pyrene	mg/kg	87	50	140	yes
Dibenzo(a,h)anthracene	mg/kg	77	50	140	yes
Benzo(g,h,i)perylene	mg/kg	99	50	140	yes

Date Acquired: February 24, 2023

Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Naphthalene	mg/kg	0.703	0.951	50	0.020	yes
Acenaphthylene	mg/kg	<0.05	<0.05	50	0.10	yes
Acenaphthene	mg/kg	<0.05	<0.05	50	0.10	yes
Fluorene	mg/kg	0.81	1.16	50	0.10	yes
Phenanthrene	mg/kg	0.67	0.81	50	0.02	yes
Anthracene	mg/kg	<0.003	<0.003	50	0.006	yes
Fluoranthene	mg/kg	0.032	0.053	50	0.020	yes
Pyrene	mg/kg	0.470	0.594	50	0.020	yes
Benzo(a)anthracene	mg/kg	<0.01	<0.01	50	0.02	yes
Chrysene	mg/kg	<0.05	<0.05	50	0.10	yes
Benzo(b)fluoranthene	mg/kg	<0.05	<0.05	50	0.10	yes
Benzo(k)fluoranthene	mg/kg	<0.05	<0.05	50	0.10	yes
Benzo(a)pyrene	mg/kg	<0.05	<0.05	50	0.10	yes
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.05	<0.05	50	0.10	yes
Dibenzo(a,h)anthracene	mg/kg	<0.05	<0.05	50	0.10	yes
Benzo(g,h,i)perylene	mg/kg	<0.05	<0.05	50	0.10	yes

Date Acquired: March 16, 2023

Salinity

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Calcium	mg/L	0.0467889	-2.0	2.0	yes
Magnesium	mg/L	0.0115174	-0.3	0.3	yes
Sodium	mg/L	0.075525	-1	1	yes
Potassium	mg/L	0.00126537	-1.0	1.0	yes
Chloride	mg/L	1.9123	-3	3	yes
Sulfate-S	mg/L	-0.00537635	-2	2	yes
Boron	mg/L	-0.00479851	-0.05	0.05	yes

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Quality Control

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 street SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851441

Salinity - Continued

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Date Acquired:	February 21, 2023				
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**	**Passed QC**
Electrical Conductivity	dS/m	0.43	0.27	0.51	yes
% Saturation	%	55	47	78	yes
Calcium	mg/L	50.7	32.5	56.5	yes
Magnesium	mg/L	14.1	8.4	15.6	yes
Sodium	mg/L	12	9	15	yes
Potassium	mg/L	9.4	6.7	11.5	yes
Chloride	mg/L	30	18	34	yes
Sulfate-S	mg/L	19	11	22	yes
Boron	mg/L	0.25	0.15	0.29	yes
Date Acquired:	February 21, 2023				
Electrical Conductivity	dS/m	31.7	26.80	35.20	yes
Calcium	mg/L	249	226.9	261.1	yes
Magnesium	mg/L	101	91.0	104.8	yes
Sodium	mg/L	251	229	264	yes
Potassium	mg/L	256	230.7	265.5	yes
Chloride	mg/L	2040	1852	2229	yes
Sulfate-S	mg/L	152	140	155	yes
Date Acquired:	February 21, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Electrical Conductivity	dS/m	0.70	0.65	10	0.03	yes
Calcium	mg/L	83.9	73.2	15		yes
Magnesium	mg/L	29.3	25.3	15	0.6	yes
Sodium	mg/kg	6	5	20	1	yes
Potassium	mg/kg	5	5	20	1	yes
Chloride	mg/L	105	98	15	3	yes
Sulfate-S	mg/L	36	32	15	1	yes
Chloride	mg/kg	12	9	15	3	yes
Sulfate-S	mg/kg	5.0	3.8	20	1.2	yes
Date Acquired:	February 21, 2023					

Soil Acidity

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
pH	pH	6.04	5.2	7.0	yes
Date Acquired:	February 21, 2023				
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**	**Passed QC**
pH	pH	6.7	6.5	7.1	yes
Date Acquired:	February 21, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
pH	pH	7.5	7.7	10	0.3	yes
Date Acquired:	February 21, 2023					

Volatile Petroleum Hydrocarbons - Soil

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Quality Control

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 street SE
Project Location: Calgary
LSD:
P.O.:
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Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
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Volatile Petroleum Hydrocarbons - Soil

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
F1 C6-C10	ng	0	-10	10		yes
Date Acquired:	February 17, 2023					

Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit		Passed QC
F1 C6-C10	mg/kg	72	70	130		yes
Date Acquired:	February 17, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
F1 C6-C10	mg/kg	<10	<10	50	0	yes
F1 -BTEX	mg/kg	<10	<10	50	0	yes
Date Acquired:	February 17, 2023					

Water Soluble Parameters

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
Chromium (VI)	mg/L	0	-0.10	0.10		yes
Date Acquired:	February 20, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Chromium (VI)	mg/kg	<0.05	<0.05	10	0.01	yes
Date Acquired:	February 20, 2023					

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
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T: +1 (403) 291-2022
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Methodology and Notes

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Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
1:5 Water Soluble Extraction	APHA	*	Colorimetric Method, 3500-Cr B	Feb 20, 2023	Element Edmonton - Roper Road
1:5 Water Soluble Extraction	APHA	*	Colorimetric Method, 3500-Cr B	Mar 16, 2023	Element Edmonton - Roper Road
1:5 Water Soluble Extraction	McKeague	*	Soluble Salts in Extracts of 1:5 Soil:Water Mixtures, 3.23	Feb 20, 2023	Element Edmonton - Roper Road
1:5 Water Soluble Extraction	McKeague	*	Soluble Salts in Extracts of 1:5 Soil:Water Mixtures, 3.23	Mar 16, 2023	Element Edmonton - Roper Road
BTEX-CCME - Soil	CCME	*	Reference Method for Canada-Wide Standard for PHC in Soil, CWS PHCS TIER 1	Feb 17, 2023	Element Calgary
BTEX-CCME - Soil	CCME	*	Reference Method for Canada-Wide Standard for PHC in Soil, CWS PHCS TIER 1	Mar 10, 2023	Element Calgary
BTEX-CCME - Soil	US EPA	*	Volatile Organic Compounds in Various Sample Matrices Using Equilibrium Headspace Analysis/Gas Chromatography Mass Spectrometry, 5021/8260	Feb 17, 2023	Element Calgary
BTEX-CCME - Soil	US EPA	*	Volatile Organic Compounds in Various Sample Matrices Using Equilibrium Headspace Analysis/Gas Chromatography Mass Spectrometry, 5021/8260	Mar 10, 2023	Element Calgary
Metals ICP (Hot Block) in soil	EPA	*	Sample Preparation Procedure for Spectrochemical Determination of Total Recoverable Elements, October 1999, 200.2	Feb 21, 2023	Element Edmonton - Roper Road
Metals ICP (Hot Block) in soil	EPA	*	Sample Preparation Procedure for Spectrochemical Determination of Total Recoverable Elements, October 1999, 200.2	Mar 16, 2023	Element Edmonton - Roper Road
Metals ICP (Hot Block) in soil	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Feb 21, 2023	Element Edmonton - Roper Road
Metals ICP (Hot Block) in soil	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Mar 16, 2023	Element Edmonton - Roper Road
PAH - Soil	AEP		Index of Additive Cancer Risk (IACR), IACR	Feb 24, 2023	Element Calgary
PAH - Soil	AEP		Index of Additive Cancer Risk (IACR), IACR	Mar 16, 2023	Element Calgary
PAH - Soil	US EPA	*	Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry, 8270	Feb 24, 2023	Element Calgary
PAH - Soil	US EPA	*	Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry, 8270	Mar 16, 2023	Element Calgary
pH by CaCl2 (1:2 ratio) in soil	McKeague	*	pH in 0.01M Calcium Chloride, 3.11	Feb 21, 2023	Element Edmonton - Roper Road

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Calgary, Alberta
T1Y 5L3, Canada

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Lot ID: **1633254**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851441

Method Name	Reference		Method	Date Analysis Started	Location
Saturated Paste in General Soil	APHA	*	Automated Ferricyanide Method, 4500-Cl-E	Feb 21, 2023	Element Edmonton - Roper Road
Saturated Paste in General Soil	Carter	*	Electrical Conductivity and Soluble Ions, Chapter 15	Feb 21, 2023	Element Edmonton - Roper Road
Saturated Paste in General Soil	Carter	*	Electrical Conductivity and Soluble Ions, Chapter 15	Mar 16, 2023	Element Edmonton - Roper Road
TEH-CCME-Soil (Shake)	CCME	*	Reference Method for Canada-Wide Standard for PHC in Soil, CWS PHCS TIER 1	Feb 17, 2023	Element Calgary
TEH-CCME-Soil (Shake)	CCME	*	Reference Method for Canada-Wide Standard for PHC in Soil, CWS PHCS TIER 1	Mar 10, 2023	Element Calgary

** Reference Method Modified*

References

AEP	Alberta Tier 1 Soil and Groundwater Remediation Guidelines
APHA	Standard Methods for the Examination of Water and Wastewater
Carter	Soil Sampling and Methods of Analysis.
CCME	Canadian Council of Ministers of the Environment
EPA	Environmental Protection Agency Test Methods - US
McKeague	Manual on Soil Sampling and Methods of Analysis
US EPA	US Environmental Protection Agency Test Methods

Comments:

- Mar 09, 2023 - Report was issued to change the Project ID from 21-0832 to 23-0118, and project location from 1001-8th St SE to 1802 - 11 street SE as requested by Nnamdi Menkiti of Core Geomatics on March 9, 2023.
  Previous report 2845156.
- Mar 10, 2023 - Analysis was performed on samples 30, 41 that exceeded the recommended holding time for PAH2 analysis.
- Mar 10, 2023 - Analysis was performed on sample 21 that exceeded the recommended holding time for BTEX F2-F4 analysis.
- Mar 10, 2023 - Report was issued to include additional services requested by Nnamdi Menkiti of Core Geomatics Group Inc. on March 09,2023:
  ABT1MET-S service requested on sample 41.
  CCMEC service requested on sample 21.
  PAH2 service requested on samples 30, 41.
  Previous report 2851055.

