

AtkinsRéalis



**1440 Prince of Wales Drive,
Ottawa, Ontario**

Shell Canada Products

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Final – Updated Phase Two Environmental Site Assessment

Signature Page

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Executive Summary

Introduction

AtkinsRéalis Canada Inc. (AtkinsRéalis) was retained by Shell Canada Products (Shell) to prepare an Updated Phase Two Environmental Site Assessment (ESA) documenting available soil and groundwater analytical results in accordance with the provision of Ontario Regulation (O.Reg.) 153/04 (as amended) report format for the property located at 1440 Prince of Wales Drive, Ottawa, Ontario (herein referred to as the Phase Two Property). The Phase Two Property is currently operated as retail fuel outlet.

A Knock Down and Redevelop (KDR) program is currently planned for the Phase Two Property and is tentatively scheduled for 2024. In regard to this, a teleconference meeting with the City of Ottawa (the City), Shell and AtkinsRéalis was conducted on August 23, 2023. During the meeting, the City indicated that both a Phase One ESA report and a Phase Two ESA report, in O.Reg. 153/04 format, are required to be submitted as part of the Site Plan Approval (SPA) process and in support of the redevelopment application for the Phase Two Property. During this teleconference meeting, Shell informed the City that soil data (between 1998 and 2001 and limited additional data as recently as 2023 collected as part of a geotechnical investigation), and groundwater data (from 1998/2000 to present) are already available. Shell further indicated that although historical data (total petroleum hydrocarbons [TPH] gas/diesel from 2000/2001) would not meet the O.Reg. 153/04 petroleum hydrocarbon (PHC) fractionation requirement, the most recent limited soil sampling and groundwater data with PHC fractionation exists and the available historical data can be used to document overall soil and groundwater conditions at the Phase Two Property. Shell confirmed to the City that impacts are present on and off-site and the reports documenting soil and groundwater conditions on and off-site have previously been provided to the City, Ministry of Environment, Conservation and Parks (MECP) and the off-site property owners. The City indicated that they will accept utilizing existing and available historical data to prepare the Phase Two ESA report in O.Reg. 153 format. The City further indicated that they would expect the Phase Two ESA report to be updated with an addendum post KDR documenting the resultant conditions.

Based on the above, Shell has requested that AtkinsRéalis prepare an Updated Phase Two ESA of the Phase Two Property documenting available soil and groundwater analytical results in O.Reg. 153/04 (as amended) report format to support the future redevelopment and SPA process, but not for the purpose of filing a Record of Site Condition (RSC) with the MECP.

The final proposed site plan for the redevelopment is currently under development by others. The boundaries for the Phase Two Property for purposed of this Phase Two ESA is based on the existing site plan provided to AtkinsRéalis at the time of writing the Updated Phase Two ESA report.

Site Description and Background

The Phase Two Property is located at the northwest corner of the intersection of Prince of Wales Drive and Meadowlands Drive in Ottawa, Ontario. The Phase Two Property is bound by a commercial property (Rideauview shopping mall) to the north and west, with the Rideauview shopping mall parking lot to the north, commercial property (Great Canadian Oil Change) to the south (across Meadowale Drive) and residential (apartment buildings) to the east (across Prince of Wales Drive).

The Phase One ESA identified the following seven (7) Areas of Potential Environmental Concern (APECs):



- APEC 1 – Tank Nest and Pump Islands. There are five (5) underground storage tanks (USTs) present in the tank nest, located by the northern portion of the Phase One Property and four pump islands located by the eastern portion of the Phase One Property.
- APEC 2 – Former Waste Oil Tank. The former waste oil tank associated with historical operation of a rapid lube facility located south of the convenience store.
- APEC 3 – Former Motor Oil Storage Tanks. The two former motor oil tanks associated with historical operation of a rapid lube facility located northwest of the convenience store.
- APEC 4 (4a and 4b) – Potential Historical Backfill Material. Fill material was identified at the Phase One Property during previous investigations. Potential importation of fill of unknown quality during construction/development in 1958/1960 of the gas station and rapid lube facility and tank upgrades in 1985/1986 at the Phase One Property. Potential dry-cleaning operation (Sentinel Cleaners) and ERIS database identified waste generator of halogenated solvents on property 1430 Prince of Wales Drive located adjacent north/northwest of the Phase One Property. Potential dry-cleaning business (Meadowland Cleaners) and ERIS database identified waste generator of halogenated solvents on property 888 Meadowlands Drive located south/southwest of the Phase One Property.
- APEC 5– Former Gas Station. Top-Valu Gas Bar was identified adjacent north (1430 Prince of Wales Drive) of the Phase One Property.
- APEC 6 – Potential Former Gas Station. Based on the 1998 ESA report and aerial photographs, a former gasoline station appeared to be located at 1375 Prince of Wales Drive east of the Phase One Property.
- APEC 7 – Current Oil Changing Facility and Potential Dry-Cleaning Operation. Historically, a service station and currently oil changing business/facility exist on the property at 1448 Prince of Wales Drive located south/southeast of the Phase One Property.

Based on the APECs identified above that are a result of current and historical Potential Contaminating Activities (PCAs) identified in the Phase One ESA, one or more of potential contaminants of concern (PCOC) were identified as benzene, toluene, ethylbenzene, xylene (BTEX), petroleum hydrocarbon compounds fractions F1 to F4 (PHCs F1 to F4), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs) and metals in soil and/or groundwater.

Given the status of the Phase One Property and the presence of seven (7) APECs, an Updated Phase Two ESA will be required prior to the submission of a Record of Site Condition (RSC) with the Ministry of the Environment, Conservation and Parks (MECP)

Updated Phase Two ESA Report (O.Reg. 153 format)

The review of available current and historical soil and groundwater analytical results (2022/203) indicated concentrations exceeding the selected MECP Table 3 SCSs are present at the Phase Two Property.

Elevated sodium adsorption ratio (SAR) and electrical conductivity (EC) values in soil are considered to be a result of historic and current road salt application activities at the Phase Two Property and within surrounding road allowances. Elevated vanadium in sub-surface (>1.5 m bgs) soil is potentially naturally occurring (not handled by Shell). Localized surficial lead and vanadium concentration in soil is most likely attributable to imported fill brought to the Phase Two Property. BTEX and PHC impacts in soil and groundwater are most likely related to the retail gas station and former rapid fuel facility at the Phase Two Property.

Summary of COC exceeding the applicable MECP Table 3 SCS in soil and ground water is presented below:



Location Exceeding SCS	Depth (m bgs)	Contaminant of Concern	Table 3 SCS	Max. Concentration Soil µg/g) Groundwater (µg/L)
Soil				
BH23-01-011	0.0-0.8	SAR	12	32
BH23-01-03	1.5-1.8	EC	1.4	2.6
BH23-01-04	1.8-2.4	Vanadium	88	120
BH23-03-01	0.0-0.8	Lead	120	180
BH-5-6	4.5-5.1	Benzene	0.4	29
BH-5-6	4.5-5.1	Toluene	78	125
BH-5-6	4.5-5.1	Ethylbenzene	19	30.1
BH-5-6	4.5-5.1	Xylenes	30	169.8
BH23-01-06	3.0-3.7	PHC F1	65	430
BH23-01-06	3.0-3.7	PHC F2	250	810
Ground Water				
MW-22	-	Benzene	430	5,100
MW-22	-	Xylenes	4,200	7,700
98-2	-	PHC F1	750	13,000
98-2	-	PHC F2	150	14,000
98-3	-	PHC F3	500	32,000
98-3	-	PHC F4	500	17,000

Conclusions

Concentrations exceeding the selected MECP Table 3 SCSs are present in soil and groundwater at the Phase Two Property. Following KDR (planned to be conducted in 2024), the report will be updated with an addendum documenting conditions remaining at the Phase Two Property. Further, AtkinsRéalis on behalf of Shell will complete a screening/due diligence Human Health Risk Assessment (HHRA) based on resultant conditions (post KDR).

This Executive summary provides a brief overview of the Phase Two ESA findings. It is not intended to substitute for the complete report, nor does it detail specific issues discussed within the report. This summary is not to be adopted *in lieu* of reading the complete report.



1. INTRODUCTION

AtkinsRéalis Canada Inc. (AtkinsRéalis) was retained by Shell Canada Products (Shell) to prepare an Updated Phase Two Environmental Site Assessment (ESA) documenting available soil and groundwater analytical results in accordance with the provision of Ontario Regulation (O.Reg.) 153/04 (as amended) report format for the property located at 1440 Prince of Wales Drive, Ottawa, Ontario (herein referred to as the Phase Two Property). The Phase Two Property is currently operated as retail fuel outlet. The geographical location of the Phase Two Property is shown on Figure 1.

A Knock Down and Redevelop (KDR) program is currently planned for the Phase Two Property and is tentatively scheduled for 2024. In regard to this, a teleconference meeting with the City of Ottawa (the City), Shell and AtkinsRéalis was conducted on August 23, 2023. During the meeting, the City indicated that both a Phase One ESA report and a Phase Two ESA report, in O.Reg. 153/04 format, are required to be submitted as part of the Site Plan Approval (SPA) process and in support of the redevelopment application for the Phase Two Property. During this teleconference meeting, Shell informed the City that soil data (between 1998 and 2001 and limited additional data as recently as 2023 collected as part of a geotechnical investigation), and groundwater data (from 1998/2000 to present) are already available. Shell further indicated that although historical data (total petroleum hydrocarbons [TPH] gas/diesel from 2000/2001) would not meet the O.Reg. 153/04 petroleum hydrocarbon (PHC) fractionation requirement, the most recent limited soil sampling and groundwater data with PHC fractionation exists and the available historical data can be used to document overall soil and groundwater conditions at the Phase Two Property. Shell confirmed to the City that impacts are present on and off-site and the reports documenting soil and groundwater conditions on and off-site have previously been provided to the City, Ministry of Environment, Conservation and Parks (MECP) and the off-site property owners. The City indicated that they will accept utilizing existing and available historical data to prepare the Phase Two ESA report in O.Reg. 153 format. The City further indicated that they would expect the Phase Two ESA report to be updated with an addendum post KDR documenting the resultant conditions.

Based on the above, Shell has requested that AtkinsRéalis prepare an Updated Phase Two ESA of the Phase Two Property documenting available soil and groundwater analytical results in O.Reg. 153/04 (as amended) report format to support the future redevelopment and SPA process, but not for the purpose of filing a Record of Site Condition (RSC) with the MECP.

The final proposed site plan for the redevelopment is currently under development by others. The boundaries for the Phase Two Property for purposed of this Phase Two ESA is based on the existing site plan provided to AtkinsRéalis at the time of writing the Updated Phase Two ESA report.

1.1 Site Description

The Phase Two Property is located at the northwest corner of the intersection of Prince of Wales Drive and Meadowlands Drive in Ottawa, Ontario. The Phase Two Property is bound by a commercial property (Rideauview shopping mall) to the north and west, with the Rideauview shopping mall parking lot to the north, commercial property (Great Canadian Oil Change) to the south (across Meadowale Drive) and residential (apartment buildings) to the east (across Prince of Wales Drive). All directions are relative to discussion north as shown on the Figures.

The Phase Two Property comprises an 0.18 hectare parcel of land and is currently occupied by an operational retail fuel station, as shown on **Error! Reference source not found..** Further property information for the Phase Two Property is provided in the table below.



1.2 Property Ownership

Details	Description
Municipal Address(es)	1440 Prince of Wales Drive, Ottawa
Property Owner	Shell Canada Products Limited
Property Identification Number(s) (PIN)	0401-0109 (LT)
Legal Description(s)	PT LT 34, CON BRF, AS IN CR399041 & CR357545 EXCEPT CR4639, CR481854; OTTAWA/NEPEAN
Building(s)	One single storey convenience store with a basement

The Phase Two ESA was authorised by Lee Howell of Shell. Mr. Howell's contact details are listed below.

Person Requesting the Phase Two ESA	Ms. Lee Howell, P.Geo. Program Manager, Soil and Groundwater Solutions Shell Canada Products 400-4th Avenue SW Calgary, Alberta T2P 2H5 Telephone: (416) 995-1674
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1.3 Current and Proposed Future Uses

The current property use of the Phase Two Property is commercial and is expected to remain unchanged following the proposed redevelopment activities, scheduled for 2024. As such, the future property use of the Phase Two Property is commercial as defined by O. Reg. 153/ 04 (as amended).

1.4 Applicable Site Condition Standards

The site condition standards (SCSs) for use at this site were selected from the MECP (formerly Ministry of the Environment (MOE)) Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act using the approach described by O. Reg. 153/04, as amended. The SCS applicable to the Site have been selected based on the following information:

- The Phase Two Property is not considered an environmentally sensitive area as defined by Section 41 of O. Reg. 153/04 since:
 - The Phase Two Property is not located within an area of natural significance;
 - The Phase Two Property does not include land that is within 30 metres (m) of an area of natural significance or part of such an area; and,
 - The pH of soils measured during the limited soil sampling completed at the Phase Two Property in 2023 were within the required range for comparison to the SCSs (i.e., 5 to 9 for surface soils and 5 to 11 for sub-surface



soils) with the exception of slight pH exceeding the SCS (9.4/9.5 vs 9.0) in two surface soil samples (including its duplicate) out of five soil samples collected from borehole BH23-01 (as discussed in Section 5.6.1). The remainder of the surface and sub-surface soil samples analyzed for pH from boreholes BH23-01 to BH23-03 are within the SCS range of 7.63-7.75 for surface soil and 7.04-7.73 for sub-surface soil.

- The Phase Two Property does not include all, or part of a water body, nor is it adjacent to a water body or include land within 30 m of water body.
- The Phase Two Property is serviced by a municipal drinking water system as defined in the Safe Drinking Water Act, 2002. In addition, six (6) domestic water supply wells, four (4) commercial/irrigation wells and one (1) public water supply well were identified within the Phase Two Study Area (AtkinsRéalis, 2023) based on water well records. These wells were indicated as installed between 1950 and 1967 and likely not in use as the Phase Two Study Area are serviced by the municipal drinking water distribution system (Ottawa River/Britannia Plant). If an RSC is to be submitted for the Phase Two Property, confirmation on the presence of these wells may be required.
- The property is not located within an area designated as a well-head protection area (or equivalent).
- The current property use is commercial and the future property use is proposed to remain as commercial. As such, the industrial/commercial/community property use standards apply to the Phase Two Property.
- Grain size analyses conducted during previous investigations (AquaTerre, 2000) indicated that the predominant soil type at the Phase Two Property comprises medium/fine textured soil.
- The Phase Two Property is not considered a shallow soil property as defined by O. Reg. 153/04 (as amended) since more than 2/3 of the Phase Two Property has more than 2 m of overburden above bedrock.

Based upon the information above, the Table 3 full depth generic site condition standards (Table 3 SCS) for industrial/commercial/community property use in medium and fine textured soils, were selected for comparison with measured soil and ground water concentrations.



2. BACKGROUND INFORMATION

2.1 Physical Setting

2.1.1 Water Bodies

The nearest surface water bodies are Rideau River and Rideau Canal located 200 m east of the Phase Two Property. Based on a review of the topography, regional groundwater flow appears to be northeast/east towards Rideau River.

2.1.2 Areas of Natural Significance

Review of the National Heritage Information Centre (NHIC) database search, the Ministry of Natural Resources and Forestry maps of Natural Heritage System and Areas of Natural and Scientific Interest (ANSI), and the ANSI map provided by ERIS, identified Hogs Back Falls as an ANSI located approximately 420 m east from the Phase Two Property (AtkinsRéalis, 2023).

2.1.3 Topography and Surface Water Drainage

The Phase Two Property is relatively flat with an approximate elevation of 82.88 m above mean sea level (amsl) and slopes gently to the east. With respect to the Phase Two Study Area, the topography generally slopes from the northwest/southwest (84 m amsl) to the east/northeast (80 m amsl).

Regionally, groundwater flows predominantly to the east/northeast. Surface and storm water run-off drain into catch-basins located on the Phase Two Property before being discharged into the municipal storm sewer system within the Prince of Wales Drive and Meadowlands Drive.

2.1.4 Well-Head Protection Areas

The Phase Two Property is not located within a well-head protection area or other such area designed by the City in the official plan for the protection of ground water.

2.1.5 Drinking Water Systems

The Phase Two Property is serviced by a municipal drinking water system as defined in the Safe Drinking Water Act, 2002. In addition, six (6) domestic water supply wells, four (4) commercial/irrigation wells and one (1) public water supply well were identified within the Phase Two Study Area (AtkinsRéalis, 2023) based on water well records. These wells were indicated as installed between 1950 and 1967 and likely not in use as the Phase Two Study Area are serviced by the municipal drinking water distribution system (Ottawa River/Britannia plant).

2.1.6 Regional Geology

Based on review of the surficial geology and bedrock geology maps presented in the ERIS database report, the stratigraphy of the Phase Two Property is generally described as consisting of Offshore marine deposits - primary material clay and silt underlying erosional terraces (fluvial erosion). The Offshore marine deposits are in turn underlain by limestone, dolostone, shale, arkose, sandstone bedrock (i.e., Shadow Lake Formation).



The review of the previous environmental reports (as discussed in Section 2.2) indicated stratigraphy encountered during drilling generally consisted of fill (sand or sand and gravel) to depths of 1.5 to 3 m underlain by silt or silty clay to a depth of at least 6.7 m. A sandy silt layer (1.5 to 2 m thick) is present at a depth of 4 to 5 m.

2.1.7 Hydrogeology

Based on review of the previous environmental reports (as discussed in Section 2.2), the permeability of the native overburden is relatively low, on the order of 2×10^{-7} m/s to an average of 2.3×10^{-6} m/s. The water table measurement was completed over the years (as discussed in Section 2.2). Based on the groundwater monitoring results from 2022 and 2023 (as discussed in Section 5.2), the water table is generally encountered in the overburden at depth of approximately 1.22 to 3.97 m below ground surface (bgs). It should be noted that groundwater levels will fluctuate seasonally and water table potentially higher during wet periods (i.e. early spring or fall), or following heavy rainfall. Regionally groundwater flows predominantly to the east/northeast, although measured water levels at the Phase Two Property show evidence of perturbations due to the tank nest (and associated pea gravel backfill) and underground services.

2.2 Past Investigations

A series of environmental reports documenting previous investigations and assessments undertaken at the Phase Two Property between March 1988 and March 2023 were available to AtkinsRéalis for review, including:

1. *"Phase II Environmental Site Assessment, 1440 Prince of Wales Drive, Ottawa, Ontario"*, prepared for Shell Canada Products Limited by Jacques Whitford Environmental Ltd. (JWEL), dated March 27, 1998 (Phase II ESA, JWEL, 1998)
2. *"Soils Investigation, C03311, 1440 Prince of Wales Drive, Ottawa, Ontario"*, prepared for Shell Canada Products Limited by Aqua Terre Solutions Inc. (Aqua Terre), dated August 28, 2000 (Soils Investigation, Aqua Terre, 2000)
3. *"2001 Remedial Activities, Shell Retail Outlet, 1440 Prince of Wales Drive, Ottawa, Ontario (C03311)"*, prepared for Shell Canada Products Limited by Aqua Terre, dated March 26, 2002 (2001 Remedial Activities, Aqua Terre, 2002)
4. *"2002-2003 Remedial Activities, Shell Retail Outlet, 1440 Prince of Wales Drive, Ottawa, Ontario (C03311)"*, prepared for Shell Canada Products Limited by Aqua Terre, dated February 3, 2004 (2002-2003 Remedial Activities, Aqua Terre, 2004)
5. *"2004 Progress Report on Remedial Activities, Shell Retail Outlet, 1440 Prince of Wales Drive, Ottawa, Ontario (C03311)"*, prepared for Shell Canada Products Limited by Aqua Terre, dated April 9, 2005 (Aqua Terre, 2005)
6. *"2005 Progress Report on Remedial Activities, Shell Retail Outlet, 1440 Prince of Wales Drive, Ottawa, Ontario (C03311)"*, prepared for Shell Canada Products Limited by Aqua Terre, dated April 3, 2006 (Aqua Terre, 2006)
7. *"2006 Annual Progress Report, Remedial Activities, Shell Retail Fuel Outlet (C03311), 1440 Prince of Wales Drive Ottawa, Ontario"*, prepared for Shell Canada Products Limited by Aqua Terre, dated April 5, 2007 (Aqua Terre, 2007)
8. *"2008-2009 Progress Report on Remedial Activities, Shell Retail Outlet (C03311), 1440 Prince of Wales Drive, Ottawa, Ontario"*, prepared for Shell Canada Products Limited by SNC-Lavalin Environment (SLE), dated March 11, 2010 (SLE, 2010)
9. *"2010 Progress Report on Remedial Activities, Shell Retail Fuel Outlet (C03311), 1440 Prince of Wales Drive, Ottawa, Ontario"*, prepared for Shell Canada Products Limited by SLE, dated March 29, 2011 (SLE, 2011)
10. *"2011 Annual Groundwater Monitoring and Sampling Program, 1440 Prince of Wales Drive, Ottawa, Ontario (C03311)"*, prepared for Shell Canada Products Limited by CRA, dated April 5, 2012 (CRA, 2012)
11. *"2012 Annual Groundwater Monitoring and Sampling Program, 1440 Prince of Wales Drive, Ottawa, Ontario (C03311)"*, prepared for Shell Canada Products Limited by CRA, dated March 15, 2013 (CRA, 2013)



12. "2013 Annual Groundwater Monitoring and Sampling Program, 1440 Prince of Wales Drive, Ottawa, Ontario (C03311)", prepared for Shell Canada Products Limited by CRA, dated March 27, 2014 (CRA, 2014)
13. "2015 Annual Groundwater Monitoring and Sampling Program, 1440 Prince of Wales Drive, Ottawa, Ontario (C03311)", prepared for Shell Canada Products Limited by GHD Limited (GHD), dated March 14, 2016 (GHD, 2016)
14. "2016 Annual Groundwater Monitoring and Sampling Program, 1440 Prince of Wales Drive, Ottawa, Ontario (C03311)", prepared for Shell Canada Products Limited by GHD, dated March 23, 2017 (GHD, 2017)
15. "2017 Annual Groundwater Monitoring and Sampling Program, Shell Retail Fuel Outlet (C03311), 1440 Prince of Wales Drive, Ottawa, Ontario", prepared for Shell Canada Products Limited by GHD, dated March 29, 2018 (GHD, 2018)
16. "2018 Annual Groundwater Monitoring and Sampling Program, Shell Retail Fuel Outlet (C03311), 1440 Prince of Wales Drive, Ottawa, Ontario", prepared for Shell Canada Products Limited by GHD, dated April 1, 2019 (GHD, 2019)
17. "Multi-Phase Vacuum Extraction System Removal, Shell Retail Fuel Outlet, 1440 Prince of Wales Drive, Ottawa, Ontario (C03311)", prepared for Shell Canada Products Limited by GHD, dated December 2, 2019 (Multi-Phase Vacuum Extraction System Removal, GHD, 2019)
18. "2019 Annual Groundwater Monitoring and Sampling Program, Shell Retail Fuel Outlet (C03311), 1440 Prince of Wales Drive, Ottawa, Ontario", prepared for Shell Canada Products Limited by GHD, dated February 24, 2020 (GHD, 2020)
19. "2020 Annual Groundwater Monitoring and Sampling Program, Shell Retail Fuel Outlet (C03311), 1440 Prince of Wales Drive, Ottawa, Ontario", prepared for Shell Canada Products Limited by GHD, dated August 13, 2020 (GHD, 2020)
20. "2020 Groundwater Monitoring and Sampling Program, Shell Retail Fuel Outlet (C03311), 1440 Prince of Wales Drive, Ottawa, Ontario", prepared for Shell Canada Products Limited by SNC-Lavalin Inc. (SNC-Lavalin), dated March 4, 2021 (SNC-Lavalin, 2021)
21. "2021 Groundwater Monitoring and Sampling Program, Shell Retail Fuel Outlet (C03311), 1440 Prince of Wales Drive, Ottawa, Ontario", prepared for Shell Canada Products Limited by SNC-Lavalin, dated February 18, 2022 (SNC-Lavalin, 2022)
22. "2022 Groundwater Monitoring and Sampling Program, Shell Retail Fuel Outlet (C03311), 1440 Prince of Wales Drive, Ottawa, Ontario", prepared for Shell Canada Products Limited by SNC-Lavalin, dated March 10, 2023 (SNC-Lavalin, 2023)
23. "Geotechnical Investigation, Proposed Shell Service Station, 1440 Prince of Wales Drive, Ottawa, Ontario", prepared for AECOM Canada Ltd. by GEMTEC, dated September 12, 2023 (GEMTEC, 2023)
24. "Phase One Environmental Site Assessment, 1440 Prince of Wales Drive, Ottawa, Ontario", prepared for Shell Canada Products Limited by AtkinsRéalis dated November 21, 2023.

Various off-site investigations were also completed over the years, results of which were provided to the respective off-site property owners under separate cover. Key items and findings derived from the reports related to the Phase Two Property are summarized below.

Phase II ESA (JWEL, 1998):

- A Phase I ESA was completed by JWEL on the Phase One Property in February 1998. Potential for environmental concern was identified from the present on-site land use, and from the adjacent land use to the south (both retail gasoline outlets). Also, environmental concern was associated with former neighbouring land uses to the north and east (retail gasoline outlets). A Phase II ESA was conducted by JWEL in March 1998. The purpose of the investigation was to confirm the presence or absence of subsurface petroleum hydrocarbon contaminated soil and groundwater associated with off-site sources.



- Six (6) boreholes (three [3] monitoring wells included) were advanced on the site. Each of the six (6) boreholes were drilled to a depth of 6.1 m below grade.
- The stratigraphic information recorded during the investigation generally consisted of a surficial covering of asphalt or topsoil followed by silty clay to silty sand. Limestone bedrock was not encountered. The apparent fill layers ranged in depth from approximately 1.4 m to 4.0 m.
- One soil sample which exhibited the greatest vapour concentration was recovered from each borehole and submitted for analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX), total petroleum hydrocarbons (TPH) (gas/diesel), and TPH (heavy oils). One groundwater sample from each monitoring well was submitted for analyses of the parameters listed above. TPH (heavy oils) was not included as no criteria was currently provided from the MOE for this parameter in groundwater.
- Petroleum hydrocarbon staining and light non-aqueous phase liquid (LNAPL) was observed in one soil sample collected from location 98-3.
- Laboratory soil analyses indicated soil samples recovered from locations 98-2 and 98-3 had concentrations of petroleum hydrocarbons that exceeded the MOE, 1997 Table B criteria. The remainder of the tested parameters returned values lower than each of the MOE criteria.
- The concentrations of petroleum hydrocarbons in soil samples analysed from the remainder of the borehole locations BH98-1, BH98-4, BH98-5 and BH98-6 met the MOE, 1997 Table B criteria.
- Laboratory groundwater analyses indicated that concentrations of petroleum hydrocarbons at monitoring wells 98-2 and 98-3 exceeded the MOE, 1997 non-potable groundwater criteria.
- The average hydraulic conductivity of the soil was calculated to be 2.3×10^{-6} cm/s from a rising head test.

Soils Investigation (Aqua Terre, 2000):

- Four (4) boreholes (BH-1 to BH-4) were drilled to investigate soil conditions adjacent to the former Rapid Lube and two (2) of the boreholes (BH-5 and BH-6) were drilled to investigate soil conditions in the vicinity of the pump island to a maximum depth of 6.7 m.
- The stratigraphy was generally described as consisting of fluvial deposits - gravel, sand, silt and clay deposited in modern flood plains (Barnett, 1991). Stratigraphy encountered during drilling consisted of fill to depths of 1.5 to 3 m underlain by silt or silty clay to a minimum depth of 6.7 m.
- The grain size analysis indicated soil at the Phase Two Property comprises medium/fine textured soil.
- Free phase petroleum hydrocarbon was encountered in on-site monitoring wells 98-2 and 98-3 located east and west of the underground gasoline storage tanks on August 8, 2000; passive skimmers were installed in these two wells.
- Analytical results for a sample of the LNAPL suggested the product resembled weathered gasoline.
- All seven soil samples submitted for petroleum hydrocarbon analyses from the on-site drilling program satisfied MOE Table B criteria for medium to fine textured soil, industrial/commercial land use in a non-potable groundwater situation with the exception of the sample from BH-5 which exceeded the Table B criteria for benzene and TPH (gas/diesel).

2001 Remedial Activities (Aqua Terre, 2002):

- Site infrastructure consisted of five (5) underground fibreglass reinforced plastic (FRP) gasoline storage tanks (installed in 1985), a pump island with four (4) dispensers and a steel canopy, and a service station building occupied by a convenience store and the service station kiosk.
- Three (3) boreholes (BH-20, BH-21 and BH-22) were advanced to depths ranging from 6.7 to 7.5 m bgs and were instrumented with monitoring wells (MW-20, MW-21 and MW-22).
- Concentrations of BTEX and TPH (gas/diesel) in analysed soil samples satisfied the selected MOE, 1997 Table B criteria.
- A measurable thickness (i.e., greater than 1 mm) of LNAPL was found in observation/recovery wells OW-1 and OW-2 (which were installed during scheduled piping upgrade in October 2000 at the southeast and northwest



corners of the UST nest to facilitate groundwater management and to allow future monitoring), 98-2, 98-3 and MW-21.

- Groundwater samples collected from three (3) monitoring wells (MW98-1, MW-20 and MW-21) satisfied the selected MOE Table B criteria.
- Passive skimmers were installed in 98-2, 98-3, OW-1 and OW-2.
- Hydraulic conductivity testing (i.e. slug tests) conducted indicated that the conductivity measured in silty clay is on the order of 2×10^{-7} m/s.

Progress Reports on Remedial Activities (Aqua Terre, 2004-2007, SLE, 2010 and 2011) and Multi-Phase Vacuum Extraction System Removal report (GHD, 2019):

- Between 2001 to 2010, monitoring and sampling activities continued on the Phase One Property as per the contaminant management plan (CMP) with the MOE.
- Groundwater analytical results between 2001 and 2004 were compared to the MOE, 1997 Table B criteria and between 2004/2005 and 2010 were compared to MOE, 2004 Table 3 standards.
- The groundwater flow based on water levels measured previously indicate gw flow to the east with significant mounding within the existing tank nest
- In 2002, monitoring was conducted approximately biweekly for the majority of the year. A measurable thickness of LNAPL was found in on-site observation/recovery wells OW-1 and OW-2, and monitoring wells 98-2, 98-3, MW-20, MW-21 and MW-22.
- Product recovery from wells using absorbent socks, passive skimmers and manual bailing during routine site visits was initiated in 2000 and continued until February 2004.
- To enhance remediation efforts, in 2003, a multi-phase vacuum extraction (MPVE) system was installed at the Phase Two Property. The MPVE treatment system began operation in February 2004 to remove LNAPL, remediate soil and groundwater to applicable MOE standards at the time and prevent LNAPL from migrating off-site.
- A total of approximately 1,230 L of LNAPL was removed between 2004 and 2008. Measurable thickness of LNAPL were not observed in 2008 or 2009, however a hydrocarbon sheen was observed on groundwater from wells on the Phase Two Property.
- Based on the reduced occurrence and amount of LNAPL in the subsurface, decreased recovery rates of petroleum and the apparent improvement of groundwater quality, MPVE system was shut down in 2008 and decommissioned and removed from the Phase Two Property in 2019.