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Project Information

Project ID:	21-0832
Project Name:	1001-8th St SE
Project Location:	Calgary
Legal Location:	
PO/AFE#:	
Proj. Acct. Code:	
Quote #:	34112

Invoice To

Company:	CORE Geomatics Group Inc.
Address:	300, 4503 Brisebois Drive NW, Calgary AB, T2L2G3
Attention:	Mark Cross
Phone:	
Cell:	780-975-8713
E-mail:	mark.cross@coregeomatics.com
Government Funded Work:	NO
SRP #:	
Agreement ID:	

Report To

Company:	SAME
Address:	
Attention:	
Phone:	
Cell:	
Fax:	
E-mail 1:	
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:	Nnamdi Menkiti
E-mail:	amdi.menkiti@coregeomatics.c
2) Name:	Tristan Hennig
E-mail:	stan.hennig@coregeomatics.c

Sample Custody

Sampled by:	Nnamdi Menkiti/Tristan Henni
Company:	CORE Geomatics Group Inc.

I authorize Element to proceed with the work indicated on this form:

Signature:

Date/Time: 17-Feb-23

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☑ 5 to 7 Days (Regular TAT)

Date Required: February 28/2023

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ Online
- ☐ Fax
- ☐ QA/QC
- ☑ PDF
- ☑ Excel

Requirements

- ☐ HCDWQ
- ☐ SPIGEC
- ☑ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above):

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	ABT1SAL-S (Salinity)	AB T1-MET-S	CCMEC (PHCs)	PAH2	CLASS 2	Hold
			cm							Enter tests above (✓ relevant samples below)					
1	BH 23-01	1 jars, 1 bag, 2 vials	0	50	February 16/2023	Soil	Grab	4	✓						X
2	BH 23-01	1 jars, 1 bag, 2 vials	50	100	February 16/2023	Soil	Grab	4	✓	X					
3	BH 23-01	1 jars, 1 bag, 2 vials	100	150	February 16/2023	Soil	Grab	4	✓						X
4	BH 23-01	1 jars, 1 bag, 2 vials	150	200	February 16/2023	Soil	Grab	4	✓	X	X				X
5	BH 23-01	1 jars, 1 bag, 2 vials	200	250	February 16/2023	Soil	Grab	4	✓						X
6	BH 23-01	1 jars, 1 bag, 2 vials	250	300	February 16/2023	Soil	Grab	4	✓						X
7	BH 23-01	1 jars, 1 bag, 2 vials	300	350	February 16/2023	Soil	Grab	4	✓	X	X				
8	BH 23-01	1 jars, 1 bag, 2 vials	350	400	February 16/2023	Soil	Grab	4	✓						X
9	BH 23-01	1 jars, 1 bag, 2 vials	400	450	February 16/2023	Soil	Grab	4	✓						X
10	BH 23-01	1 jars, 1 bag, 2 vials	450	500	February 16/2023	Soil	Grab	4	✓						X
11	BH 23-01	1 jars, 1 bag, 2 vials	500	550	February 16/2023	Soil	Grab	4	✓	X	X				X
12	BH 23-01	1 jars, 1 bag, 2 vials	550	600	February 16/2023	Soil	Grab	4	✓						X
13	BH 23-02	1 jars, 1 bag, 2 vials	0	50	February 16/2023	Soil	Grab	4	✓	X		X			
14	BH 23-02	1 jars, 1 bag, 2 vials	50	100	February 16/2023	Soil	Grab	4	✓						X
	BH 23-02	1 jars, 1 bag, 2 vials	100	150	February 16/2023	Soil	Grab	4	✓		X		X		

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Page 1 3

Control #

Indicate lot # or affix barcode here

Lot: 1633254 COC

Temp. received: 4.0 °C

Date/Time stamp: FEB 17 '23 AM 11:30

Delivery Method:

Waybill:

Received by: LR

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www.Element.com

Project Information

Project ID:	21-0832
Project Name:	1001-8th St SE
Project Location:	Calgary
Legal Location:	
PO/AFE#:	
Proj. Acct. Code:	
Quote #:	34112

Invoice To

Company:	CORE Geomatics Group Inc.
Address:	300, 4503 Brisebois Drive NW, Calgary AB, T2L2G3
Attention:	Mark Cross
Phone:	
Cell:	780-975-8713
E-mail:	mark.cross@coregeomatics.com
Government Funded Work	NO
SRP #	
Agreement ID:	

Report To

Company:	SAME
Address:	
Attention:	
Phone:	
Cell:	
Fax:	
E-mail 1:	
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name: Nnamdi Menkiti
E-mail: amdi.menkiti@coregeomatics.c
2) Name: Tristan Hennig
E-mail: stan.hennig@coregeomatics.c

Sample Custody

Sampled by: Nnamdi Menkiti/Tristan Henni
Company: CORE Geomatics Group Inc.

I authorize Element to proceed with the work indicated on this form:

Signature:
Date/Time: 17-Feb-23

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☑ 5 to 7 Days (Regular TAT)

Date Required: February 28/2023

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☑ PDF
- ☐ Fax
- ☑ Excel

Requirements

- ☐ HCDWQ
- ☐ SPIGEC
- ☑ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	ABT1SAL-S (Salinity)	AB T1-MET-S	CCMEC (PHCs)	PAH2	CLASS 2	Hold
			cm	cm						Enter tests above (✓ relevant samples below)					
1	BH 23-02	1 jars, 1 bag, 2 vials	150	200	February 16/2023	Soil	Grab	4	✓						X
2	BH 23-02	1 jars, 1 bag, 2 vials	200	250	February 16/2023	Soil	Grab	4	✓						X
3	BH 23-02	1 jars, 1 bag, 2 vials	250	300	February 16/2023	Soil	Grab	4	✓						X
4	BH 23-02	1 jars, 1 bag, 2 vials	300	350	February 16/2023	Soil	Grab	4	✓		X	X	X		
5	BH 23-02	1 jars, 1 bag, 2 vials	350	400	February 16/2023	Soil	Grab	4	✓						X
6	BH 23-02	1 jars, 1 bag, 2 vials	400	450	February 16/2023	Soil	Grab	4	✓						X
7	BH 23-02	1 jars, 1 bag, 2 vials	450	500	February 16/2023	Soil	Grab	4	✓						X
8	BH 23-02	1 jars, 1 bag, 2 vials	500	550	February 16/2023	Soil	Grab	4	✓						X
9	BH 23-02	1 jars, 1 bag, 2 vials	550	600	February 16/2023	Soil	Grab	4	✓						X
10	BH 23-04	1 jars, 1 bag, 2 vials	0	50	February 16/2023	Soil	Grab	4	✓						X
11	BH 23-04	1 jars, 1 bag, 2 vials	50	100	February 16/2023	Soil	Grab	4	✓		X	X			X
12	BH 23-04	1 jars, 1 bag, 2 vials	100	150	February 16/2023	Soil	Grab	4	✓		X	X	X		
13	BH 23-04	1 jars, 1 bag, 2 vials	150	200	February 16/2023	Soil	Grab	4	✓						X
14	BH 23-04	1 jars, 1 bag, 2 vials	200	250	February 16/2023	Soil	Grab	4	✓						X
15	BH 23-04	1 jars, 1 bag, 2 vials	250	300	February 16/2023	Soil	Grab	4	✓			X			X

Please indicate any potentially hazardous samples

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Page 1 3 Control #

Indicate lot # or affix barcode here

Temp. received: °C

Date/Time stamp:

Delivery Method:

Waybill:

Received by:

element
www.element.com

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PO/AFE#:	
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Attention:	Mark Cross
Phone:	
Cell:	780-975-8713
E-mail:	mark.cross@coregeomatics.com
Government Funded Work	NO
SRP #:	
Agreement ID:	

Report To

Company:	SAME
Address:	
Attention:	
Phone:	
Cell:	
Fax:	
E-mail 1:	
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name: Nnamdi Menkiti
E-mail: amdi.menkiti@coregeomatics.c
2) Name: Tristan Hennig
E-mail: stan.hennig@coregeomatics.c

Sample Custody

Sampled by: Nnamdi Menkiti/Tristan Henni
Company: CORE Geomatics Group Inc.