Groundwater Monitoring and Sampling Programs Reports (CRA 2012 to 2014, GHD 2016 to 2020 and SNC-Lavalin 2021 to 2023):

- Between 2011 and 2022, groundwater monitoring and sampling programs were completed at the Phase One Property as per CMP with the MECP.
- The programs included monitoring headspace organic vapours, water levels, potential presence of LNAPL, manual bailing as required and sampling from six (6) monitoring wells (98-1, 98-2, 98-3, MW-20, MW-21 and MW-22) for analysis of BTEX and petroleum hydrocarbon PHC fractions F1 to F4.
- During these years, some fluctuations in hydrocarbons concentrations, LNAPL and sheen were observed in monitoring well locations (98-2, 98-3, MW-20, MW-21 and MW-22).
- The analytical results were compared with MECP, 2011 Table 3 standards for non-potable groundwater in medium to fine-textured soil.
- During the 2022 groundwater monitoring and sampling program the following results were obtained:
 - Approximately 0.1 L of LNAPL in the form of globules was recovered from monitoring well MW-22. Sheen was observed in four monitoring wells (98-2, 98-3, MW-20, MW-21 and MW-22); this is generally consistent with historical results.



- Concentrations of one or more of benzene, xylenes and/or PHC F1 to F4 (including F4 gravimetric [F4G]) in the analysed groundwater samples collected from three monitoring wells (98-2, 98-3 and MW-21) were above the selected MECP 2011 Table 3 standards.
- Concentrations of PHC F3/F4/F4G noted in the wells in 2022 may be due to the presence of sediment in the samples. Sediment was also noted in wells during well purging prior to sampling. In an attempt to remove sediment from the wells during future groundwater sampling program, monitoring wells were proposed to redevelop and sample using low-flow sampling methodology.

Geotechnical Investigation (GEMTEC, 2023):

- Three boreholes (BH23-01 and BH23-03) were advanced to depths of 9.8 to 10.4 m bgs at the Phase Two Property as part of the Geotechnical investigation conducted in August 2023.
- A layer of fill material was observed in the open hydro-vacuumed holes below the asphalt in borehole BH23-2 and below the pavement structure at boreholes BH23-1 and BH23-3.
- The fill material consisted of grey-brown silt clay/clayey gravel with trace to some sand, trace organic material and extended to a depth of about 1.7 m bgs.
- Grain size analysis conducted from soil sample collected from BH23-01 indicated predominant soil type at the Phase Two Property comprises medium/fine textured soil.

Phase One ESA (AtkinsRéalis, 2023)

- The first developed use of the Phase One Property was determined to be between 1895 and 1945 for residential/agricultural purposes based on the review of aerial photographs and chain of title. The current retail fuel outlet, the Phase One Property was developed for commercial use in 1958.
- Based on the findings of the Phase One ESA, seven (7) on-site Areas of Potential Environmental Concern (APECs) associated with current and historical Potential Contaminating Activities (PCAs) were identified.
- Potential contaminants of concern (PCOCs) were identified as BTEX, PHCs F1 to F4, volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs) and metals in soil and/or ground water.
- Given the status of the Phase One Property as an enhanced property and the presence of seven (7) APECs, an Updated Phase Two ESA was required.



3. SCOPE OF THE INVESTIGATION

3.1 Overview of Site Investigation

The objective of this work program was to document historical soil data, limited additional soil sampling (conducted in 2023 in conjunction with a geotechnical investigation in 2023 to proactively collect soil samples in support of future excess soil management during site redevelopment) and available groundwater analytical results for the Phase Two Property in accordance with the O.Reg.153/04 (as amended) report format to support the future redevelopment and SPA process, but not for the purpose of filing an RSC with the MECP.

The review of the reports indicated that the ESA programs previously implemented (prior to 2023) as well as field programs completed in 2023 included the following:

- Public and private utility locates to confirm the location of subsurface utilities;
- Daylighting to avoid underground utilities;
- Borehole drilling, soil sampling and monitoring well installation;
- Elevation surveying of borehole and monitoring well locations;
- Monitoring well development and purging;
- Ground water monitoring and sampling;
- Laboratory analyses of soil and ground water samples collected;
- Disposal of investigation wastes; and,
- Reporting.

3.2 Media Investigated

3.2.1 Rationale for Media Sampled

The review of past investigations identified soil and groundwater impacts on the Phase Two Property. The Phase One ESA identified a total of ten on-site and off-site PCAs, as shown on **Error! Reference source not found.** The PCAs resulted in the classification of seven (7) APECs, as shown on **Error! Reference source not found.**

Potentially affected media in each APEC were soil and ground water. No water bodies are present on the Phase Two Property, therefore, neither surface water quality nor sediment were investigated.

3.2.2 Overview of the Field Investigation

A review of previous investigation reports indicated the field investigation program were conducted as per the scope of work as identified in the report.

3.2.2.1 Soil

The soil investigation conducted at the Phase Two Property included the following (based on the review of previous reports [1998, 2000 and 2001] and 2023 geotechnical soil sampling program):

- Fifteen (15) boreholes to approximate depths of 6.1 to 7.5 m bgs;



- Soil samples were collected at various depths and submitted for laboratory analysis of BTEX and PHC F1 to F4.
- Soil samples collected from three (3) geotechnical boreholes drilled to approximate depth of 10.4 m bgs.;
 - Soil samples were collected at various depths and submitted for laboratory analysis of one (1) or more of BTEX, PHC F1 to F4, VOCs, metals (including antimony [Sb], arsenic [As], selenium [Se], chromium six [Cr(VI)], mercury [Hg]), cyanide (CN-), pH, hot water soluble boron (B-HWS), electrical conductivity (EC) and sodium adsorption ratio (SAR); and,
- Collected and submitted a representative soil sample for waste classification analysis.

3.2.2.2 Ground Water

The groundwater investigations conducted since 1998/2000 at the Phase Two Property included:

- Instrumentation of three (3) monitoring wells with 3 m screens and three (3) monitoring wells with 4.5 m screens;
- Monitoring headspace vapour readings, measuring water levels and LNAPL recovery (as required); and,
- Well development and collection of groundwater samples from six (6) monitoring wells for laboratory analyses of one (1) or more of BTEX, PHC F1 to F4 and VOCs.

3.3 Phase One Conceptual Site Model

The Phase One Conceptual Site Model (CSM) is based on the information gathered and reviewed as part of the Phase One ESA (AtkinsRéalis, 2023). The Phase One CSM is represented on **Error! Reference source not found.** and **Error! Reference source not found.**, which outline and describe the following features:

- Site features and structures;
- Water bodies located within the Phase Two Study Area;
- Roads (including names);
- Uses of the properties adjacent to the Phase Two Property;
- Areas where PCAs and APECs have been identified; and,
- Any other pertinent on-site or off-site features which serve as potential environmental receptors or contaminant transport mechanisms (e.g., utilities, drains, etc.).

Based on the findings of the Phase One ESA, a total of four (4) on-site PCAs and six (6) PCAs at four (4) off-site properties were identified, as shown on **Error! Reference source not found.**. The on-site and off-site PCAs identified were considered to give rise to seven (7) APECs, which are shown on **Error! Reference source not found.** and summarized in the table below. Associated PCOC are also included in the table below.



Area of Potential Environmental Concern ¹	Location of Area of Potential Environmental Concern on Phase One Property	Potential Contaminating Activity ²	Location of PCA (on-site or off-site)	Contaminants of Potential Concern ³	Media Potentially Impacted (Ground water, Soil and/or Sediment)
1	Tank nest and Pump islands	PCA Item 28 – Gasoline and associated products storage in fixed tanks	On-site	PHCs and BTEX	Soil and groundwater
2	Former waste oil tank	PCA Item 52 - Storage, maintenance, fueling and repair of equipment, vehicles and materials used to maintain transportation systems	On-site	PHCs and BTEX	Soil and groundwater
				Metals	Soil
3	Two former motor oil storage tanks	PCA Item 52 - Storage, maintenance, fueling and repair of equipment, vehicles and materials used to maintain transportation systems	On-site	PHCs and BTEX	Soil and groundwater
				Metals	Soil
4a	General area on the Phase One Property	PCA Item 30 – Importation of fill material of unknown quality	On-site	PHCs and BTEX	Soil and groundwater
				VOCs, Metals and PAH	Soil



Area of Potential Environmental Concern ¹	Location of Area of Potential Environmental Concern on Phase One Property	Potential Contaminating Activity ²	Location of PCA (on-site or off-site)	Contaminants of Potential Concern ³	Media Potentially Impacted (Ground water, Soil and/or Sediment)
4b		PCA Item 37 - Operation of dry-cleaning equipment		VOCs	Soil and groundwater
5	Northern boundary of Phase One Property	PCA Item 28 – Gasoline and associated products storage in fixed tanks	Off-site	PHCs and BTEX	Soil and groundwater
6	Eastern boundary of Phase One Property	PCA Item 28 – Gasoline and associated products storage in fixed tanks	Off-site	PHCs and BTEX	Soil and groundwater
7	Southern boundary of Phase One Property	PCA Item 28 – Gasoline and associated products storage in fixed tanks	Off-site	PHCs and BTEX	Soil and groundwater
		PCA Item 52 - Storage, maintenance, fueling and repair of equipment, vehicles and materials used to maintain transportation systems		Metals	Soil

Area of Potential Environmental Concern ¹	Location of Area of Potential Environmental Concern on Phase One Property	Potential Contaminating Activity ²	Location of PCA (on-site or off-site)	Contaminants of Potential Concern ³	Media Potentially Impacted (Ground water, Soil and/or Sediment)
1. Area of potential environmental concern means the area on, in or under a Phase One Property where one or more contaminants are potentially present, as determined through the Phase One Environmental Site Assessment, including through, (a) identification of past or present uses on, in or under the Phase One Property, and (b) identification of potentially contaminating activity. 2. Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a Phase One Study Area. 3. When completing this column, identify all contaminants of potential concern using the Method Groups as identified in the "Protocol for in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 9, 2004, amended as of July 1, 2011, as specified below: ABNs, CPs, 1,4-Dioxane, Dioxins/Furans, PCDDs/PCDF, OCs, PHCs, PCBs, PAHs, THMs, VOCs, BTEX, Ca, Mg, Metals, As, Sb, Se, Na, B-HWS, Cl-, CN-, Electrical Conductivity, Cr (VI), Hg, Methyl Mercury, high pH, low pH, SAR					



3.4 Deviations from Sampling and Analysis Plan

Review of the previous investigation reports indicated sampling had been completed according to the scope of work documented in the report and no deviations were noted.

In conjunction with the geotechnical investigation completed in 2023, additional soil sampling was collected in support of future excess soil management during site redevelopment as per the scope of work established. As well, routine annual groundwater monitoring and sampling was completed as per the existing CMP for the Phase Two Property. No deviations were noted from the established scope of work for soil and groundwater sampling.

3.5 Impediments

The review of previous investigations did not indicate any impediments during the implementation of the scope of work.

No physical impediments were encountered during the completion of the 2023 field program (i.e., soil sampling and routine annual groundwater monitoring and sampling).



4. INVESTIGATION METHOD

4.1 General

The field programs (soil and groundwater investigations) between 1998 and 2010 were conducted using field and laboratory analysis protocols based on applicable regulatory requirements at time. Soil and/or groundwater investigations post 2011 were conducted using field and laboratory analysis protocols in general accordance with O.Reg. 153/04, preferred operating procedures (POPs) utilized by the consultant at the time, generally accepted industry practices and a quality assurance/quality control (QA/QC) program as described within the reports.

4.1.1 Health and Safety

Health and Safety Plans (HASP) was developed in compliance with regulatory requirements at the time, as well as Shell and AtkinsRéalis programs and policies and implemented during the field programs between 2000 and 2010 and 2020 and 2023.

4.1.2 Utility Clearances

A review of past investigation reports indicated public and/or private utilities prior to intrusive investigations were completed and are documented in those reports.

The 2023 soil sampling program was completed in conjunction with the geotechnical investigation program. Public and private utilities, as well as hydro-vacuum, was completed prior to the geotechnical drilling (completed by others) to ensure boreholes were clear of potential underground infrastructure in advance of drilling.

4.2 Drilling and Excavating

Drilling at the Phase Two property was completed by various contractors over the years under field supervision by JWEL in 1998 and AtkinsRéalis in 2000 and 2001.

In 2023, geotechnical drilling was completed on August 10 and 11, 2023 by George Downing Estate Drilling Ltd. of Grenville-Sur-La-Rouge, Quebec under the field supervision by GEMTEC Consulting Engineers and Scientists Limited (GEMTEC). Hydro-vacuum was also completed to verify that the boreholes were clear of potential underground infrastructure/utilities in advance of drilling. Each borehole location was cleared to an approximate depth of 2.0 m bgs.

Boreholes at the Phase Two Property were advanced using a truck-mounted drill-rig. During previous investigations completed prior to 2023, boreholes were drilled to approximate depths of 6.1-7.5 m bgs. In 2023, the three (3) geotechnical investigation boreholes were drilled to approximate depths of 10.4 m bgs.

No test pits or excavations were completed at the Phase Two Property during previous investigations (1998, 2000 and 2001) or during the geotechnical drilling in 2023.



4.3 Soil: Sampling

Soil samples were collected from the drilled portion of each borehole using the split spoon samplers. In addition, in 2023, soil samples from the daylighted portion of the geotechnical boreholes were collected every 0.6 m using a long-handled sampling tool, where possible.

Recovered soil samples were divided into two (2) portions, the first for possible laboratory analysis and the second for field logging/screening. The portion retained for possible laboratory analysis was collected in laboratory-supplied sampling containers as described in Section 4.12.1 and submitted for analysis. The second portion was placed in a sealable sample bag for field logging/screening. A new pair of nitrile gloves were donned between contact with each sample. Details of field screening methodology are described in Section 4.4

During previous investigations, soil samples were submitted as per requirements of the laboratory at the time.

During the 2023 limited soil sampling program, soil samples were placed immediately in coolers equipped with ice to initiate cooling. Samples were maintained in a cold state until submitted to Bureau Veritas Laboratories (BV) located in Mississauga, Ontario. Soil samples which were collected for PHC F1/BTEX analysis were collected in pre-weighed laboratory supplied vials containing methanol preservative. The soil characteristics logged at each borehole location are provided within the borehole logs presented in Appendix A.

4.4 Soil: Field Screening Measurements

Soil samples collected for field logging/screening were inspected and logged for soil type, moisture, colour, structure, texture and visual evidence of impact. Maximum headspace vapour readings were measured using an organic vapour meter (OVM), operated in methane elimination mode and calibrated in the field to a known hexane standard.

Potential worst-case sample selection for non-volatile parameters (e.g., metals & inorganics) was based on visual observation of the sample (e.g., staining), geology/hydrogeology and knowledge of contaminant behaviour.

4.5 Ground water Monitoring Well Installation

4.5.1 Installation Details

Six (6) monitoring wells were installed at the Phase Two Property during previous investigations. Monitoring well locations are shown on **Error! Reference source not found.**

Monitoring wells 98-1 to 98-3 were constructed using 5.1 cm diameter flush threaded PVC piping and installed with 3 m long screens to depths of approximately 6.1 m bgs. Monitoring wells MW-20 to MW-22 were installed with 4.5 m long screens. All wells were completed with solid risers above the screens to ground surface. A clean silica sand pack was placed around each screen and isolated with hydrated bentonite to slightly below grade. The wells were completed with flushmount protective casings set in concrete and capped with clean j-plugs.

Monitoring well construction details are presented in the borehole logs (Appendix A).



4.5.2 Development Details

Monitoring well development after installation in 1998 and 2001 was completed based on applicable regulatory requirements and field protocols at the time. The monitoring wells were equipped with dedicated low-density polyethylene (LDPE) tubing and inertial foot valves.

In 2023, due to the presence of sediment observed during groundwater sampling program in 2022, six (6) monitoring wells on the Phase Two Property were redeveloped by purging approximately one (1) borehole volume of water (calculated as the volume of standing water plus the volume of water in the sand pack surrounding the well screen) or purging the well dry to obtain representative groundwater samples prior to the 2023 annual groundwater monitoring and sampling program. The monitoring wells were developed by manually moving the inertial foot valve from the top of the screened area to the bottom to ensure development of the whole screen, occasionally agitating the bottom of the well to stir up and remove any sediment built up.

4.6 Ground Water: Field Measurement of Water Quality Parameters

Groundwater monitoring and sampling has been completed from the six (6) monitoring wells on the Phase Two Property since 1998. Groundwater monitoring and sampling during previous investigations (between 1998 and 2020) was completed as per the regulatory requirements and field protocols at the time.

During the 2021 to 2023 groundwater monitoring and sampling programs, to assess the progress of well purging, pH, conductivity, oxidation reduction potential (ORP), dissolved oxygen (DO), turbidity and temperature readings were measured using a Horiba U-22/U-52 Water Quality meter (Horiba) calibrated by the rental equipment supplier or in the field by AtkinsRéalis personnel. Alternatively, pH, conductivity and temperature readings were measured using a Hanna Instruments H198129 meter. Readings were taken between well volumes purged. Purging was stopped, and ground water samples collected when readings stabilized (generally within 10%) and the water was visually free from silt, where possible. This was to ensure standing water was removed from the well, and groundwater that is representative of the aquifer is sampled.

4.7 Ground water Sampling

Groundwater monitoring and sampling has been completed at the Phase Two Property since 1998. Further, since 2001, an ongoing groundwater monitoring and sampling program, as per the established CMP with the MECP, is being completed at the Phase Two Property from one or more of monitoring wells 98-1 to 98-3 and MW-20 to MW-22.

Prior to groundwater sampling, headspace vapour readings in each monitoring well were measured upon removal of the well cap with an OVM operated in methane elimination mode and calibrated in the field to a known hexane standard. Water levels were measured relative to the top of riser pipe using an oil-water interface probe. Wells were also examined for the presence of LNAPL using the interface probe and a clean bailer.

Groundwater samples were previously collected using standards purging methodology or low-flow sampling using peristaltic pump. During the 2023 annual groundwater sampling program, groundwater samples were collected using low-flow purging and sampling techniques using a peristaltic pump. The pump was equipped with disposable LDPE tubing and flexible silicon tubing. The pump was installed with the inlet placed at the approximate mid-point of the wetted screen interval of the monitoring well (ASTM, 2009) to facilitate ground water sampling near the zone of saturated soil impact and was connected to the peristaltic pump. Dedicated, disposable LDPE tubing was also connected from the pump to a flow-through cell equipped with a Horiba U-22/U-52 water quality monitoring system.



Prior to sampling, all wells were purged until a minimum of three (3) consistent readings were obtained for pH, ORP, DO, conductivity, turbidity temperature and (where possible) while maintaining a consistent drawdown that was less than 25% of the distance from the top of the screened interval to the pump intake. The parameters were measured as described in Section 4.6.

Samples submitted for laboratory analysis were collected in the field following protocols designed to minimize the loss of volatile constituents and using laboratory supplied sampling containers as described in Section 4.12.1. Collected ground water samples were submitted for laboratory analyses of one or more of BTEX, PHC F1-F4 and VOCs.

4.8 Sediment: Sampling

No surface water bodies or sediment are present on the Phase Two Property and as such, no sediment sampling was undertaken.

4.9 Analytical Testing

Laboratory analyses of soil and groundwater was completed by BV of Mississauga, Ontario [previously Philip Analytical Services Corporation (PASC), PSC Analytical Services (PSC) and Maxxam Analytics Inc. (Maxxam)]. The BV Mississauga facility is accredited by the Standards Council of Canada (SCC) and follow analytical protocols outlined in O. Reg. 153/04 (as amended).

4.10 Residue Management Procedures

Waste materials generated during the field programs included:

- Hydro-vacuum slurry
- Soil cuttings
- Purge water

Hydro-vacuum slurry generated during borehole daylighting and soil auger cuttings generated during drilling programs were classified as non-hazardous waste and disposed off-site in accordance with O. Reg. 347.

Purged groundwater generated during well development and groundwater monitoring and sampling programs were temporarily stored in 205 L drums and subsequently disposed off-site in accordance with O. Reg. 347.

4.11 Elevation Surveying

An elevation survey during past investigations was completed relative to a local benchmark (i.e., a fire hydrant on the east side of Prince of Wales Drive), which was assigned an elevation of 100 m above local datum (ald).

4.12 Quality Assurance and Quality Control Measures

A QA/QC program was implemented to minimize and quantify impacts introduced during sample collection, handling, shipping and analysis. As part of the QA/QC program, sampling protocols included minimizing sample handling;



submitting field QA/QC samples; using dedicated sampling equipment; using sample specific identification and labelling procedures; and using chain of custody records.

4.12.1 Sample Containers, Preservation, Labelling and Handling

Soil and groundwater samples submitted for laboratory analysis during past investigations were collected following the regulatory requirements and field protocols at the time.

The 2023 soil and groundwater sampling program was completed as per the current field protocols (SNC-Lavalin, 2022) as described below and in subsequent Sections 4.12.2.

A new pair of nitrile gloves were donned by field staff between each soil and ground water sample location and when handling dedicated supplies.

During the field work, a permanent waterproof marker was used to label the sample containers. Upon sample retrieval, samples for analysis were collected directly into laboratory containers (with or without preservatives depending on analytical suites) and placed into coolers with ice. Soil and ground water samples for laboratory analysis were collected following protocols designed to minimize the loss of volatile constituents, where applicable. The requested chemical analyses for the samples were documented on a chain of custody that was placed in the cooler with the samples. Prior to shipment, signed and dated custody seals were affixed to the coolers. The coolers were then delivered to the laboratory.

A consistent approach to identifying samples was applied to ensure proper identification of each sample, validity of analytical results and continuity between multiple series of site investigations. The approach for soil sample labelling was to use a three-component sample name:

Sample prefix (i.e., BH, EX);

Location number (i.e., BH-101); and,

Sequential sample number (i.e., BH-101-02).

For ground water sample labelling, a two (2) component sample number was used (i.e., MW-101). All water samples collected from the same location, over a period of time, typically have the same sample prefix and location number, and the sampling date is used to differentiate between sample programs.

4.12.2 Sample Equipment Cleaning Procedure

The non-dedicated soil sampling equipment (e.g., hand tools,) was brushed to remove loose soil and subsequently cleaned with detergent (Liquinox®) and distilled water between sample collection to minimize the potential for cross-contamination between samples. Dedicated disposable nitrile gloves were worn during the handling of each sample.

Prior to use of non-dedicated field equipment for ground water monitoring and sampling, the interface probe was washed using Liquinox and rinsed with distilled water to minimize the potential for cross-contamination between each well.



4.12.3 Field and Laboratory QA/QC Samples

Field QA/QC samples for soil and/or ground water during previous investigations were completed as per regulatory requirement and field protocol at the time. For the 2023 soil sampling and annual groundwater monitoring and sampling program field QA/QC samples included the following:

- A total of two (2) field duplicate soil samples were collected and submitted for laboratory analysis of BTEX, PHC F1 to F4, VOCs and metals. The results are presented in Table B.1.
- One trip blank (methanol vial) was placed in a cooler and submitted for laboratory analysis of VOCs and PHC F1. The results are presented in Table B.2.
- One (1) field duplicate of groundwater sample was collected and submitted for laboratory analysis of VOCs (including BTEX). The results are presented in Table C.1 and Table C.3.
- One field and trip blank water sample was submitted for laboratory analysis of BTEX and/or PHC F1 to F4. The results are presented in Table C.2.
- One trip and field blank water sample was submitted for laboratory analysis of VOCs. The results are presented in Table C.4.

4.12.4 Deviations from QA/QC Program

For the 2023 soil sampling and groundwater monitoring and sampling program, the QA/QC program was generally completed in accordance with the regulatory requirement and field protocol prior to the implementation of the field program.

4.12.5 Data Review and Validation

Sampling data generated during past investigations by AtkinsRéalis, and including the 2023 investigation, were reviewed and verified by AtkinsRéalis personnel to ensure that data conforms to and satisfies project objectives². Data verification included ensuring that calibration of field instruments was satisfactory and field blank and field duplicates meet acceptable criteria. The data verification and reporting process for the laboratory data involved ensuring that the holding times, precision, accuracy, laboratory blanks, and detection limits are within acceptance criteria. If significant variances were identified, the final report was reviewed to determine if the overall project objectives are met and/or if additional investigations or corrective actions are required.

² Except where indicated in this Report, additional samples were collected by others during previous investigations. AtkinsRéalis makes no claim for accuracy of results in relation to project objectives and does not accept related liability.



5. REVIEW AND EVALUATION

5.1 Geology

Details of soil stratigraphy observed in the boreholes advanced at the Phase Two Property during previous investigations in 1998, 2000 and 2001 and during geotechnical investigations in 2023 are presented on the borehole logs provided in Appendix A.

The regional surficial geology consists of Offshore marine deposits - primary material clay and silt underlying erosional terraces (fluvial erosion). The bedrock geology in the area belongs to the group of the Shadow Lake Formation consisting of limestone, dolostone, shale, arkose, sandstone bedrock.

In general, the soil stratigraphy at the Phase Two Property consisted of fill (sand or sand and gravel) to depths of 1.5 to 3 m underlain by silt or silty clay to a depth of at least 6.7 m. The grey silty clay layer extends to depth of 8.2 to 8.4 m and grey silt with trace to some clay and trace gravel was encountered below the grey silty clay layer at depths of 8.2 to 8.4 m. A sandy silt layer (1.5 to 2 m thick) is present at a depth of 4 to 5 m bgs and at depths of 9.8 to 10.4 m bgs. Bedrock was not encountered to the maximum depth of investigation (10.4 m bgs) during the past or current investigations at the Phase Two Property.

Given that the average thickness of overburden is greater than 2.0 m, the Phase Two Property is not considered to be a shallow soil property as defined by O. Reg. 153/04 (as amended).

The review of previous investigations indicated that based on the encountered geology and the measured depth to ground water (discussed in Section 5.2) it appears that only one aquifer was investigated, and an aquitard was not identified.

5.2 Ground water: Elevations and Flow Direction

Ground water wells screened to straddle water table were used to determine ground water flow direction. As only one aquifer was investigated, only one ground water contour pattern was determined.

Ongoing groundwater monitoring have been completed at the Phase Two Property since 2000 and discussed under various past investigation reports (discussed in Section 2.2). Groundwater levels were measured at the six (6) monitoring wells at the Phase Two Property between 2022 and 2023 and the results are summarized in Table 1.

The ground water elevations were measured with respect to a local datum and were used to establish the inferred shallow horizontal ground water flow direction at the Phase Two Property. The depth to ground water ranged from approximately 1.22 m bgs (98-2) to 3.97 m bgs (98-1). Corresponding water elevations in the monitoring wells ranged from 96.36 m ald (98-1) to 98.46 m ald (98-2). The ground elevations and the interpreted ground water flow direction for June 2022 and June 2023 are depicted on Figures 6A and 6B, respectively. The inferred shallow ground water flow is interpreted to be towards the south based on the contour maps however, the regional groundwater flow is to the east/northeast. Based on the previous investigation reports (SNC-Lavalin, 2008-2009; SNC-Lavalin, 2010), the direction of groundwater flow was interpreted as generally to the east with significant mounding and appeared to be radial, emanating from the existing tank nest. The groundwater flow interpretation in 2022/2023 is different from previous investigations mentioned above, likely due the absence of monitoring wells located along the Prince of Wales Right of Way and associated ground water table measurements. The depths to groundwater are within the range of historical groundwater elevation data collected since 2005.



As discussed under various past investigation reports (discussed in Section 2.2), LNAPL has been identified in monitoring wells 98-2, 98-3, OW-1, OW-2, MW-20, MW-21 and MW-22 at the Phase Two Property. Manual LNAPL recovery was initiated in 2000 and continued until February 2004 with passive skimmers and manual bailing of accumulated LNAPL. In February 2004, a MPVE system was installed to recover LNAPL and petroleum hydrocarbon impacted groundwater following an assessment of remedial alternatives. A total of 1,230 litres of LNAPL was removed between 2004 and 2008. Measurable thickness of LNAPL were not observed in 2008 or 2009 however a hydrocarbon sheen was observed on groundwater from several on-site monitoring wells. Based on the reduced occurrence and amount of LNAPL in the subsurface, decreased recovery rates of petroleum hydrocarbons and the improvement of groundwater quality at the Phase Two Property, the MPVE system was shut down in 2008.

Subsequent to this, as part of the on-going monitoring CMP for the Phase Two Property, monitoring wells continued to be monitored for presence or absence of LNAPL in monitoring wells at the Phase Two Property. Minimal amount of LNAPL was observed intermittently in monitoring wells 98-3 and/or MW-22 between 2013 and 2022 (GHD, 2020; SNC-Lavalin, 2023).

During the 2023 CMP groundwater and monitoring sampling program, no measurable LNAPL was observed, however, sheen was observed in monitoring wells 98-2, 9-3, MW-21 and MW-22. This is consistent with previous monitoring events at the Phase Two Property (as discussed above and in Section 2.2).

Based on the review of City of Ottawa engineering design standards for water main and sewer services and based on the water table depth (1.22 to 3.97 m bgs) at the Phase Two Property, there is potential for the utility services to intercept the shallow ground water.

5.3 Ground water: Hydraulic Gradients

The horizontal hydraulic gradient at the Phase Two Property, calculated using two sets of ground water level triangulation data (2022 and 2023) was determined to be 0.04 metres per metre (m/m). Vertical hydraulic gradients were not assessed as part of this Updated Phase Two ESA Report.

5.4 Fine-Medium Soil Texture

Grain size analysis completed at the Phase Two Property (Aqua Terre, 2000 and GEMTEC, 2023) indicated that the overburden would be considered medium to fine textured as defined by O. Reg. 153/04 (as amended). As such, the SCS for medium/fine textured soil were selected.

5.5 Soil: Field Screening

Soil field screening techniques employed during the field assessment included recording visual observations of soil characteristics and measurement of headspace vapour concentrations.

During the limited additional soil sampling program in 2023, maximum OVM reading of 24% LEL was measured in soil sample collected from borehole BH23-01 at depth of 3.0 to 3.7 m bgs. OVM readings measured from soil samples collected from the remaining boreholes were generally less than 5 ppmv.

Field observations and field screening results for soil samples are provided in the borehole logs included in Appendix A.



5.6 Soil Quality

The soil analytical results from the 2023 limited soil sampling program along with the soil analytical results from previous investigations are presented in **Error! Reference source not found.** to 5. Copies of the laboratory Certificates of Analysis are provided in Appendix B. The following sections discuss the soil sample analytical results.

5.6.1 Soil: pH

Five (5) surface soil (< 1.5 m bgs) samples which includes one (1) duplicate sample and fifteen (15) sub-surface soil (> 1.5 m bgs) samples which includes one (1) duplicate sample were analysed for pH. The pH analytical results are presented in Table 2.

The surface sample pH values in three soil samples were measured between 7.63 - 7.75, which are within the acceptable range for surface soils (i.e., 5 – 9) collected from boreholes BH23-01 to BH23-03. Two (2) pH values including one (1) duplicate were above the upper limit of the acceptable range in an analysed surface soil samples collected from borehole BH23-01 at depths of 0.0-0.8 m bgs; however, the average pH result (including BH23-01) of surface soil samples collected was 8.41, which is within the acceptable range of 5 to 9. As such, the result for the sample collected at BH23-01 is considered to be within the acceptable range of 5 to 9 and does not establish the Phase Two Property as an environmentally sensitive area.

The sub-surface samples pH values were measured between 7.04 – 7.73, which are within the acceptable range for sub-surface soils (i.e., 5 – 11) collected from boreholes BH23-01 to BH23-03.

Based on the above, the Phase Two Property is not considered sensitive, as per Section 41 of O. Reg. 153/04 (as amended).

5.6.2 Soil: Total Metals and Inorganics

A total of twenty (20) soil samples, which included two (2) duplicate samples, were analysed for metals and inorganic parameters. Analytical results for soil samples analyzed for metals and inorganic parameters are shown in Table 2.