I authorize Element to proceed with the work indicated on this form:

Signature:
Date/Time: 17-Feb-23

RUSH Priority

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- ☐ Next Day/Two Day (100%)
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Date Required: February 28/2023

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- ☐ Online
- ☐ Fax
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- ☑ AB Tier 1
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Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	ABT1SAL-S (Salinity)	AB T1-MET-S	CCMEC (PHCs)	PAH2	CLASS 2	Hold
			cm	cm						Enter tests above (✓ relevant samples below)					
1	BH 23-05	1 jars, 1 bag, 2 vials	0	50	February 16/2023	Soil	Grab	4	✓						X
2	BH 23-05	1 jars, 1 bag, 2 vials	50	100	February 16/2023	Soil	Grab	4	✓		X	X			
3	BH 23-06	1 jars, 1 bag, 2 vials	0	50	February 16/2023	Soil	Grab	4	✓						X
4	BH 23-06	1 jars, 1 bag, 2 vials	50	100	February 16/2023	Soil	Grab	4	✓	X	X	X			
5	BH 23-06	1 jars, 1 bag, 2 vials	100	150	February 16/2023	Soil	Grab	4	✓		X	X	X		
6	BH 23-06	1 jars, 1 bag, 2 vials	150	200	February 16/2023	Soil	Grab	4	✓	X	X	X			X
7	BH 23-07	1 jars, 1 bag, 2 vials	0	50	February 16/2023	Soil	Grab	4	✓						X
8	BH 23-07	1 jars, 1 bag, 2 vials	50	100	February 16/2023	Soil	Grab	4	✓		X	X			
9	BH 23-07	1 jars, 1 bag, 2 vials	100	150	February 16/2023	Soil	Grab	4	✓		X	X			
10	BH 23-07	1 jars, 1 bag, 2 vials	150	200	February 16/2023	Soil	Grab	4	✓						X
11	BH 23-07	1 jars, 1 bag, 2 vials	200	250	February 16/2023	Soil	Grab	4	✓						X

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Page 1 3 Control #

Indicate lot # or affix barcode here

Temp. received: °C

Date/Time stamp:

Delivery Method:

Waybill:

Received by:

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

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E: info.Calgary@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 St SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633380**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851448

Contact	Company	Address
Mark Cross	**Core Geomatics Group Inc.**	Suite 300, 4503 Brisebois Drive NW Calgary, AB T2L 2G3 Phone: (403) 648-2722 Fax: (403) 648-2767 Email: mark.cross@coregeomatics.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report
Email	Standard Crosstab With Tabs	Test Report
Email - Merge	PDF	COA
Email - Merge	PDF	Invoice

Contact	Company	Address
Nnamdi Menkiti	**Core Geomatics Group Inc.**	Suite 300, 4503 Brisebois Drive NW Calgary, AB T2L 2G3 Phone: (403) 648-2722 Fax: (403) 648-2767 Email: nnamdi.menkiti@coregeomatics.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report
Email	Standard Crosstab Without Tabs	Test Report
Email - Merge	PDF	COA

Contact	Company	Address
Tristan Hennig	**Core Geomatics Group Inc.**	Suite 300, 4503 Brisebois Drive NW Calgary, AB T2L 2G3 Phone: (403) 648-2722 Fax: (403) 648-2767 Email: tristan.hennig@coregeomatics.com

Delivery	Format	Deliverables
Email	PDF	COA
Email	Standard Crosstab With Tabs	Test Report
Email - Merge	PDF	COC / Test Report

Notes To Clients:

- Mar 09, 2023 - Report was issued to change the Project ID from 21-0832 to 23-0118, and project location from 1001-8th St SE to 1802 - 11 street SE as requested by Nnamdi Menkiti of Core Geomatics on March 9, 2023.
  Previous report 2845375.
- Mar 10, 2023 - Report was issued to include additional services requested by Nnamdi Menkiti of Core Geomatics Inc. on March 09,2023:
  ABT1MET-S service requested on sample 16.
  ABT1SAL-S service requested on sample 16.
  PS24 service requested on sample 16.
  CCMEC service requested on sample 16.
  Previous report 2851120.
- Mar 10, 2023 - Analysis was performed on sample16 that exceeded the recommended holding time for BTEX F2-F4 analysis.

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Calgary, Alberta
T1Y 5L3, Canada

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Analytical Report

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 St SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633380**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851448

Reference Number	1633380-2	1633380-5	1633380-7
Sample Date			
Sample Time			
Sample Location			
Sample Description	BH 23-08 / 50 - 100 / 5.6°C	BH 23-08 / 200 - 250 / 5.6°C	BH 23-09 / 50 - 100 / 5.6°C
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Antimony	Strong Acid Extractable	mg/kg	1.9	0.4	0.3	0.2
Arsenic	Strong Acid Extractable	mg/kg	3.9	3.1	3.2	0.2
Barium	Strong Acid Extractable	mg/kg	142	86	72	1
Beryllium	Strong Acid Extractable	mg/kg	0.2	0.1	0.1	0.1
Cadmium	Strong Acid Extractable	mg/kg	0.24	0.17	0.50	0.01
Chromium	Strong Acid Extractable	mg/kg	128	30.9	13.9	0.5
Cobalt	Strong Acid Extractable	mg/kg	3.3	2.4	2.0	0.1
Copper	Strong Acid Extractable	mg/kg	9.4	5.7	4.6	1
Lead	Strong Acid Extractable	mg/kg	19.2	6.4	3.5	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Molybdenum	Strong Acid Extractable	mg/kg	9.1	1.7	<1.0	1
Nickel	Strong Acid Extractable	mg/kg	11.0	7.8	6.7	0.5
Selenium	Strong Acid Extractable	mg/kg	<0.30	<0.29	<0.29	0.3
Silver	Strong Acid Extractable	mg/kg	<0.10	<0.10	<0.10	0.1
Thallium	Strong Acid Extractable	mg/kg	0.07	0.05	<0.05	0.05
Tin	Strong Acid Extractable	mg/kg	<1.0	<1.0	<1.0	1
Uranium	Strong Acid Extractable	mg/kg	<0.5	<0.5	<0.5	0.5
Vanadium	Strong Acid Extractable	mg/kg	12.7	8.9	8.4	0.1
Zinc	Strong Acid Extractable	mg/kg	42	28	44	1
Salinity						
Electrical Conductivity	Saturated Paste	dS/m			0.25	0.01
SAR	Saturated Paste				0.2	
% Saturation		%	58	70	126	
Calcium	Saturated Paste	mg/kg			52.9	
Magnesium	Saturated Paste	mg/kg			13	
Sodium	Saturated Paste	mg/kg			8	
Potassium	Saturated Paste	mg/kg			9	
Chloride	Saturated Paste	mg/L			13	3
Chloride	Saturated Paste	mg/kg			16	
Sulfate (SO4)	Saturated Paste	mg/kg			11	
Boron	Saturated Paste	mg/L	0.25	0.22	0.11	0.05
TGR	Saturated Paste	T/ac			<0.1	
Water Soluble Parameters						
Chromium (VI)	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	0.014	0.016	<0.005	0.005
Toluene	Dry Weight	mg/kg	0.03	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	0.006	0.007	<0.005	0.005

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
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Analytical Report

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 St SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633380**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851448

Reference Number	1633380-2	1633380-5	1633380-7
Sample Date			
Sample Time			
Sample Location			
Sample Description	BH 23-08 / 50 - 100 / 5.6°C	BH 23-08 / 200 - 250 / 5.6°C	BH 23-09 / 50 - 100 / 5.6°C
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Mono-Aromatic Hydrocarbons - Soil - Continued						
Total Xylenes (m,p,o)	Dry Weight	mg/kg	0.05	<0.03	<0.03	0.03
Methanol Field Preservation			Yes	Yes	Yes	
Volatile Petroleum Hydrocarbons - Soil						
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		23-Feb-23	23-Feb-23	23-Feb-23	
F2c C10-C16	Dry Weight	mg/kg	<25	<25	<25	25
F3c C16-C34	Dry Weight	mg/kg	82	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+		%	<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	% by weight	3.55	3.50	8.36	

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Project Location: Calgary
LSD:
P.O.:
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Lot ID: **1633380**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851448