Concentrations of SAR and/or electrical conductivity exceeded the selected standards in soil samples collected from boreholes BH23-01 to BH23-03 at depth between 0.0 to 5.2 m bgs. The vertical extent of the impacts were delineated at these locations. The locations of the SAR and/or electrical conductivity exceeding the MECP Table 3 SCS are shown on Figure 7.

Concentration of lead exceeded the selected standards in one soil sample collected from borehole BH23-03 at depth of 0.0 to 0.8 m bgs. The vertical extent of the impact is delineated at this location. The location of lead exceeding the MECP Table 3 SCS is shown on Figure 8.

Concentration of vanadium exceeded the selected standards in soil samples collected from boreholes BH23-01 to BH23-03 at depths between 0.0 and 3.7 m bgs. The vertical extent of the impacts were delineated at these locations. The location of vanadium exceeding the MECP Table 3 SCS are shown on Figure 8.

Concentrations of metals and inorganics in all remaining analysed soil samples were below the selected standards.

The SAR exceeding the SCS is believed to be a result of current and historical application of road salt (e.g., application of salt to adjacent roadways, walkways, driveways and/or parking lots). In accordance with O. Reg. 153/04 (as amended), if the QP determines that an applicable SCS is exceeded solely because a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both, the applicable SCS is



deemed not to be exceeded for the purposes of an RSC. Although an RSC is not being pursued for the Phase Two Property, following the approach defined by O. Reg. 153/04 (as amended), the SAR value identified in boreholes BH23-01 to BH23-03 is not considered as exceeding the SCSs and SAR is not considered a COC for the Phase Two Property.

5.6.3 Soil: PHCs & BTEX

Soil analytical results for BTEX and PHC F1 to F4 (as applicable) are shown in Table 3 and Figure 9.

During the 2023 limited soil sampling program, a total of twenty (20) soil samples, which included two (2) duplicate samples, were analysed for PHC F1 to F4 and BTEX. Concentrations of one or more of benzene, ethylbenzene, xylenes, PHC F1 and PHC F2 exceeded the selected MECP Table 3 SCS in soil samples collected from borehole BH23-01 at depths between 0.0 and 7.5 m bgs. Benzene concentration is not vertically delineated at this location. Concentrations of BTEX and PHC F1 to F4 in all soil samples collected from boreholes BH23-02 and BH23-03 were below the selected MECP Table 3 SCS.

Previous investigations soil analytical results of BTEX and petroleum hydrocarbons extracted from the 2000 and 2001 reports are shown in Tables 3a and 3b, respectively. Soil analytical results table from the 1998 Phase II ESA report was not available, as such, it was not included in this report. The previous investigations soil analytical results were compared to the selected MECP Table 3 standards (as applicable) and shown in Figure 9. The soil analytical results for the 1998 Phase II ESA was not available for comparison to the selected MECP Table 3 SCS, however, the review of the report indicated that concentration of BTEX in soil samples from 98-2 and 98-3 locations exceeded the selected standards at the time and consequently exceeded the selected MECP Table 3 SCS. Concentrations of BTEX and petroleum hydrocarbons in soil samples collected from boreholes BH98-1, BH98-4, BH98-5 and BH98-6 satisfied the standard at the time.

Overall, concentrations of benzene, ethylbenzene, toluene, xylenes, PHC F1 and F2 exceeding the selected MECP Table 3 SCSs are present at the Phase Two Property.

5.6.4 Soil: VOCs

A total of twenty (20) soil samples, which included two (2) duplicate samples, were analysed for VOCs. Soil analytical results for VOCs are shown in Table 4.

Concentrations of VOCs in all analysed soil samples were below the selected standards.

5.6.5 Soil: Waste Characterization

During the 2023 limited soil sampling program, one (1) soil sample was submitted for waste characterization, including Toxicity Characteristic Leaching Potential (TCLP) and ignitability analysis. The results of the TCLP analyses were compared to the O. Reg. 347 (as amended) Schedule 4 Leachate Quality Criteria and are presented in Table 5. The analytical results indicated that the soil was non-flammable and that the leachate concentrations were below the Schedule 4 Leachate Criteria for all parameters analysed. Therefore, the soil was characterized as non-hazardous for the purposes of off-site disposal in the Province of Ontario. Laboratory Certificates of Analysis for the waste characterization sample are provided in Appendix B.

Soil waste characterization analytical results from previous investigations (2000 and 2001) are presented as Tables 5a and 5b, respectively. The analytical results indicated that the soil was non-flammable and that the leachate concentrations were below the Schedule 4 Leachate Criteria at the time for all parameters analysed.



5.6.6 Chemical and Biological Transformation of Contaminants

In general, the products of the chemical and biological transformation of chlorinated solvent are considered more likely to pose a concern than the parent compounds. Selected groundwater samples from the Phase Two Property were submitted for laboratory analysis of VOCs, which included both chlorinated solvents and their degradation products. Neither chlorinated solvents nor their degradation products were identified above the selected standards in soil and concentrations were generally below laboratory detection limits.

The metal (lead and vanadium) and inorganic (EC/SAR) COCs detected at concentrations exceeding the MECP Table 3 SCS are not expected to undergo transformation to more hazardous breakdown products.

PHCs may biodegrade under ideal subsurface conditions; degradation of petroleum hydrocarbons generally produces compounds less harmful than parent compounds.

5.6.7 Does Soil Serve as a Contaminant Source for Other Media

One or more of BTEX and PHCs impacts in soil are present at depths between 0.0 and 7.5. In 2022/2023, the depth to ground water ranged from approximately 1.22 m bgs (98-2) to 3.97 m bgs (98-1). Given the presence of measured concentrations of analysed parameters in soil samples above the selected MECP Table 3 SCS within the saturated zone, concentrations of these parameters in soil may serve as a contaminant source for groundwater.

Concentrations of SAR exceeded the selected standards in soil samples collected from boreholes BH23-01 to BH23-03 at depth between 0.0 to 5.2 m bgs. SAR is a quality parameter of soil and not a contaminant; however, it is an indicator of sodium-affected soils. As such, soil may serve as a contaminant source for groundwater.

5.6.8 Evaluation of Light or Dense Non-Aqueous Liquids (Soil)

The MECP generic standards were established considering the potential presence of free phase (non-aqueous) product by calculating 'free phase thresholds' or concentrations above which suggest the potential presence of NAPL. Contaminants exceeding the selected MECP Table 3 SCS in analysed soil samples (BTEX, PHC F1, PHC F2, lead and vanadium) were considered in the evaluation of the potential presence of LNAPL. The identified (non-metal) parameters are considered more likely associated with LNAPL. No contaminants associated with dense non-aqueous phase liquids (DNAPL) were identified at the Phase Two Property.

The MECP "Rationale for the Development of Soil and Groundwater Standards for Use at Contaminated Sites in Ontario" (MECP, 2011e) provides the free phase thresholds in fine to medium textured soil for contaminants for which generic standards were developed. The free-phase thresholds for contaminants exceeding the MECP Table 3 SCS are summarized below with maximum concentrations (based on historical 2000/2001 investigations or 2023 limited soil sampling; 1998 Phase II ESA soil analytical results were not available) measured at the Phase Two Property. PHC F1 and F2 maximum concentrations are based on 2023 available soil analytical soil results as historically PHC fractions F1 and F2 were not available:

Parameter	Free Phase Threshold (µg/g)	Max. Concentration(s) Updated Phase Two ESA (µg/g)	Sampling Location
Benzene	6,200	29	BH-5
Toluene	4,400	125	BH-5
Ethylbenzene	3,800	30.1	BH-5



Parameter	Free Phase Threshold (µg/g)	Max. Concentration(s) Updated Phase Two ESA (µg/g)	Sampling Location
Xylenes	3,400	169.8	BH-5
PHC F1	2,600	430	BH23-01
PHC F2	3,900	810	BH23-01
Vanadium	11,000	120	BH23-01 to BH23-03
Lead	38,000	180	BH23-03

Concentrations in the analysed samples were below their respective free phase threshold values, indicating no theoretical potential for free phase liquid to be present at these locations. As discussed in Section 5.2, LNAPL has been identified historically in monitoring wells 98-2, 98-3, OW-1, OW-2, MW-20, MW-21 and MW-22 at the Phase Two Property. Historically, petroleum staining and LNAPL globules were observed in the soil. In February 2004, a MPVE system was installed to recover LNAPL in both soil and groundwater, and petroleum hydrocarbon impacted groundwater following an assessment of remedial alternatives. A total of 1,230 litres of LNAPL was removed between 2004 and 2008. Measurable thickness of LNAPL were not observed in 2008 or 2009, however a hydrocarbon sheen was observed on groundwater from several on-site monitoring wells. Based on the reduced occurrence and amount of LNAPL in the subsurface, decreased recovery rates of petroleum hydrocarbons and the improvement of groundwater quality at the Phase Two Property, the MPVE system was shut down in 2008.

During the 2023 soil sampling program, field observations did not indicate presence of sheen/LNAPL in soil samples collected.

5.7 Ground Water Quality

The ground water analytical results are presented in Tables 6 and 7. Copies of the laboratory Certificates of Analysis are provided in Appendix C. The following sections discuss the ground water sample analytical results.

5.7.1 Ground Water: PHC & BTEX

A total of ten (10) ground water samples, which included one (1) duplicate sample, were analysed for PHC F1 to F4 and BTEX during the 2023 groundwater sampling program. The analytical results indicated that concentrations of one or more of benzene, xylenes, PHC F1 and F2 in analysed groundwater samples collected from monitoring wells 98-2, 98-3 and MW-20 to MW-22 were above the selected MECP Table 3 SCSs. Concentrations of PHC F3 and F4 measured during the 2023 groundwater sampling program were below the MECP selected SCS. Concentration of BTEX and PHC F1 to F4 in groundwater sample collected from monitoring well 98-1 was below the selected MECP Table 3 SCSs.

Prior to 2023, concentrations of PHC F3 and/or PHC F4 exceeded the selected MECP Table 3 SCSs.

The analytical results are tabulated in Table 6. The current 2022/2023 ground water analytical results are shown on Figure 10.

As discussed under various past investigation reports, LNAPL has been identified in monitoring wells 98-2, 98-3, OW-1, OW-2, MW-20, MW-21 and MW-22 at the Phase Two Property. MPVE system operated at the site from 2004 to 2008. Based on the reduced occurrence and amount of LNAPL in the subsurface, decreased recovery rates of petroleum



hydrocarbons and the improvement of groundwater quality at the Phase Two Property, the MPVE system was shut down in 2008.

Subsequent to this, as part of the on-going monitoring CMP for the Phase Two Property, monitoring wells continued to be monitored for presence or absence of LNAPL in monitoring wells at the Phase Two Property. Minimal amount of LNAPL was observed intermittently in monitoring wells 98-2, 98-3 and/or MW-22 and mainly sheen on the purge water between 2013 and 2022 (GHD, 2020; SNC-Lavalin, 2023).

During the 2023 CMP groundwater and monitoring sampling program, no measurable LNAPL was observed, however, sheen on purge water was observed in monitoring wells 98-2, 9-3, MW-21 and MW-22. This is consistent with previous monitoring events at the Phase Two Property (as discussed above and in Section 2.2).

5.7.2 Ground Water: VOCs

A total of four (4) ground water samples, which included one (1) duplicate sample, were analysed for VOCs. The analytical results indicated that concentrations for VOCs analysed were below the selected for all samples analysed. The analytical results are tabulated in Table 7.

5.7.3 Chemical and Biological Transformation of Contaminants

In general, the products of the chemical and biological transformation of a chlorinated solvent are considered more likely to pose a concern than the parent compounds. Selected groundwater samples from the Phase Two Property were submitted for laboratory analysis of VOCs, which included both chlorinated solvents and their degradation products. Neither chlorinated solvents nor their degradation products were identified above the selected standards in groundwater and concentrations were generally below laboratory detection limits.

Degradation of petroleum hydrocarbons generally produces less harmful than parent compounds.

5.7.4 Evaluation of Light or Dense Non-Aqueous Liquids (Ground Water)

The MECP generic standards were established considering the potential presence of free phase (non-aqueous) product by establishing $\frac{1}{2}$ solubility limits, concentrations above which may indicate the presence of free phase product. Contaminants exceeding the MECP Table 3 SCS (benzene, xylenes and PHC F1 to PHC F4) were considered in the evaluation of the potential presence of LNAPL. No contaminants associated with DNAPL were identified at the Phase Two Property.

Parameter	$\frac{1}{2}$ Solubility ($\mu\text{g/L}$)	Max. Concentration(s) – (2022/2023) Updated Phase Two ESA ($\mu\text{g/L}$)	Sampling Location
Benzene	900,000	5,100	MW-22
Xylenes	53,000	7,700	MW-22
PHC F1	1,900	13,000	98-2
PHC F2	150	14,000	98-2
PHC F3	4.9×10^{-8}	32,000	98-3



Parameter	$\frac{1}{2}$ Solubility ($\mu\text{g/L}$)	Max. Concentration(s) – (2022/2023) Updated Phase Two ESA ($\mu\text{g/L}$)	Sampling Location
PHC F4	3.9×10^{-12}	17,000	98-3

Concentrations exceeded the half solubility value of PHC F1 and/or PHC F2 in one (1) or more analysed samples collected from monitoring wells MW-21, MW-22, 98-2 and 98-3, indicating a theoretical potential for free phase liquid to be present at these locations. As discussed in Section 5.7.1, LNAPL has been historically identified in monitoring wells 98-2, 98-3, OW-1, OW-2, MW-20, MW-21 and MW-22 at the Phase Two Property. In February 2004, a MPVE system was installed to recover LNAPL and petroleum hydrocarbon impacted groundwater following an assessment of remedial alternatives. A total of 1,230 litres of LNAPL was removed between 2004 and 2008. Measurable thickness of LNAPL were not observed in 2008 or 2009 however a hydrocarbon sheen was observed on groundwater from several on-site monitoring wells. Based on the reduced occurrence and amount of LNAPL in the subsurface, decreased recovery rates of petroleum hydrocarbons and the improvement of groundwater quality at the Phase Two Property, the MPVE system was shut down in 2008.

Subsequent to this, as part of the on-going monitoring CMP for the Phase Two Property, monitoring wells continued to be monitored for presence or absence of LNAPL in monitoring wells at the Phase Two Property. Minimal amount of LNAPL was observed intermittently in monitoring wells 98-2, 98-3 and/or MW-22 and mainly sheen on the purge water between 2013 and 2022 (GHD, 2020; SNC-Lavalin, 2023).

During the 2023 CMP groundwater and monitoring sampling program, no measurable LNAPL was observed, however, sheen on purge water was observed in monitoring wells 98-2, 9-3, MW-21 and MW-22. This is consistent with previous monitoring events at the Phase Two Property (as discussed above and in Section 2.2).

5.8 Sediment Quality

As no water bodies are present at the Phase Two Property, sediment sampling was not conducted as part of the Phase Two ESA.

5.9 Quality Assurance and Quality Control Results

The QA/QC program was implemented to minimize and quantify impacts introduced during sample collection, handling, shipping and analysis.

5.9.1 Laboratory Quality Control

Laboratory analysis was completed in accordance with O. Reg. 153/04 (as amended) and generally accepted industry practices. Laboratory QA/QC measures included analysis of method blank, spiked blank, duplicate and matrix spike samples. A certificate of analysis has been received for each sample submitted for soil and ground water analysis and all certificates of analysis have been included in full in Appendices B and C, respectively. All certificates of analysis received from the contract analytical laboratory comply with sub-section 47(3) of the regulation.

The QP conducted a review of the laboratory QC reports within each certificate of analysis. In summary, there were no laboratory QC qualifiers (i.e., QC sample results reported outside of the applicable acceptance criteria) which could have a material affect on the interpretation of the soil and/or ground water data.



5.9.2 Field Quality Control Samples

As part of the QA/QC program, two soil and two ground water duplicate samples were collected as part of the QA/QC program for the Phase Two ESA. For blind field duplicate samples, the relative percent difference (RPD) was calculated to assess correlation between duplicate samples and their analytical pairs. The RPD is calculated by the following formula:

$$RPD = \frac{|X_1 - X_2|}{X_{avg}} \times 100$$

where X_1 and X_2 are the duplicate sample concentrations and X_{avg} is the mean of X_1 and X_2 . Analytical error increases near the RDL; therefore, the RPD is not typically calculated unless the concentrations of the duplicate samples are greater than five (5) times the RDL. Generally accepted RPDs for laboratory duplicates are approximately 40 to 50% for soil and 20 to 40% for ground water. For field duplicates, acceptable limits for RPDs are 40 to 80% for soil inorganic parameters, 80 to 100% for soil organic parameters, 100% for soil vapour parameters, 40% for ground water inorganic parameters and 60% for ground water organic parameters. If the RPD for a field duplicate sample and its analytical pair did not meet acceptable RPD limits, an explanation is provided below.

Analytical results for field duplicate soil and ground water samples generally showed acceptable correlation to their corresponding analytical pairs for analysed parameters. Results for field and trip blanks samples were generally below the laboratory RDLs for all analysed parameters. The results of the RPD calculations for soil and ground water field duplicate samples are presented in Table B.1 and in Tables C.1 and C.3 respectively, while Table B.2 and Tables C.2 and C.4 shows the results of the field and trip blanks.

5.9.3 QA/QC Summary

All hold times were met, and the appropriate preservation methods were used. Samples were collected in the appropriate clean sample containers provided by BV and were stored on sufficient ice to keep the temperature between 0 and 10°C. A chain-of-custody accompanied all analyzed samples, and they are included with the laboratory certificates of analyses provided in Appendices B and C.

In summary, no issues with laboratory analysis, sample shipping, sample preservation, or field sampling techniques that could have a material effect on the interpretation of the reported results were identified as part of the QA/QC program. Therefore, the soil and groundwater analytical laboratory data is considered reliable.

5.9.4 QA/QC Statement

With respect to Subsection 47 (3) of O. Reg. 153/04 (as amended), the following statements apply to this Phase Two ESA:

- All Certificates of Analyses, pursuant to Clause 47 (2) (b) of the regulation, comply with Subsection 47 (3);
- A Certificate of Analysis report has been received for each sample submitted for analysis; and,
- All Certificates of Analysis have been included, in full, within **Error! Reference source not found.** and **Error! Reference source not found.**



5.10 Phase Two Conceptual Site Model

The following Phase Two CSM has been prepared in accordance with Schedule E, Part V, Table 1, Section 6(x) of (O. Reg.) 153/04 (as amended). The Phase Two CSM has been developed through analysis and interpretation of the field and analytical data gathered during the Phase Two ESA.

A summary of the PCAs and APECs associated with the Phase Two Property are provided in the following sections along with a narrative description of the Phase Two CSM. The Phase Two CSM narrative description is supported with the figures provided within this report which illustrate the physical setting of the Phase Two Property and contaminants which are present on the Phase Two Property at a concentration greater than the applicable Table 3 SCS.

5.10.1 Potentially Contaminating Activities, Areas of Potential Environmental Concern and Utilities

5.10.1.1 Potentially Contaminating Activities and Areas of Potential Environmental Concern

The Phase One ESA identified APECs at the Phase Two Property due to both on-site and off-site PCAs as discussed in Section 3.3 and shown in Figures 3 and 4. Available historical/current soil and groundwater analytical results utilized from boreholes and monitoring wells during the Update Phase Two ESA are shown relative to the APECs in Figure 5.

5.10.1.2 Approximate Locations of Utilities and Other Subsurface Structures

The underground utilities and other subsurface structures are presented on **Error! Reference source not found..**

The depth of the utility services has not been determined as part of this assessment however, based on the review of City of Ottawa engineering design standards for water main and sewer services and based on the water table depth (1.22 to 3.97 m bgs) at the Phase Two Property, there is potential for the utility services to intercept the shallow ground water at the Phase Two Property.

5.10.2 Physical Setting of Phase Two Property

5.10.2.1 Stratigraphy

In general, the soil stratigraphy at the Phase Two Property consisted of fill (sand or sand and gravel) to depths of 1.5 to 3 m underlain by silt or silty clay to a depth of at least 6.7 m. The grey silty clay layer extends to depth of 8.2 to 8.4 m and grey silt with trace to some clay and trace gravel was encountered below the grey silty clay layer at depths of 8.2 to 8.4 m. A sandy silt layer (1.5 to 2 m thick) is present at a depth of 4 to 5 m bgs and at depths of 9.8 to 10.4 m bgs.

Given that the average thickness of overburden is greater than 2.0 m, the Phase Two Property is not considered to be a shallow soil property as defined by O. Reg. 153/04 (as amended).

5.10.2.2 Hydrogeological Settings

The Phase Two Property is relatively flat with an approximate elevation of 82.88 m amsl and slopes gently to the east. With respect to the Phase Two Study Area, the topography generally slopes from the northwest/southwest (84 m amsl) to the east/northeast (80 m amsl). The nearest surface water bodies are Rideau River and Rideau Canal located 200 m east of the Phase Two Property.



The water table is generally encountered in the overburden at depth of approximately 1.22 to 3.97 m bgs. Regionally groundwater flows predominantly to the east/northeast, although measured water levels at the Phase Two Property show evidence of perturbations due to the tank nest (and associated pea gravel backfill) and underground services. Surface and storm water run-off drain into catch-basins located on the Phase Two Property before being discharged into the municipal storm sewer system within the Prince of Wales Drive and Meadowlands Drive.

The inferred shallow ground water flow based on the groundwater elevations at the Phase Two Property is interpreted to be towards the south, however, the regional groundwater flow is to the east/northeast. Based on the previous investigation reports, the direction of groundwater flow was interpreted as generally to the east with significant mounding and appeared to be radial, emanating from the existing tank nest. The groundwater flow interpretation in 2022/2023 is different from previous investigations mentioned above, likely due the absence of monitoring wells located along the Prince of Wales Right of Way and associated ground water table measurements. The depths to groundwater are within the range of historical groundwater elevation data collected since 2005.

The horizontal hydraulic gradient at the Phase Two Property, calculated using two sets of ground water level triangulation data (2022 and 2023) was determined to be 0.04 m/m. The permeability of the native overburden is relatively low, on the order of 2×10^{-7} m/s to an average of 2.3×10^{-6} m/s.

5.10.2.3 Approximate Depth to Bedrock

Bedrock was not encountered to the maximum depth of investigation (10.4 m bgs) during 2023 soil sampling or during past investigations at the Phase Two Property.

Based on MECP public water supply well record in the vicinity of the Phase Two Property (Well ID 1508679), grey limestone was encountered at an approximate depth of 27 m bgs.

5.10.3 Approximate Depth to Water Table

Based on the ground water levels collected from monitoring wells in 2022/2023, ground water at the Phase Two Property measured at depths of approximately 1.22 to 3.97 m bgs. It should be noted that groundwater levels will fluctuate seasonally and water table potentially higher during wet periods (i.e., early spring or fall), or following heavy rainfall.

5.10.3.1 Applicability of Section 35, 41 or 43.1

Section 35 of O. Reg. 153/04 (as amended) applies to the Phase Two Property as the Phase Two Property is serviced by a municipal drinking water system as defined in the Safe Drinking Water Act, 2002. The Phase Two Property is not located within an area designated as a well-head protection area (or equivalent). The current property use is commercial and the future property use is proposed to remain as commercial. As such, the industrial/commercial/community property use standards apply to the Phase Two Property.

Section 41 of O. Reg. 153/04 (as amended) does not apply to the Phase Two Property as the Phase Two Property is not within an area of natural significance, is not adjacent to an area of natural significance or includes land that is within 30 meters of an area of natural significance. In addition, soil pH at the Phase Two Property falls within the prescribed ranges of 5 to 9 for surface soil and 5 to 11 for subsurface soil.

Section 43.1 of O. Reg. 153/04 (as amended) does not apply to the Phase Two Property as the Phase Two Property is not a shallow soil property and does not include all or part of a water body or is adjacent to a water body or includes land that is within 30 metres of a water body.



5.10.3.2 Areas On, In or Under the Phase Two Property Where Excess Soil Is Finally Placed

In general, the soil stratigraphy at the Phase Two Property consisted of fill (sand or sand and gravel) to depths of 1.5 to 3 m bgs underlain by silt or silty clay to a depth of at least 6.7 m bgs. Information on the source of fill is unknown. Analysed soil samples collected from the fill layer exceeded the selected MECP Table 3 SCSs for select analyzed parameters.

5.10.3.3 Approximate Locations of Proposed Buildings and Other Structures

Structures at the Phase Two Property includes a service station building located in the central area, measuring approximately 114 square metres (m²) with fuel pumps. The service station building operated as a convenience store with a utility room, washroom and a basement. Surrounding the building is a paved parking lot.

The proposed future use of the Phase Two Property is to remain commercial, with similar buildings and other structures as currently present at the Phase Two Property. The final location of proposed buildings has not been confirmed to AtkinsRéalis at the time of writing.

5.10.4 Areas of Site Where a Contaminant is Present On, In, or Under the Phase Two Property At a Concentration Greater Than the Applicable Site Condition Standard

Areas where contaminants are present above the Table 3 SCSs in soil are shown in Figures 7 to 9 and in ground water are shown in Figure 10. Contaminants exceeding the selected Table 3 SCSs were present in one (1) or more analysed samples collected within the Phase Two Property in soil and ground water.

5.10.4.1 Contaminants of Exceeding Applicable Standards

Based on the review of available historical and current soil and groundwater analytical results completed as part of the Update Phase Two ESA report, contaminants of concern which exceeded the applicable Table 3 SCS were identified in soil (benzene, toluene, ethylbenzene, xylenes, PHC F1, PHC F2, lead, vanadium, SAR and electrical conductivity) and ground water (benzene, xylenes and PHC F1 to F4).

No water bodies are present on the Phase Two Property, therefore neither surface water quality nor sediment were investigated.

5.10.5 Distribution of Contaminants

Distribution of contaminants of concern which exceed the applicable Table 3 SCS in soil and ground water at the Phase Two Property are discussed below.

5.10.5.1 SAR/EC (Soil)

An exceedance of the Table 3 SCS for SAR and EC was identified within a native soil sample Phase Two Property (i.e., borehole BH-109). The presence of elevated SAR in soil at the Phase Two Property is considered to be a result of historic and current road salt application activities, as further discussed below.

- Lateral limits (**Error! Reference source not found.**): The lateral extents of the SAR and EC impacts were identified on-site and are interpreted to extend to the entire Phase Two Property boundaries.



- Vertical limits (Figure 11): The vertical extent of the soil with SAR and EC values exceeding the Table 3 SCS was delineated by analysing an underlying sample.

With regards to the SAR and EC (soil) exceeding the SCS, it is understood that de-icing salt is applied on the asphalt surfaces throughout the Phase Two Property for snow and ice control during the winter months, and on the sidewalks and roads adjacent to the property. The application of road salt presents a potential source of contamination, (i.e., EC and SAR in soil). However, as per Section 49.1 of O. Reg. 153/04 (as amended under O. Reg. 407/19) exceeding the SCS arising solely due to the application of a substance for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both are not considered exceeding the SCS for the purposes of filing an RSC. Although an RSC is not being pursued for the Phase Two Property, following the approach defined by O. Reg. 153/04 (as amended), SAR and EC in soil are not considered contaminants at the Phase Two Property.

5.10.5.2 Metals – Lead and Vanadium (Soil)

Concentration of lead exceeded the selected standards in one (1) soil sample collected from borehole BH23-03 (located by the southern portion of the Phase Two Property) at depth of 0.0 to 0.8 m bgs. The vertical extent of the impact is delineated at this location. The location of the lead exceeding the MECP Table 3 SCS is shown on Figure 8.

Concentration of vanadium exceeded the selected standards in soil samples collected from boreholes BH23-01 to BH23-03 at depths between 0.0 and 3.7 m bgs. The vertical extent of the impacts were delineated at these locations. The location of the vanadium exceeding the MECP Table 3 SCS are shown on Figure 8.

- Lateral limits (Figure 8): The lateral extents of the lead and vanadium impacts were identified on-site and are interpreted to extend to the entire Phase Two Property boundaries.
- Vertical limits (Figure 12): The vertical extent of the soil with lead and vanadium values exceeding the Table 3 SCS was delineated by analysing an underlying sample.

Localized lead exceeding the SCS in soil in one (1) soil sample analysed from borehole BH23-03 (located by the southern portion of the Phase Two Property) could be associated with potential presence of fill of unknown quality (brought to the Phase Two Property). Fill material was identified during 2023 soil sampling program and past investigations. Vanadium concentrations exceeded the selected SCS in select soil samples analyzed from all three boreholes (BH23-01 to BH23-03); it is possible that surficial (<1.5 m bgs) elevated vanadium concentration potentially related to fill of unknown quality and the sub-surface (>1.5 m bgs) concentration potentially naturally occurring.

5.10.5.3 BTEX and PHC F1 to F4 (Soil)

BTEX and PHC F1 to F4 in soil and groundwater are considered to be related to the historical and ongoing operation of the Phase Two Property as retail gas station since at least 1960s. The lateral and vertical limits inferred below is based on historical and current soil analytical results available for the Phase Two Property.

- Lateral limits (Figure 9): Based on measured concentrations of analysed parameters in soil samples, it is inferred that concentrations of benzene, ethylbenzene, toluene, xylenes, PHC F1 and F2 exceeding the selected MECP Table 3 SCSs are generally present by the northern portion of the Phase Two Property (east and west of the USTs/Pump Islands and in the vicinity of former two waste oil tanks, north of former rapid lube facility).
- Vertical limits (Figure 13): Benzene, ethylbenzene, toluene, xylenes, PHC F1 and F2 exceeding the selected MECP Table 3 SCSs in soil identified from 0.0 and 7.5 m bgs. Concentrations of benzene extends between the depths of 0.0 and 7.5 m bgs, Concentrations of ethylbenzene, toluene and xylenes extends between the depths of 4.5 and 5.1 m bgs. Concentrations of PHC F1 and F2 extends between the depths of 2.4 and 5.9 m bgs (inferred depth based on historical available analytical results from past investigations). The vertical extent of the benzene concentrations was not confirmed based on the available data.



5.10.5.4 BTEX and PHC F1 to F4 (Ground Water)

The lateral and vertical limits inferred below is based on 2022/2023 groundwater analytical results conducted at the Phase Two Property.

- Lateral limits (Figure 10): Based on the groundwater results from the available monitoring wells at the Phase Two Property, it is inferred that concentrations of benzene, xylenes and/or PHC F1 to F4 parameters exceeding the selected MECP Table 3 SCSs are present on the entire Phase Two Property. However, based on the available soil analytical results and groundwater concentrations in monitoring well (98-1) by the southern portion of the Phase Two Property which are below the selected MECP Table 3 SCSs, it is inferred that groundwater impacts at the Phase Two Property are generally present by the northern portion (east and west of the USTs/Pump Islands and in the vicinity of former two waste oil tanks, north of former rapid lube facility).
- Vertical limits (Figure 14): Concentrations exceeding the MECP Table 3 SCSs were identified in analysed groundwater samples collected from monitoring wells screened to a maximum depth of 6.1 m bgs. The vertical extent of the impacts was not confirmed based on the available data.

5.10.5.5 Migration of Contaminants

Given the historic nature of the PHC related impacts and the operation of remedial system between 2004 and 2008 to remove LNAPL from the subsurface which resulted in significant decrease of LNAPL (only minimal amount of LNAPL or sheen on purge water observed during recent monitoring events) and improved groundwater quality, the soil and groundwater concentrations are likely in equilibrium. Consequently, although some impacts likely extend beyond the property limits to the north and northeast/east, it is unlikely that PHC-related contamination at the Phase Two Property will migrate further beyond its current extents.

Elevated SAR and EC values in soil are considered to be a result of historic and current road salt application activities at the Phase Two Property and within surrounding road allowances.