Reference Number	1633380-5	1633380-7	1633380-10
Sample Date			
Sample Time			
Sample Location			
Sample Description	BH 23-08 / 200 - 250 / 5.6°C	BH 23-09 / 50 - 100 / 5.6°C	BH 23-09 / 200 - 250 / 5.6°C
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Polycyclic Aromatic Hydrocarbons - Soil						
Naphthalene	Dry Weight	mg/kg	0.031	<0.010	<0.010	0.010
Acenaphthylene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Fluorene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Phenanthrene	Dry Weight	mg/kg	0.21	<0.01	<0.01	0.01
Anthracene	Dry Weight	mg/kg	0.063	<0.003	<0.003	0.003
Fluoranthene	Dry Weight	mg/kg	0.214	<0.01	<0.01	0.010
Pyrene	Dry Weight	mg/kg	0.199	<0.01	<0.01	0.010
Benzo(a)anthracene	Dry Weight	mg/kg	0.10	<0.01	<0.01	0.01
Chrysene	Dry Weight	mg/kg	0.11	<0.05	<0.05	0.05
Benzo(b+j)fluoranthene	Dry Weight	mg/kg	0.10	<0.05	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg	0.08	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Dibenzo(a,h)anthracene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
CB(a)P	B(a)P Total Potency Equivalents	mg/kg	0.105	<0.001	<0.001	0.001
IACR_Coarse	Index of Additive Cancer Risk		0.066	<0.001	<0.001	0.001
IACR_Fine	Index of Additive Cancer Risk		0.125	<0.001	<0.001	0.001
PAH - Soil - Surrogate Recovery						
2-Fluorobiphenyl	PAH - Surrogate	%	91	92	88	50-140
Naphthalene-d8	PAH - Surrogate	%	67	67	61	50-140
p-Terphenyl-d14	PAH - Surrogate	%	99	109	104	50-140

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LSD:
P.O.:
Proj. Acct. code:

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Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851448

Reference Number	1633380-5	1633380-16
Sample Date		
Sample Time		
Sample Location		
Sample Description	BH 23-08 / 200 - 250 / 5.6°C	BH 23-11 / 0 - 50 / 5.6°C
Matrix	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Particle Size Analysis - Wet Sieve						
Texture			Coarse-Grained	Coarse-Grained		
75 micron sieve	% Retained	% by weight	86.4	76.9		0.1

Element
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T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Analytical Report

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 St SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633380**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851448

Reference Number	1633380-7	1633380-10	1633380-11
Sample Date			
Sample Time			
Sample Location			
Sample Description	BH 23-09 / 50 - 100 / 5.6°C	BH 23-09 / 200 - 250 / 5.6°C	BH 23-10 / 0 - 50 / 5.6°C
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Soil Acidity						
pH	1:2 Soil:CaCl2 sol.	pH	8.0	7.7	7.8	

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Reference Number	1633380-10	1633380-11	1633380-15
Sample Date			
Sample Time			
Sample Location			
Sample Description	BH 23-09 / 200 - 250 / 5.6°C	BH 23-10 / 0 - 50 / 5.6°C	BH 23-10 / 200 - 250 / 5.6°C
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Antimony	Strong Acid Extractable	mg/kg	0.2	0.4	0.4	0.2
Arsenic	Strong Acid Extractable	mg/kg	3.0	6.0	5.9	0.2
Barium	Strong Acid Extractable	mg/kg	61	194	174	1
Beryllium	Strong Acid Extractable	mg/kg	0.1	0.3	0.3	0.1
Cadmium	Strong Acid Extractable	mg/kg	0.18	0.29	0.28	0.01
Chromium	Strong Acid Extractable	mg/kg	12.9	40.6	80.8	0.5
Cobalt	Strong Acid Extractable	mg/kg	2.1	4.7	4.4	0.1
Copper	Strong Acid Extractable	mg/kg	5.5	12.8	11.7	1
Lead	Strong Acid Extractable	mg/kg	3.7	9.6	8.8	0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05	<0.05	0.05
Molybdenum	Strong Acid Extractable	mg/kg	1.3	2.0	6.3	1
Nickel	Strong Acid Extractable	mg/kg	7.3	14.9	14.3	0.5
Selenium	Strong Acid Extractable	mg/kg	<0.30	<0.29	<0.30	0.3
Silver	Strong Acid Extractable	mg/kg	<0.10	<0.10	<0.10	0.1
Thallium	Strong Acid Extractable	mg/kg	<0.05	0.10	0.10	0.05
Tin	Strong Acid Extractable	mg/kg	<1.0	<1.0	<1.0	1
Uranium	Strong Acid Extractable	mg/kg	<0.5	0.6	0.6	0.5
Vanadium	Strong Acid Extractable	mg/kg	7.7	18.0	15.5	0.1
Zinc	Strong Acid Extractable	mg/kg	23	53	47	1
Salinity						
Electrical Conductivity	Saturated Paste	dS/m	0.25	0.55	0.69	0.01
SAR	Saturated Paste		0.2	1.5	1.5	
% Saturation		%	111	75	67	
Calcium	Saturated Paste	mg/kg	49.7	42.6	54.5	
Magnesium	Saturated Paste	mg/kg	12.6	7.5	5.6	
Sodium	Saturated Paste	mg/kg	8	36	36	
Potassium	Saturated Paste	mg/kg	9	5	6	
Chloride	Saturated Paste	mg/L	14	43	75	3
Chloride	Saturated Paste	mg/kg	15	32	50	
Sulfate (SO4)	Saturated Paste	mg/kg	11	61.8	78.2	
Boron	Saturated Paste	mg/L	0.13	3.96	4.76	0.05
TGR	Saturated Paste	T/ac	<0.1	<0.1	<0.1	
Water Soluble Parameters						
Chromium (VI)	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	0.009	0.016	0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02	0.03	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	<0.005	0.008	0.005

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Reference Number	1633380-10	1633380-11	1633380-15
Sample Date			
Sample Time			
Sample Location			
Sample Description	BH 23-09 / 200 - 250 / 5.6°C	BH 23-10 / 0 - 50 / 5.6°C	BH 23-10 / 200 - 250 / 5.6°C
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Mono-Aromatic Hydrocarbons - Soil - Continued						
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03	0.07	0.03
Methanol Field Preservation			Yes	Yes	Yes	
Volatile Petroleum Hydrocarbons - Soil						
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		23-Feb-23	23-Feb-23	23-Feb-23	
F2c C10-C16	Dry Weight	mg/kg	<25	<25	<25	25
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+		%	<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	% by weight	4.06	8.66	7.80	

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Reference Number	1633380-11	1633380-15
Sample Date		
Sample Time		
Sample Location		
Sample Description	BH 23-10 / 0 - 50 / 5.6°C	BH 23-10 / 200 - 250 / 5.6°C
Matrix	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Polycyclic Aromatic Hydrocarbons - Soil						
Naphthalene	Dry Weight	mg/kg	0.011	0.019		0.010
Acenaphthylene	Dry Weight	mg/kg	<0.05	<0.05		0.05
Acenaphthene	Dry Weight	mg/kg	<0.05	<0.05		0.05
Fluorene	Dry Weight	mg/kg	<0.05	<0.05		0.05
Phenanthrene	Dry Weight	mg/kg	0.08	0.15		0.01
Anthracene	Dry Weight	mg/kg	0.018	0.036		0.003
Fluoranthene	Dry Weight	mg/kg	0.088	0.160		0.010
Pyrene	Dry Weight	mg/kg	0.079	0.146		0.010
Benzo(a)anthracene	Dry Weight	mg/kg	0.03	0.05		0.01
Chrysene	Dry Weight	mg/kg	<0.05	<0.05		0.05
Benzo(b+j)fluoranthene	Dry Weight	mg/kg	<0.05	<0.05		0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg	<0.05	<0.05		0.05
Benzo(a)pyrene	Dry Weight	mg/kg	<0.05	<0.05		0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg	<0.05	<0.05		0.05
Dibenzo(a,h)anthracene	Dry Weight	mg/kg	<0.05	<0.05		0.05
Benzo(g,h,i)perylene	Dry Weight	mg/kg	<0.05	<0.05		0.05
CB(a)P	B(a)P Total Potency Equivalents	mg/kg	0.030	0.046		0.001
IACR_Coarse	Index of Additive Cancer Risk		0.005	0.007		0.001
IACR_Fine	Index of Additive Cancer Risk		0.009	0.014		0.001
PAH - Soil - Surrogate Recovery						
2-Fluorobiphenyl	PAH - Surrogate	%	88	92		50-140
Naphthalene-d8	PAH - Surrogate	%	65	69		50-140
p-Terphenyl-d14	PAH - Surrogate	%	99	104		50-140

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Reference Number	1633380-15	1633380-16
Sample Date		
Sample Time		
Sample Location		
Sample Description	BH 23-10 / 200 - 250 / 5.6°C	BH 23-11 / 0 - 50 / 5.6°C
Matrix	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Soil Acidity						
pH	1:2 Soil:CaCl2 sol.	pH	7.8	8.1		