Elevated vanadium in surface (<1.5 m bgs) soil is considered to be related to potential use of fill of unknown quality brought to the Phase Two Property. Elevated vanadium in sub-surface (>1.5 m bgs) soil is potentially naturally occurring with high concentrations found in shales and clay (Geology at the Phase Two Property; see Section 2.1.6). Vanadium content in soil is related to weathering of parent rock which increases vanadium content in soil (SQGEH, 1997). Vanadium is considered likely to be associated with a regional issue and consequently elevated concentrations may exist off-site.

Localized surficial lead concentrations in soil is attributed to potentially imported soil brought to the Phase Two Property.

Utility trenches may serve as preferential pathways for contaminant distribution and may intercept the shallow groundwater table at the Phase Two Property.

5.10.5.6 Meteorological and Climatic Considerations

It is noted that climatic or meteorological conditions may influence the distribution and migration of COCs at the Phase Two Property. Seasonal fluctuations in ground water due to cyclical increases and decreases in precipitation can affect ground water recharge. However, existing COCs exceeding the MECP Table 3 SCSs are generally present near the water table (shallow water table 1.22 m to 3.97 m bgs) and therefore infiltration is not expected to result in leaching of contaminants deeper into the subsurface. Furthermore, given the historic nature of PHC-related impacts, it is anticipated that the soil impacts are already in equilibrium with respect to leaching to groundwater. It is possible that vertical smearing of impacts may have historically occurred due to seasonal water table fluctuation; however, in the



absence of LNAPL (only sheen observed on purge water; Section 5.7.4) and based on the historical nature of PHC impacts, worsening conditions are not expected.

5.10.6 Cross Sections

The lateral and vertical distribution of contaminants in each area where contaminants are present at concentrations greater than the Table 3 SCS in soil and ground water, the approximate depth to the water table, and stratigraphy are shown in Figures 11 to 14, as discussed in the previous sections.

5.10.7 Diagrams Showing Release Mechanisms, Exposure Pathways and Receptors

Elevated SAR and EC values in soil are considered to be a result of historic and current road salt application activities at the Phase Two Property and within surrounding road allowances. Elevated vanadium in sub-surface (>1.5 m bgs) soil is potentially naturally occurring. Localized surficial lead and vanadium concentration in soil is attributed to imported fill potentially brought to the Phase Two Property. BTEX and PHC impacts in soil and groundwater related to retail gas station and former rapid fuel facility at the Phase Two Property. The human health and ecological receptor CSMs, including transport pathway, receptors and routes of exposure are shown on Figures 15 and 16.



6. CONCLUSIONS

6.1 Summary of Exceedances

COC exceeding the applicable MECP Table 3 SCS were identified in soil and ground water based on the review of available current and historical soil and groundwater analytical results (2022/2023) in the following locations:

Location Exceeding SCS	Depth (m bgs)	Contaminant of Concern	Table 3 SCS	Max. Concentration Soil µg/g) Groundwater (µg/L)
Soil				
BH23-01-011	0.0-0.8	SAR	12	32
BH23-01-03	1.5-1.8	EC	1.4	2.6
BH23-01-04	1.8-2.4	Vanadium	88	120
BH23-03-01	0.0-0.8	Lead	120	180
BH-5-6	4.5-5.1	Benzene	0.4	29
BH-5-6	4.5-5.1	Toluene	78	125
BH-5-6	4.5-5.1	Ethylbenzene	19	30.1
BH-5-6	4.5-5.1	Xylenes	30	169.8
BH23-01-06	3.0-3.7	PHC F1	65	430
BH23-01-06	3.0-3.7	PHC F2	250	810
Ground Water				
MW-22	-	Benzene	430	5,100
MW-22	-	Xylenes	4,200	7,700
98-2	-	PHC F1	750	13,000
98-2	-	PHC F2	150	14,000
98-3	-	PHC F3	500	32,000
98-3	-	PHC F4	500	17,000

6.2 Conclusions

Concentrations exceeding the selected MECP Table 3 SCSs are present in soil and groundwater at the Phase Two Property. Following KDR (planned to be conducted in 2024), the report will be updated with an addendum documenting conditions remaining at the Phase Two Property. Further, AtkinsRéalis on behalf of Shell will complete a screening/due diligence Human Health Risk Assessment (HHRA) based on resultant conditions (post KDR).



7. REFERENCES

- Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health – Vanadium, 1997.
- GHD, 2020. “2020 Annual Groundwater Monitoring and Sampling Program, Shell Retail Fuel Outlet (C03311), 1440 Prince of Wales Drive, Ottawa, Ontario”. August 13, 2020.
- Ontario Ministry of the Environment (MOE), 2011a. “Ontario Regulation 153/04, Record of Site Condition - Part XV.1 of the Environmental Protection Act”. October 31, 2011.
- MOE, 2011b. “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act”. July 2011.
- MOE, 2011c. “Guide for Completing Phase Two Environmental Site Assessment Under Ontario Regulation 153/04”. June 2011.
- MOE, 2011d. “Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act”. April 15, 2011.
- MOE, 2011e. Soil, Groundwater and Sediment Standards for Use at Contaminated Sites in Ontario. April 15, 2011.
- SNC-Lavalin Inc. (SNC-Lavalin), 2022. Field Work Guidance Manual. July 2022 (as amended).
- SNC-Lavalin, 2023. “2022 Groundwater Monitoring and Sampling Program, Shell Retail Fuel Outlet (C03311), 1440 Prince of Wales Drive, Ottawa, Ontario”. March 10, 2023.

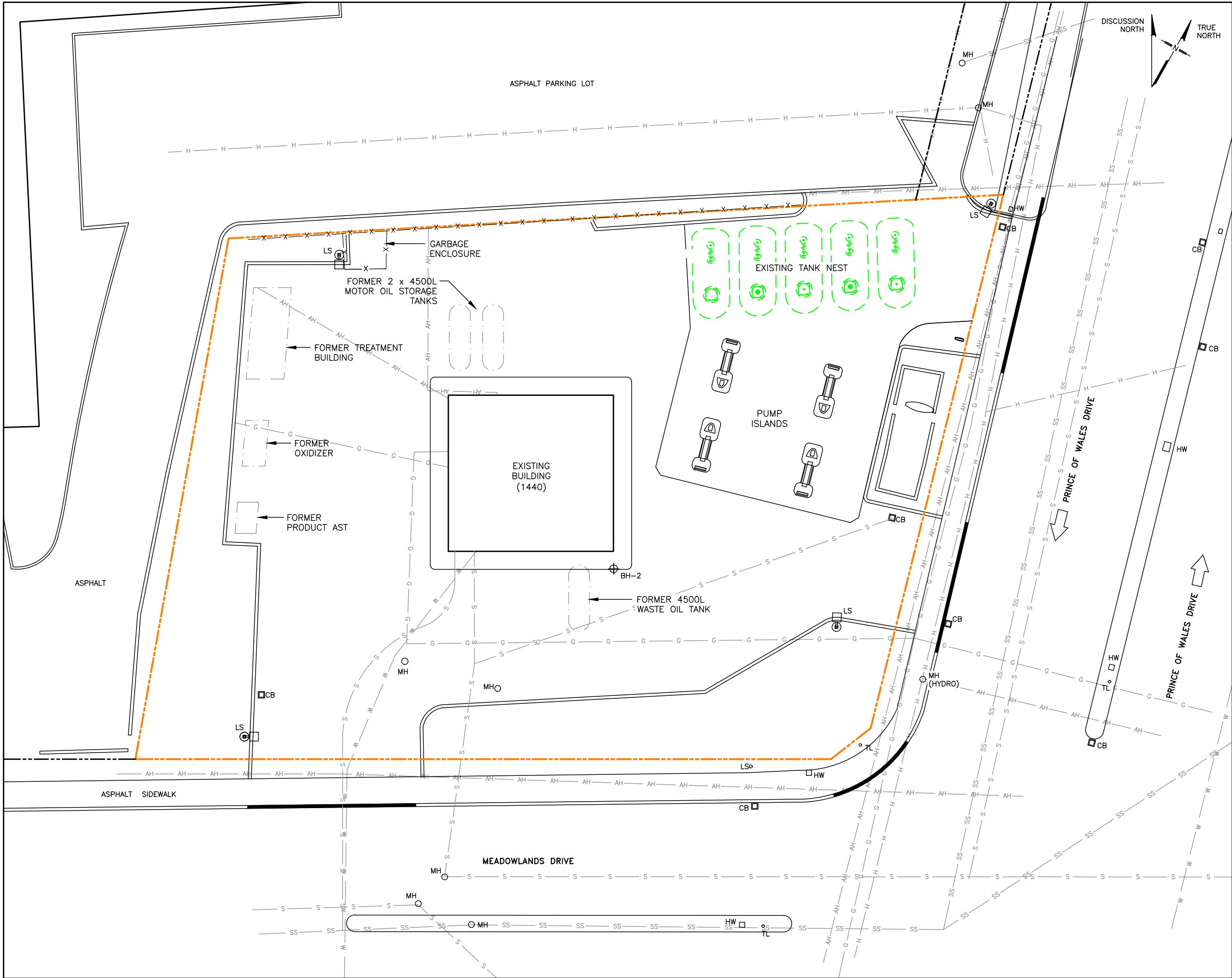


FIGURES



NOTES	1. SCALE AND SITE INFRASTRUCTURE LOCATIONS ARE APPROXIMATE	
	2. INFORMATION ON THIS FIGURE MAY BE LOST IF IT IS PRINTED, PHOTOCOPIED OR FAXED IN OTHER THAN ITS ORIGINAL SIZE AND COLOURS	
	3. 'm' : METRES	
SOURCES	1. GOOGLE EARTH PRO IMAGE, JUNE 9, 2018	

SCALE 1:7,000		
0 140 280m		
AtkinsRéalis		
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Title: PHASE TWO PROPERTY LOCATION		
Drawn: AG	Date: DECEMBER 2023	Project No: 694129
Verified: AA	Project Manager: AA	Dwg No: FIGURE 1



LEGEND

LS	LIGHT STANDARD
HW	HAND WELL
○	MANHOLE
□	CATCH BASIN
---	PHASE TWO PROPERTY LINE
---	PROPERTY LINE
---	EXISTING BUILDING
-X-X-	FENCE LINE
---	INFRASTRUCTURE
---	FORMER INFRASTRUCTURE
---	UNDERGROUND TANK
AH	ABOVE GROUND HYDRO SERVICE
G	UNDERGROUND GAS SERVICE
H	UNDERGROUND HYDRO SERVICE
W	WATER SERVICE
S	STORM SERVICE
SS	SANITARY SERVICE

NOTES

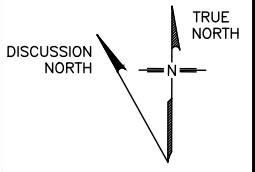
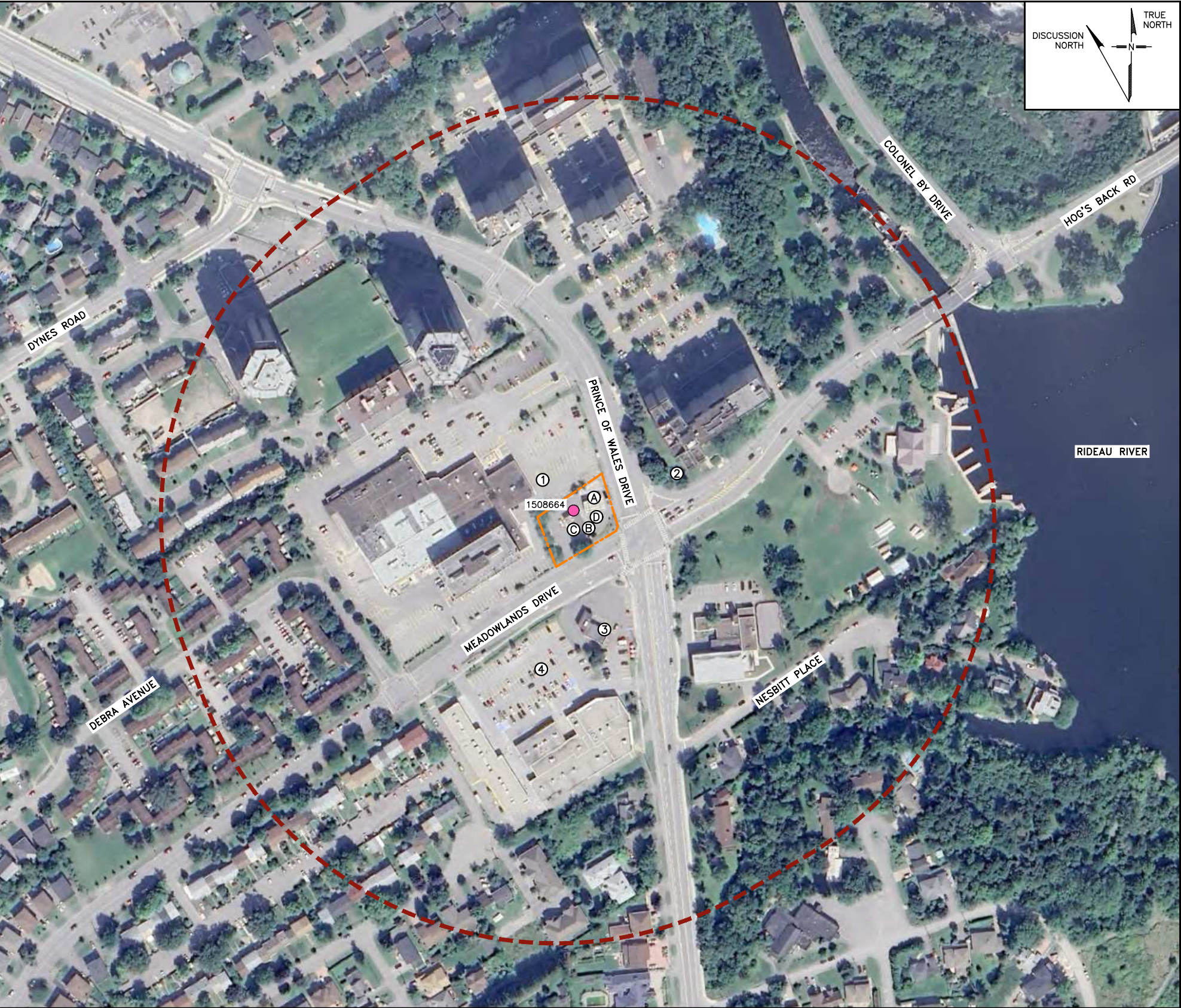
- SCALE AND SITE INFRASTRUCTURE LOCATIONS ARE APPROXIMATE
- INFORMATION ON THIS FIGURE MAY BE LOST IF IT IS PRINTED, PHOTOCOPIED OR FAXED IN OTHER THAN ITS ORIGINAL SIZE AND COLOURS
- 'm' : METRES

AtkinsRéalis

Client Name: SHELL CANADA PRODUCTS	Location: 1440 PRINCE OF WALES DRIVE (C03311), OTTAWA, ON	
Title: PHASE TWO PROPERTY LAYOUT		
Drawn: AG	Date: DECEMBER 2023	Project No: 694129
Verified: AA	Project Manager: AA	Dwg No: FIGURE 2

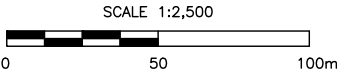
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ON PHASE ONE STUDY PROPERTY ARE THERE?		
ROADS	YES	SEE FIGURE
WATER WELLS	YES	1- COMMERCIAL WATER SUPPLY WELL. CONSTRUCTED IN 1959; POSSIBLY ABANDONED. THE PHASE ONE PROPERTY IS CONNECTED TO MUNICIPAL WATER SUPPLY. SEE FIGURE
IN PHASE ONE STUDY AREA ARE THERE?		
ROADS	YES	SEE FIGURE
WATER BODIES	NO	
AREA OF NATURAL SIGNIFICANCE	NO	