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Reference Number	1633380-16	1633380-18	1633380-19
Sample Date			
Sample Time			
Sample Location			
Sample Description	BH 23-11 / 0 - 50 / 5.6°C	BH 23-12 / 50 - 100 / 5.6°C	BH 23-12 / 100 - 150 / 5.6°C
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Antimony	Strong Acid Extractable	mg/kg	0.4	0.5	0.3	0.2
Arsenic	Strong Acid Extractable	mg/kg	4.8	3.6	3.8	0.2
Barium	Strong Acid Extractable	mg/kg	436	111	110	1
Beryllium	Strong Acid Extractable	mg/kg	0.3	0.1	0.2	0.1
Cadmium	Strong Acid Extractable	mg/kg	0.41	0.26	0.30	0.01
Chromium	Strong Acid Extractable	mg/kg	32.1	74.9	23.8	0.5
Cobalt	Strong Acid Extractable	mg/kg	3.6	2.9	2.6	0.1
Copper	Strong Acid Extractable	mg/kg	8.6	7.4	7.8	1
Lead	Strong Acid Extractable	mg/kg	10.5	19.5	25.8	0.1
Mercury	Strong Acid Extractable	mg/kg	0.20	<0.05	<0.05	0.05
Molybdenum	Strong Acid Extractable	mg/kg	1.7	6.9	2.2	1
Nickel	Strong Acid Extractable	mg/kg	21.2	9.9	9.4	0.5
Selenium	Strong Acid Extractable	mg/kg	<0.29	<0.30	<0.29	0.3
Silver	Strong Acid Extractable	mg/kg	<0.10	<0.10	<0.10	0.1
Thallium	Strong Acid Extractable	mg/kg	0.08	<0.05	<0.05	0.05
Tin	Strong Acid Extractable	mg/kg	<1.0	<1.0	<1.0	1
Uranium	Strong Acid Extractable	mg/kg	0.7	<0.5	<0.5	0.5
Vanadium	Strong Acid Extractable	mg/kg	13.0	9.8	10.2	0.1
Zinc	Strong Acid Extractable	mg/kg	39	36	40	1
Salinity						
Electrical Conductivity	Saturated Paste	dS/m	0.46			0.01
SAR	Saturated Paste		2.4			
% Saturation		%	109	48	55	
Calcium	Saturated Paste	mg/kg	34.8			
Magnesium	Saturated Paste	mg/kg	9.1			
Sodium	Saturated Paste	mg/kg	65			
Potassium	Saturated Paste	mg/kg	7			
Chloride	Saturated Paste	mg/L	37			3
Chloride	Saturated Paste	mg/kg	41			
Sulfate (SO4)	Saturated Paste	mg/kg	57.3			
Boron	Saturated Paste	mg/L	1.15	0.31	0.24	0.05
TGR	Saturated Paste	T/ac	<0.1			
Water Soluble Parameters						
Chromium (VI)	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	<0.005	0.023	0.040	0.005
Toluene	Dry Weight	mg/kg	<0.02	0.09	0.12	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.005	0.010	0.013	0.005

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Reference Number	1633380-16	1633380-18	1633380-19
Sample Date			
Sample Time			
Sample Location			
Sample Description	BH 23-11 / 0 - 50 / 5.6°C	BH 23-12 / 50 - 100 / 5.6°C	BH 23-12 / 100 - 150 / 5.6°C
Matrix	Soil	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Mono-Aromatic Hydrocarbons - Soil - Continued						
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	0.17	0.19	0.03
Methanol Field Preservation			Yes	Yes	Yes	
Volatile Petroleum Hydrocarbons - Soil						
F1 C6-C10	Dry Weight	mg/kg	<10	<10	<10	10
F1 -BTEX	Dry Weight	mg/kg	<10	<10	<10	10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		14-Mar-23	23-Feb-23	23-Feb-23	
F2c C10-C16	Dry Weight	mg/kg	<25	<25	<25	25
F3c C16-C34	Dry Weight	mg/kg	<50	<50	<50	50
F4c C34-C50	Dry Weight	mg/kg	<100	<100	<100	100
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100	<100	100
% C50+		%	<5	<5	<5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	% by weight	17.10	4.09	6.10	

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Lot ID: **1633380**
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Date Reported: Mar 17, 2023
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Reference Number	1633380-21	1633380-22
Sample Date		
Sample Time		
Sample Location		
Sample Description	BH 23-13 / 50 - 100 / 5.6°C	BH 23-13 / 100 - 150 / 5.6°C
Matrix	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Strong Acid Digestion						
Antimony	Strong Acid Extractable	mg/kg	0.2	0.2		0.2
Arsenic	Strong Acid Extractable	mg/kg	3.4	3.2		0.2
Barium	Strong Acid Extractable	mg/kg	209	169		1
Beryllium	Strong Acid Extractable	mg/kg	0.2	0.1		0.1
Cadmium	Strong Acid Extractable	mg/kg	0.22	0.18		0.01
Chromium	Strong Acid Extractable	mg/kg	35.7	63.6		0.5
Cobalt	Strong Acid Extractable	mg/kg	2.6	2.6		0.1
Copper	Strong Acid Extractable	mg/kg	7.0	6.5		1
Lead	Strong Acid Extractable	mg/kg	3.7	3.7		0.1
Mercury	Strong Acid Extractable	mg/kg	<0.05	<0.05		0.05
Molybdenum	Strong Acid Extractable	mg/kg	3.4	5.6		1
Nickel	Strong Acid Extractable	mg/kg	9.3	9.5		0.5
Selenium	Strong Acid Extractable	mg/kg	<0.30	<0.29		0.3
Silver	Strong Acid Extractable	mg/kg	<0.10	<0.10		0.1
Thallium	Strong Acid Extractable	mg/kg	0.06	0.05		0.05
Tin	Strong Acid Extractable	mg/kg	<1.0	<1.0		1
Uranium	Strong Acid Extractable	mg/kg	1.1	1.1		0.5
Vanadium	Strong Acid Extractable	mg/kg	12.1	11.3		0.1
Zinc	Strong Acid Extractable	mg/kg	30	26		1
Salinity						
% Saturation		%	34	59		
Boron	Saturated Paste	mg/L	0.17	0.11		0.05
Water Soluble Parameters						
Chromium (VI)	Dry Weight	mg/kg	<0.05	<0.05		0.05
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	mg/kg	0.019	<0.005		0.005
Toluene	Dry Weight	mg/kg	<0.02	<0.02		0.02
Ethylbenzene	Dry Weight	mg/kg	0.006	<0.005		0.005
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.03	<0.03		0.03
Methanol Field Preservation			Yes	Yes		
Volatile Petroleum Hydrocarbons - Soil						
F1 C6-C10	Dry Weight	mg/kg	<10	<10		10
F1 -BTEX	Dry Weight	mg/kg	<10	<10		10
Extractable Petroleum Hydrocarbons - Soil						
Extraction Date	Total Extractables		23-Feb-23	23-Feb-23		
F2c C10-C16	Dry Weight	mg/kg	<25	<25		25
F3c C16-C34	Dry Weight	mg/kg	<50	<50		50
F4c C34-C50	Dry Weight	mg/kg	<100	<100		100

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	Reference Number	1633380-21	1633380-22
	Sample Date		
	Sample Time		
	Sample Location		
	Sample Description	BH 23-13 / 50 - 100 / 5.6°C	BH 23-13 / 100 - 150 / 5.6°C
	Matrix	Soil	Soil

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Extractable Petroleum Hydrocarbons - Soil - Continued						
F4HTGCc C34-C50+	Dry Weight	mg/kg	<100	<100		100
% C50+		%	<5	<5		
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done		
Soil % Moisture						
Moisture	Soil % Moisture	% by weight	3.02	2.20		

Approved by:

Randy Neumann, BSc
Director

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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Control Number:
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Extractable Petroleum Hydrocarbons - Soil

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
F2c C10-C16	µg/mL	0	-10	10	yes
F3c C16-C34	µg/mL	0	-30	30	yes
F4c C34-C50	µg/mL	0	-20	20	yes
F4HTGCc C34-C50+	µg/mL	0	-20	20	yes
Date Acquired:	February 21, 2023				

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
F2c C10-C16	µg/mL	102.43	80	120	yes
F3c C16-C34	µg/mL	101.18	80	120	yes
F4c C34-C50	µg/mL	93.08	80	120	yes
F4HTGCc C34-C50+	µg/mL	87.58	80	120	yes
Date Acquired:	February 21, 2023				

Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
F2c C10-C16	mg/kg	81	70	130	yes
F3c C16-C34	mg/kg	86	70	130	yes
F4c C34-C50	mg/kg	71	70	130	yes
F4HTGCc C34-C50+	mg/kg	71	70	130	yes
Date Acquired:	February 21, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
F2c C10-C16	mg/kg	<25	<25	50	10	yes
F3c C16-C34	mg/kg	<50	<50	50	10	yes
F4c C34-C50	mg/kg	<100	<100	50	10	yes
F4HTGCc C34-C50+	mg/kg	<100	<100	50	10	yes
Date Acquired:	February 21, 2023					

Metals Strong Acid Digestion

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Antimony	µg/L	0.00478718	-0.1	0.2	yes
Arsenic	µg/L	0.00877558	-0.2	0.2	yes
Barium	µg/L	0.107403	-1	1	yes
Beryllium	µg/L	-0.00345753	-0.1	0.1	yes
Cadmium	µg/L	0.00141146	-0.01	0.01	yes
Chromium	µg/L	0.0175894	-0.5	0.5	yes
Cobalt	µg/L	0.00394991	-0.1	0.1	yes
Copper	µg/L	0.0332897	-0.6	1.2	yes
Lead	µg/L	0.0465387	-5.0	5.0	yes
Mercury	µg/L	0.00517284	-0.04	0.04	yes
Molybdenum	µg/L	-0.0368811	-1.0	1.0	yes
Nickel	µg/L	0.017338	-0.4	0.7	yes
Selenium	µg/L	0.00305276	-0.30	0.30	yes
Silver	µg/L	0.000598551	-0.09	0.14	yes
Thallium	µg/L	0.00417705	-0.04	0.04	yes
Tin	µg/L	-0.00951813	-0.4	0.4	yes
Uranium	µg/L	-0.000151327	-0.5	0.5	yes

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Quality Control

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 St SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633380**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851448

Metals Strong Acid Digestion - Continued

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Vanadium	µg/L	-0.0737116	-0.1	0.1	yes
Zinc	µg/L	0.185786	-1	1	yes
Date Acquired:	February 22, 2023				
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**	**Passed QC**
Antimony	mg/kg	39.4	36.1	43.9	yes
Arsenic	mg/kg	41.7	36.3	43.9	yes
Barium	mg/kg	192	180	220	yes
Beryllium	mg/kg	19.7	17.4	22.2	yes
Cadmium	mg/kg	2.02	1.88	2.28	yes
Chromium	mg/kg	106	93.2	107.0	yes
Cobalt	mg/kg	21.5	18.3	21.5	yes
Copper	mg/kg	208	183.5	213.5	yes
Lead	mg/kg	19.6	18.3	21.3	yes
Mercury	mg/kg	2.78	2.64	3.36	yes
Molybdenum	mg/kg	210	185.1	222.3	yes
Nickel	mg/kg	105	92.4	106.2	yes
Selenium	mg/kg	38.9	35.20	44.20	yes
Silver	mg/kg	20.4	18.30	21.30	yes
Thallium	mg/kg	10.1	8.87	11.03	yes
Tin	mg/kg	202	183.1	223.3	yes
Uranium	mg/kg	96.1	86.0	116.0	yes
Vanadium	mg/kg	21.0	18.0	21.6	yes
Zinc	mg/kg	204	186	212	yes
Date Acquired:	February 22, 2023				
Antimony	mg/kg	3.7	2.9	4.7	yes
Arsenic	mg/kg	4.0	2.9	5.4	yes
Barium	mg/kg	85	76	126	yes
Beryllium	mg/kg	0.3	0.2	0.4	yes
Cadmium	mg/kg	0.82	0.68	1.16	yes
Chromium	mg/kg	79.4	58.2	97.2	yes
Cobalt	mg/kg	6.5	4.7	7.9	yes
Copper	mg/kg	145	90.6	150.6	yes
Lead	mg/kg	227	185.9	333.5	yes
Mercury	mg/kg	0.07	0.05	0.09	yes
Molybdenum	mg/kg	<1.0	0.9	1.4	yes
Nickel	mg/kg	25.9	20.9	31.7	yes
Selenium	mg/kg	<0.30	0.23	0.35	yes
Silver	mg/kg	4.2	2.30	5.30	yes
Thallium	mg/kg	0.07	0.05	0.10	yes
Tin	mg/kg	8.7	7.6	12.4	yes
Uranium	mg/kg	<0.5	0.4	0.6	yes
Vanadium	mg/kg	29.1	20.4	34.2	yes
Zinc	mg/kg	318	244	408	yes
Date Acquired:	February 22, 2023				

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Quality Control

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Suite 300, 4503 Brisebois Drive
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Metals Strong Acid Digestion - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Antimony	mg/kg	1.4	1.3	20	0.4	yes
Arsenic	mg/kg	2.8	2.7	20	0.4	yes
Barium	mg/kg	203	204	20	2	yes
Beryllium	mg/kg	0.1	<0.1	20	0.2	yes
Cadmium	mg/kg	0.48	0.48	20	0.02	yes
Chromium	mg/kg	10.6	12.7	20	1.1	yes
Cobalt	mg/kg	2.0	2.0	20	0.2	yes
Copper	mg/kg	222	222	20	2.2	yes
Lead	mg/kg	11.4	12.6	20	0.2	yes
Mercury	mg/kg	0.37	0.36	20	0.05	yes
Molybdenum	mg/kg	11.1	11.1	20	2.2	yes
Nickel	mg/kg	9.6	9.8	20	1.1	yes
Selenium	mg/kg	4.71	4.47	20	0.66	yes
Silver	mg/kg	2.4	2.4	20	0.22	yes
Thallium	mg/kg	0.06	0.06	20	0.11	yes
Tin	mg/kg	5.9	5.4	20	2.2	yes
Vanadium	mg/kg	6.7	6.7	20	0.2	yes
Zinc	mg/kg	433	439	20	2	yes
Uranium	mg/kg	1.5	1.4	20	1.1	yes

Date Acquired: March 16, 2023

Mono-Aromatic Hydrocarbons - Soil

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Benzene	ng	0	-0.005	0.005	yes
Toluene	ng	0	-0.06	0.06	yes
Ethylbenzene	ng	0	-0.030	0.030	yes
Total Xylenes (m,p,o)	ng	0	-0.09	0.09	yes
Styrene	ng	0	-0.030	0.030	yes

Date Acquired: February 21, 2023

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Benzene	ng	103.63	80	120	yes
Toluene	ng	93.87	80	120	yes
Ethylbenzene	ng	94.63	80	120	yes
m,p-Xylene	ng	97.71	80	120	yes
Total Xylenes (m,p,o)	ng	97.16	80	120	yes
Styrene	ng	80.17	80	120	yes

Date Acquired: February 21, 2023

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Benzene	mg/kg	0.016	0.014	50	0.010	yes
Toluene	mg/kg	0.03	0.03	50	0.04	yes
Ethylbenzene	mg/kg	0.008	0.006	50	0.020	yes
m,p-Xylene	mg/kg	0.05	0.05	50	0.04	yes
o-Xylene	mg/kg	<0.02	<0.02	50	0.04	yes
Total Xylenes (m,p,o)	mg/kg	0.07	0.06	50	0.06	yes

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

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T2L 2G3
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Mono-Aromatic Hydrocarbons - Soil - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Styrene	mg/kg	<0.01	<0.01	50	0.020	yes
Date Acquired:	February 21, 2023					

PAH - Soil - Surrogate Recovery

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
2-Fluorobiphenyl	%	121.82	50	140	yes
p-Terphenyl-d14	%	114.037	50	140	yes
Date Acquired:	February 24, 2023				

Particle Size Analysis - Wet Sieve

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
75 micron sieve	% by weight	15.1	9.9	21.9	yes
Date Acquired:	February 20, 2023				

Polycyclic Aromatic Hydrocarbons - Soil

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Naphthalene	ng/mL	0	-0.010	0.010	yes
Acenaphthylene	ng/mL	0	-0.05	0.05	yes
Acenaphthene	ng/mL	0	-0.05	0.05	yes
Fluorene	ng/mL	0	-0.05	0.05	yes
Phenanthrene	ng/mL	0	-0.01	0.01	yes
Anthracene	ng/mL	0	-0.003	0.003	yes
Fluoranthene	ng/mL	0	-0.010	0.010	yes
Pyrene	ng/mL	0	-0.010	0.010	yes
Benzo(a)anthracene	ng/mL	0	-0.01	0.01	yes
Chrysene	ng/mL	0	-0.05	0.05	yes
Benzo(b)fluoranthene	ng/mL	0	-0.05	0.05	yes
Benzo(b+j)fluoranthene	ng/mL	0	-0.05	0.05	yes
Benzo(k)fluoranthene	ng/mL	0	-0.05	0.05	yes
Benzo(a)pyrene	ng/mL	0	-0.05	0.05	yes
Indeno(1,2,3-c,d)pyrene	ng/mL	0	-0.05	0.05	yes
Dibenzo(a,h)anthracene	ng/mL	0	-0.05	0.05	yes
Benzo(g,h,i)perylene	ng/mL	0	-0.05	0.05	yes
Date Acquired:	February 24, 2023				

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Naphthalene	ng/mL	95.00	80	120	yes
Acenaphthylene	ng/mL	105.40	80	120	yes
Acenaphthene	ng/mL	101.80	80	120	yes
Fluorene	ng/mL	101.80	80	120	yes
Phenanthrene	ng/mL	100.60	80	120	yes
Anthracene	ng/mL	113.00	80	120	yes
Fluoranthene	ng/mL	108.80	80	120	yes
Pyrene	ng/mL	108.80	80	120	yes

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Quality Control

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
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Sampled By: Nnamdi Menkiti/Tristan Hennig
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Polycyclic Aromatic Hydrocarbons - Soil - Continued

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Benzo(a)anthracene	ng/mL	111.20	80	120	yes
Chrysene	ng/mL	97.20	80	120	yes
Benzo(b)fluoranthene	ng/mL	109.20	80	120	yes
Benzo(k)fluoranthene	ng/mL	115.80	80	120	yes
Benzo(a)pyrene	ng/mL	93.40	80	120	yes
Indeno(1,2,3-c,d)pyrene	ng/mL	94.80	80	120	yes
Dibenzo(a,h)anthracene	ng/mL	101.60	80	120	yes
Benzo(g,h,i)perylene	ng/mL	88.40	80	120	yes

Date Acquired: February 24, 2023

Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Naphthalene	mg/kg	93	50	140	yes
Acenaphthylene	mg/kg	86	50	140	yes
Acenaphthene	mg/kg	98	50	140	yes
Fluorene	mg/kg	90	50	140	yes
Phenanthrene	mg/kg	105	50	140	yes
Anthracene	mg/kg	104	50	140	yes
Fluoranthene	mg/kg	103	50	140	yes
Pyrene	mg/kg	107	50	140	yes
Benzo(a)anthracene	mg/kg	95	50	140	yes
Chrysene	mg/kg	102	50	140	yes
Benzo(b)fluoranthene	mg/kg	84	50	140	yes
Benzo(k)fluoranthene	mg/kg	85	50	140	yes
Benzo(a)pyrene	mg/kg	97	50	140	yes
Indeno(1,2,3-c,d)pyrene	mg/kg	87	50	140	yes
Dibenzo(a,h)anthracene	mg/kg	77	50	140	yes
Benzo(g,h,i)perylene	mg/kg	99	50	140	yes

Date Acquired: February 24, 2023

Salinity

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Calcium	mg/L	-0.0105829	-2.0	2.0	yes
Magnesium	mg/L	0.0094934	-0.3	0.3	yes
Sodium	mg/L	0.121725	-1	1	yes
Potassium	mg/L	0.156877	-1.0	1.0	yes
Chloride	mg/L	1.3662	-3	3	yes
Sulfate-S	mg/L	0.0136601	-2	2	yes
Boron	mg/L	-0.0105654	-0.05	0.05	yes

Date Acquired: February 21, 2023

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Electrical Conductivity	dS/m	0.43	0.27	0.51	yes
% Saturation	%	59	47	78	yes
Calcium	mg/L	51.2	32.5	56.5	yes
Magnesium	mg/L	14.3	8.4	15.6	yes

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
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Salinity - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Sodium	mg/L	14	9	15	yes
Potassium	mg/L	9.9	6.7	11.5	yes
Chloride	mg/L	30	18	34	yes
Sulfate-S	mg/L	20	11	22	yes
Boron	mg/L	0.19	0.15	0.29	yes
Date Acquired:	February 21, 2023				
Electrical Conductivity	dS/m	31.6	26.80	35.20	yes
Calcium	mg/L	248	226.9	261.1	yes
Magnesium	mg/L	101	91.0	104.8	yes
Sodium	mg/L	251	229	264	yes
Potassium	mg/L	253	230.7	265.5	yes
Chloride	mg/L	2060	1852	2229	yes
Sulfate-S	mg/L	151	140	155	yes
Date Acquired:	February 21, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Electrical Conductivity	dS/m	0.35	0.38	10	0.03	yes
Calcium	mg/L	29.0	32.7	15		yes
Magnesium	mg/L	14.2	15.4	15	0.6	yes
Sodium	mg/L	24	27	15	1	yes
Potassium	mg/kg	4	3	20	1	yes
Chloride	mg/kg	12	9	15	3	yes
Sulfate-S	mg/kg	5.0	3.8	20	1.2	yes
Magnesium	mg/kg	7.5	7.2	20	0.6	yes
Sodium	mg/kg	21	20	20	1	yes
Date Acquired:	February 21, 2023					

Soil Acidity

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
pH	pH	6.04	5.2	7.0	yes
Date Acquired:	February 21, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
pH	pH	6.7	6.5	7.1	yes
Date Acquired:	February 21, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
pH	pH	7.5	7.7	10	0.3	yes
Date Acquired:	February 21, 2023					

Volatile Petroleum Hydrocarbons - Soil

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
F1 C6-C10	ng	0	-10	10	yes
Date Acquired:	February 21, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
F1 C6-C10	mg/kg	<10	<10	50	0	yes

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Quality Control

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
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LSD:
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Volatile Petroleum Hydrocarbons - Soil - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
F1 -BTEX	mg/kg	<10	<10	50	0	yes
Date Acquired: February 21, 2023						

Water Soluble Parameters

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
Chromium (VI)	mg/L	0	-0.10	0.10		yes
Date Acquired: February 20, 2023						

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Chromium (VI)	mg/kg	<0.05	<0.05	10	0.01	yes
Date Acquired: February 20, 2023						

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
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Methodology and Notes

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Suite 300, 4503 Brisebois Drive
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Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
1:5 Water Soluble Extraction	APHA	*	Colorimetric Method, 3500-Cr B	Feb 20, 2023	Element Edmonton - Roper Road
1:5 Water Soluble Extraction	APHA	*	Colorimetric Method, 3500-Cr B	Mar 13, 2023	Element Edmonton - Roper Road
1:5 Water Soluble Extraction	McKeague	*	Soluble Salts in Extracts of 1:5 Soil:Water Mixtures, 3.23	Feb 20, 2023	Element Edmonton - Roper Road
1:5 Water Soluble Extraction	McKeague	*	Soluble Salts in Extracts of 1:5 Soil:Water Mixtures, 3.23	Mar 13, 2023	Element Edmonton - Roper Road
BTEX-CCME - Soil	CCME	*	Reference Method for Canada-Wide Standard for PHC in Soil, CWS PHCS TIER 1	Feb 21, 2023	Element Calgary
BTEX-CCME - Soil	CCME	*	Reference Method for Canada-Wide Standard for PHC in Soil, CWS PHCS TIER 1	Mar 10, 2023	Element Calgary
BTEX-CCME - Soil	US EPA	*	Volatile Organic Compounds in Various Sample Matrices Using Equilibrium Headspace Analysis/Gas Chromatography Mass Spectrometry, 5021/8260	Feb 21, 2023	Element Calgary
BTEX-CCME - Soil	US EPA	*	Volatile Organic Compounds in Various Sample Matrices Using Equilibrium Headspace Analysis/Gas Chromatography Mass Spectrometry, 5021/8260	Mar 10, 2023	Element Calgary
Metals ICP (Hot Block) in soil	EPA	*	Sample Preparation Procedure for Spectrochemical Determination of Total Recoverable Elements, October 1999, 200.2	Feb 22, 2023	Element Edmonton - Roper Road
Metals ICP (Hot Block) in soil	EPA	*	Sample Preparation Procedure for Spectrochemical Determination of Total Recoverable Elements, October 1999, 200.2	Mar 16, 2023	Element Edmonton - Roper Road
Metals ICP (Hot Block) in soil	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Feb 22, 2023	Element Edmonton - Roper Road
Metals ICP (Hot Block) in soil	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Mar 16, 2023	Element Edmonton - Roper Road
PAH - Soil	AEP		Index of Additive Cancer Risk (IACR), IACR	Feb 24, 2023	Element Calgary
PAH - Soil	US EPA	*	Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry, 8270	Feb 24, 2023	Element Calgary
Particle Size by Wet Sieve	ASTM	*	Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Mineral Aggregates by Washing, C 117-17	Feb 20, 2023	Element Edmonton - Roper Road
Particle Size by Wet Sieve	ASTM	*	Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Mineral Aggregates by Washing, C 117-17	Mar 14, 2023	Element Edmonton - Roper Road
Particle Size by Wet Sieve	Carter	*	Procedure for Particle Size Separation, 55.2.3	Feb 20, 2023	Element Edmonton - Roper Road

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Methodology and Notes

Bill To: Core Geomatics Group Inc.
Suite 300, 4503 Brisebois Drive
Calgary, AB, Canada
T2L 2G3
Attn: Mark Cross
Sampled By: Nnamdi Menkiti/Tristan Hennig
Company: CORE Geomatics Group Inc.

Project ID: 23-0118
Project Name: 1802 - 11 St SE
Project Location: Calgary
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1633380**
Control Number:
Date Received: Feb 17, 2023
Date Reported: Mar 17, 2023
Report Number: 2851448

Method Name	Reference		Method	Date Analysis Started	Location
Particle Size by Wet Sieve	Carter	*	Procedure for Particle Size Separation, 55.2.3	Mar 14, 2023	Element Edmonton - Roper Road
pH by CaCl2 (1:2 ratio) in soil	McKeague	*	pH in 0.01M Calcium Chloride, 3.11	Feb 21, 2023	Element Edmonton - Roper Road
pH by CaCl2 (1:2 ratio) in soil	McKeague	*	pH in 0.01M Calcium Chloride, 3.11	Mar 16, 2023	Element Edmonton - Roper Road
Saturated Paste in General Soil	APHA	*	Automated Ferricyanide Method, 4500-Cl-E	Feb 21, 2023	Element Edmonton - Roper Road
Saturated Paste in General Soil	APHA	*	Automated Ferricyanide Method, 4500-Cl-E	Mar 11, 2023	Element Edmonton - Roper Road
Saturated Paste in General Soil	Carter	*	Electrical Conductivity and Soluble Ions, Chapter 15	Feb 21, 2023	Element Edmonton - Roper Road
Saturated Paste in General Soil	Carter	*	Electrical Conductivity and Soluble Ions, Chapter 15	Mar 11, 2023	Element Edmonton - Roper Road
TEH-CCME-Soil (Shake)	CCME	*	Reference Method for Canada-Wide Standard for PHC in Soil, CWS PHCS TIER 1	Feb 21, 2023	Element Calgary
TEH-CCME-Soil (Shake)	CCME	*	Reference Method for Canada-Wide Standard for PHC in Soil, CWS PHCS TIER 1	Mar 10, 2023	Element Calgary

** Reference Method Modified*

References

AEP	Alberta Tier 1 Soil and Groundwater Remediation Guidelines
APHA	Standard Methods for the Examination of Water and Wastewater
ASTM	Annual Book of ASTM Standards
Carter	Soil Sampling and Methods of Analysis.
CCME	Canadian Council of Ministers of the Environment
EPA	Environmental Protection Agency Test Methods - US
McKeague	Manual on Soil Sampling and Methods of Analysis
US EPA	US Environmental Protection Agency Test Methods

Comments:

- Mar 09, 2023 - Report was issued to change the Project ID from 21-0832 to 23-0118, and project location from 1001-8th St SE to 1802 - 11 street SE as requested by Nnamdi Menkiti of Core Geomatics on March 9, 2023.
  Previous report 2845375.
- Mar 10, 2023 - Report was issued to include additional services requested by Nnamdi Menkiti of Core Geomatics Inc. on March 09,2023:
  ABT1MET-S service requested on sample 16.
  ABT1SAL-S service requested on sample 16.
  PS24 service requested on sample 16.
  CCMEC service requested on sample 16.
  Previous report 2851120.
- Mar 10, 2023 - Analysis was performed on sample16 that exceeded the recommended holding time for BTEX F2-F4 analysis.

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Methodology and Notes

Bill To:	Core Geomatics Group Inc. Suite 300, 4503 Brisebois Drive Calgary, AB, Canada T2L 2G3	Project ID:	23-0118	Lot ID:	**1633380**
		Project Name:	1802 - 11 St SE	Control Number:	
		Project Location:	Calgary	Date Received:	Feb 17, 2023
		LSD:		Date Reported:	Mar 17, 2023
		P.O.:		Report Number:	2851448
Attn:	Mark Cross	Proj. Acct. code:			
Sampled By:	Nnamdi Menkiti/Tristan Hennig				
Company:	CORE Geomatics Group Inc.				

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Project Information

Project ID:	21-0832
Project Name:	1001-8th St SE
Project Location:	Calgary
Legal Location:	
PO/AFE#:	
Proj. Acct. Code:	
Quote #:	34112

Invoice To

Company:	CORE Geomatics Group Inc.
Address:	300, 4503 Brisebois Drive NW, Calgary AB, T2L2G3
Attention:	Mark Cross
Phone:	
Cell:	780-975-8713
E-mail:	mark.cross@coregeomatics.com
Government Funded Work	NO
SRP #	
Agreement ID:	

Report To

Company:	SAME
Address:	
Attention:	
Phone:	
Cell:	
Fax:	
E-mail 1:	
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:	Nnamdi Menkiti
E-mail:	amdi.menkiti@coregeomatics.c
2) Name:	Tristan Hennig
E-mail:	stan.hennig@coregeomatics.c

Sample Custody

Sampled by:	Nnamdi Menkiti/Tristan Henni
Company:	CORE Geomatics Group Inc.

I authorize Element to proceed with the work indicated on this form:

Signature:	NM
Date/Time:	17-Feb-23

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☑ 5 to 7 Days (Regular TAT)

Date Required: February 28/2023

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ Online
- ☐ Fax
- ☐ QA/QC
- ☑ PDF
- ☑ Excel

Requirements

- ☐ HCDWQ
- ☐ SPIGEC
- ☑ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	ABT1SAL-S (Salinity)	AB T1-MET-S	CCMEC (PHCs)	PAH2	PS24	CLASS 2	Hold
			cm							Enter tests above (✓ relevant samples below)						
1	BH 23-08	1 jars, 1 bag, 2 vials	0	50	February 17/2023	Soil	Grab	4	✓							X
2	BH 23-08	1 jars, 1 bag, 2 vials	50	100	February 17/2023	Soil	Grab	4	✓		X	X				
3	BH 23-08	1 jars, 1 bag, 2 vials	100	150	February 17/2023	Soil	Grab	4	✓							X
4	BH 23-08	1 jars, 1 bag, 2 vials	150	200	February 17/2023	Soil	Grab	4	✓							X
5	BH 23-08	1 jars, 1 bag, 2 vials	200	250	February 17/2023	Soil	Grab	4	✓		X	X	X	X		
6	BH 23-09	1 jars, 1 bag, 2 vials	0	50	February 17/2023	Soil	Grab	4	✓							X
7	BH 23-09	1 jars, 1 bag, 2 vials	50	100	February 17/2023	Soil	Grab	4	✓	X	X	X	X			
8	BH 23-09	1 jars, 1 bag, 2 vials	100	150	February 17/2023	Soil	Grab	4	✓							X
9	BH 23-09	1 jars, 1 bag, 2 vials	150	200	February 17/2023	Soil	Grab	4	✓							X
10	BH 23-09	1 jars, 1 bag, 2 vials	200	250	February 17/2023	Soil	Grab	4	✓	X	X	X	X			
11	BH 23-10	1 jars, 1 bag, 2 vials	0	50	February 17/2023	Soil	Grab	4	✓	X	X	X	X			
12	BH 23-10	1 jars, 1 bag, 2 vials	50	100	February 17/2023	Soil	Grab	4	✓							X
13	BH 23-10	1 jars, 1 bag, 2 vials	100	150	February 17/2023	Soil	Grab	4	✓							X
14	BH 23-10	1 jars, 1 bag, 2 vials	150	200	February 17/2023	Soil	Grab	4	✓							X
15	BH 23-10	1 jars, 1 bag, 2 vials	200	250	February 17/2023	Soil	Grab	4	✓	X	X	X	X			

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Page 1 2 Control #

Indicate lot # or affix barcode here

Lot: 1633380 COC

Temp. received: 5.6 °C

Date/Time stamp: 2/17/2023

Delivery Method: HAND

Waybill:

Received by: LR

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www.Element.com

Project Information

Project ID:	21-0832
Project Name:	1001-8th St SE
Project Location:	Calgary
Legal Location:	
PO/AFE#:	
Proj. Acct. Code:	
Quote #:	34112

Invoice To

Company:	CORE Geomatics Group Inc.
Address:	300, 4503 Brisebois Drive NW, Calgary AB, T2L2G3
Attention:	Mark Cross
Phone:	
Cell:	780-975-8713
E-mail:	mark.cross@coregeomatics.com
Government Funded Work	NO
SRP #	
Agreement ID:	

Report To

Company:	SAME
Address:	
Attention:	
Phone:	
Cell:	
Fax:	
E-mail 1:	
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:	Nnamdi Menkiti
E-mail:	amdi.menkiti@coregeomatics.c
2) Name:	Tristan Hennig
E-mail:	stan.hennig@coregeomatics.c

Sample Custody

Sampled by:	Nnamdi Menkiti/Tristan Henni
Company:	CORE Geomatics Group Inc.

I authorize Element to proceed with the work indicated on this form:

Signature:	NM
Date/Time:	17-Feb-23

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
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Date Required: February 28/2023

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Report Results

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- ☐ Fax
- ☐ QA/QC
- ☑ PDF
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- ☑ AB Tier 1
- ☐ SPIGEC
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved?	ABT1SAL-S (Salinity)	AB T1-MET-S	CCMEC (PHCs)	PAH2	CLASS 2	Hold
			cm	cm					✓	Enter tests above (✓ relevant samples below)					
16	BH 23-11	1 jars, 1 bag, 2 vials	0	50	February 17/2023	Soil	Grab	4	✓						X
17	BH 23-12	1 jars, 1 bag, 2 vials	0	50	February 17/2023	Soil	Grab	4	✓						X
18	BH 23-12	1 jars, 1 bag, 2 vials	50	100	February 17/2023	Soil	Grab	4	✓		X	X			
19	BH 23-12	1 jars, 1 bag, 2 vials	100	150	February 17/2023	Soil	Grab	4	✓		X	X			
20	BH 23-13	1 jars, 1 bag, 2 vials	0	50	February 17/2023	Soil	Grab	4	✓						X
21	BH 23-13	1 jars, 1 bag, 2 vials	50	100	February 17/2023	Soil	Grab	4	✓		X	X			
22	BH 23-13	1 jars, 1 bag, 2 vials	100	150	February 17/2023	Soil	Grab	4	✓		X	X			

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Page 1 2 Control #

Indicate lot # or affix barcode here

Temp. received: °C

Date/Time stamp:

Delivery Method:

Waybill:

Received by:

APPENDIX G – RECORD OF SITE CONDITION