ON-SITE LOCATION	PCA No.	POTENTIALLY CONTAMINATING ACTIVITY TYPE	DESCRIPTION
A	28	GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS	UNDER GROUND STORAGE TANKS WITHIN TANK NEST AND PUMP ISLANDS
B	52	STORAGE, MAINTENANCE, FUELING AND REPAIR OF EQUIPMENT, VEHICLES AND MATERIALS USED TO MAINTAIN TRANSPORTATION SYSTEMS	FORMER WASTE OIL TANK
C	52	STORAGE, MAINTENANCE, FUELING AND REPAIR OF EQUIPMENT, VEHICLES AND MATERIALS USED TO MAINTAIN TRANSPORTATION SYSTEMS	TWO FORMER MOTOR OIL STORAGE TANKS
D	30	IMPORTATION OF FILL MATERIAL OF UNKNOWN QUALITY	FILL MATERIAL OF UNKNOWN QUALITY IDENTIFIED AT PHASE ONE PROPERTY DURING PREVIOUS INVESTIGATION
OFF-SITE LOCATION	PCA No.	POTENTIALLY CONTAMINATING ACTIVITY TYPE	DESCRIPTION
1	28	GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS	LOCATED IN AN INFERRED HYDRAULICALLY UPGRAIDENT POSITION FROM THE PHASE ONE PROPERTY
	37	OPERATION OF DRY CLEANING EQUIPMENT	
2	28	GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS	LOCATED IN AN INFERRED HYDRAULICALLY DOWNGRAIDENT POSITION FROM THE PHASE ONE PROPERTY IN CLOSE PROXIMITY TO THE PHASE ONE PROPERTY
3	28	GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS	LOCATED IN AN INFERRED HYDRAULICALLY CROSS-GRADIENT POSITION FROM THE PHASE ONE PROPERTY
	52	STORAGE, MAINTENANCE, FUELING AND REPAIR OF EQUIPMENT, VEHICLES AND MATERIALS USED TO MAINTAIN TRANSPORTATION SYSTEMS	
4	37	OPERATION OF DRY CLEANING EQUIPMENT	LOCATED IN AN INFERRED HYDRAULICALLY CROSS-GRADIENT POSITION FROM THE PHASE ONE PROPERTY



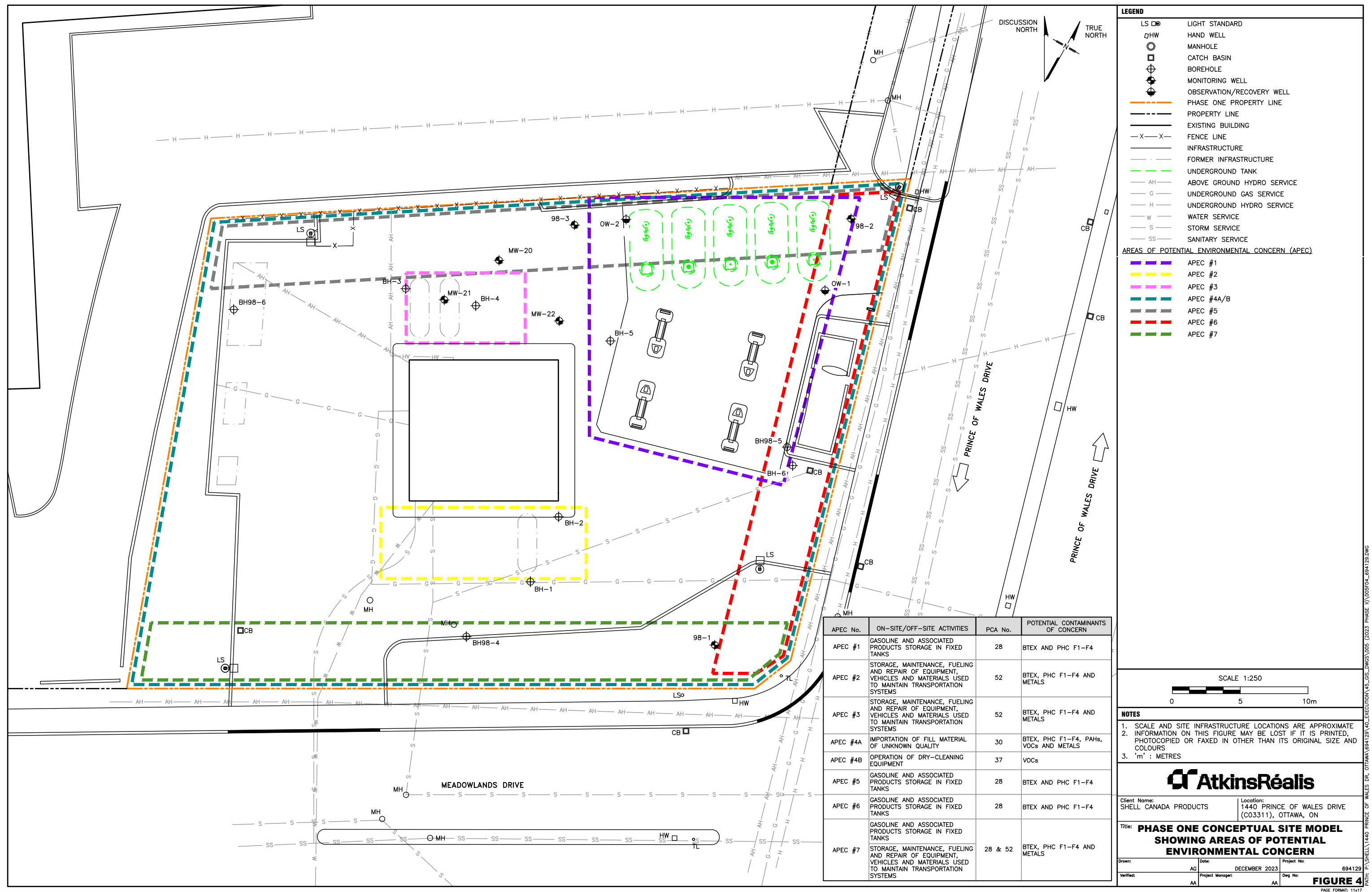
- LEGEND**
- ① LOCATION IDENTIFIER FOR POTENTIALLY CONTAMINATING ACTIVITY
 - COMMERCIAL WATER SUPPLY WELL
 - PHASE ONE PROPERTY LINE
 - MINIMUM 250m FROM PHASE ONE PROPERTY LINE

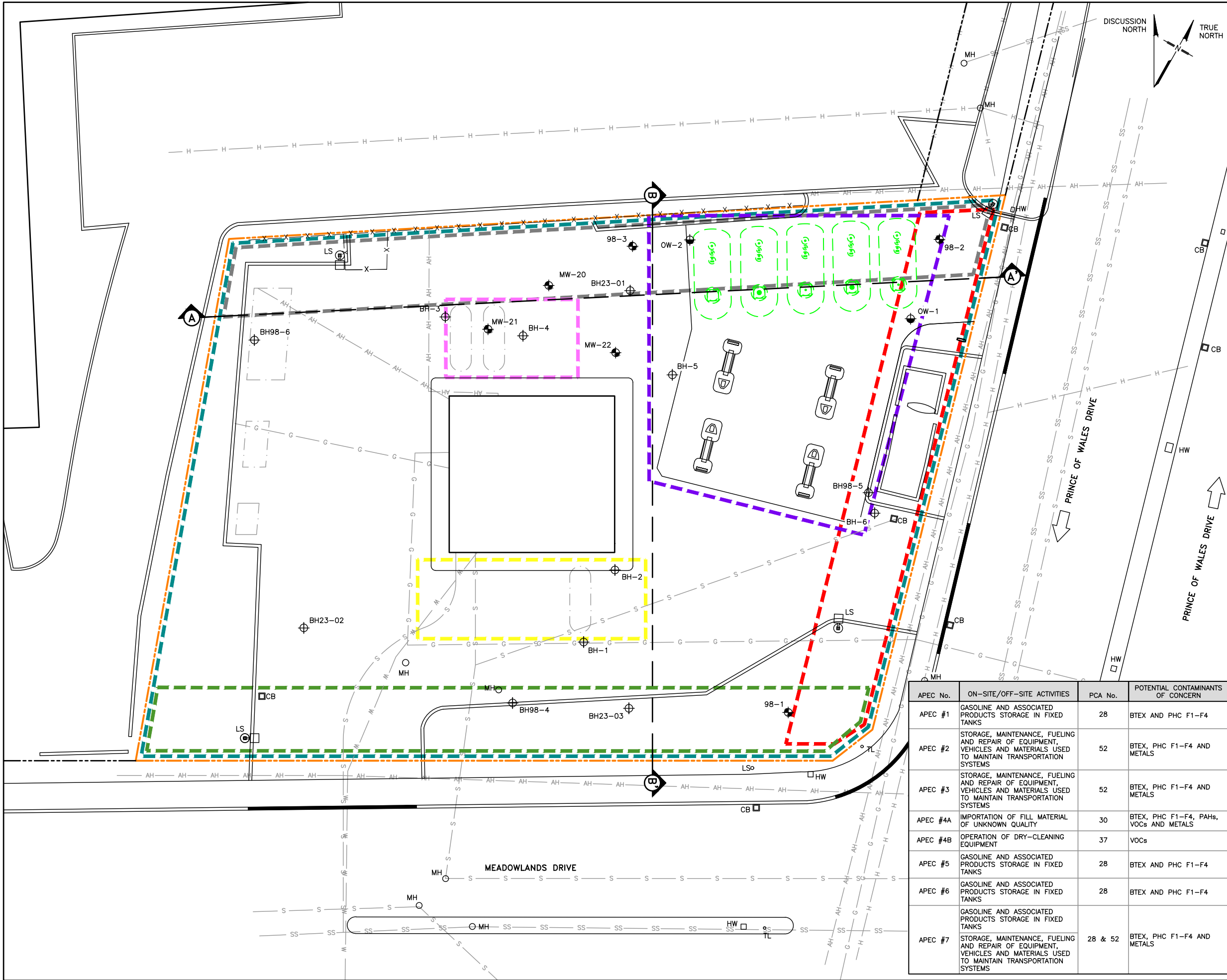
- NOTES**
- SCALE AND SITE INFRASTRUCTURE LOCATIONS ARE APPROXIMATE
 - INFORMATION ON THIS FIGURE MAY BE LOST IF IT IS PRINTED, PHOTOCOPIED OR FAXED IN OTHER THAN ITS ORIGINAL SIZE AND COLOURS
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- SOURCES**
- GOOGLE EARTH PRO IMAGE, AUGUST 19, 2022



Client Name: SHELL CANADA PRODUCTS		Location: 1440 PRINCE OF WALES DRIVE (C03311), OTTAWA, ON	
Title: PHASE ONE CONCEPTUAL SITE MODEL SHOWING POTENTIAL CONTAMINATING ACTIVITIES			
Drawn: AG	Date: DECEMBER 2023	Project No: 694129	
Verified: AA	Project Manager: AA	Dwg No: AA	FIGURE 3





LEGEND

LS LIGHT STANDARD
HW HAND WELL
 MANHOLE
 CATCH BASIN
 BOREHOLE
 MONITORING WELL
 OBSERVATION/RECOVERY WELL
 CROSS-SECTIONAL LINE
 PHASE ONE PROPERTY LINE
 PROPERTY LINE
 EXISTING BUILDING
 FENCE LINE
 INFRASTRUCTURE
 FORMER INFRASTRUCTURE
 UNDERGROUND TANK
 ABOVE GROUND HYDRO SERVICE
 UNDERGROUND GAS SERVICE
 UNDERGROUND HYDRO SERVICE
 WATER SERVICE
 STORM SERVICE
 SANITARY SERVICE

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN (APEC)

APEC #1
 APEC #2
 APEC #3
 APEC #4A/B
 APEC #5
 APEC #6
 APEC #7

DISCUSSION NORTH
TRUE NORTH

PRINCE OF WALES DRIVE

PRINCE OF WALES DRIVE

MEADOWLANDS DRIVE

SCALE 1:250

0 5 10m

NOTES

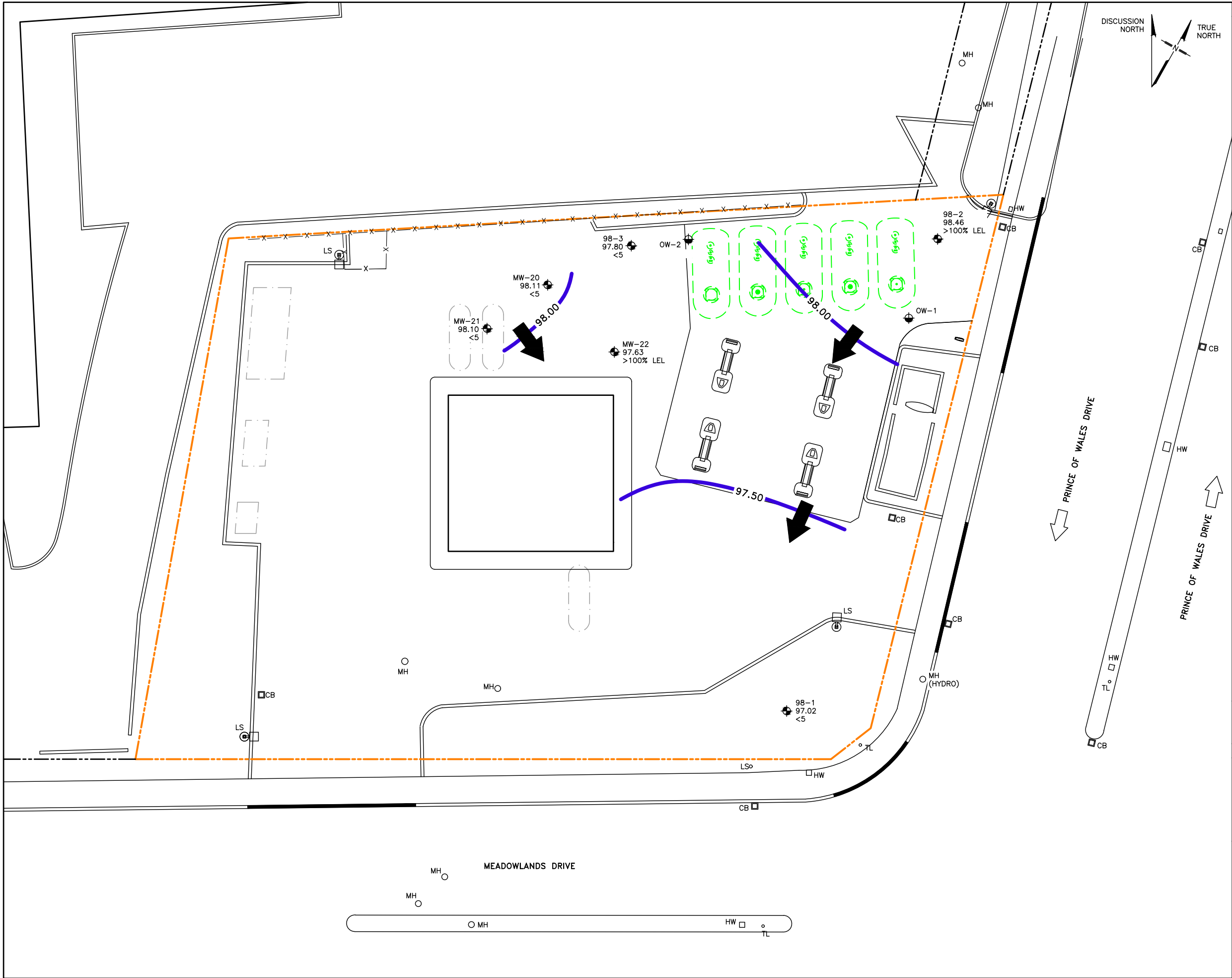
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2. INFORMATION ON THIS FIGURE MAY BE LOST IF IT IS PRINTED, PHOTOCOPIED OR FAXED IN OTHER THAN ITS ORIGINAL SIZE AND COLOURS
3. 'm' : METRES

AtkinsRéalis

Client Name: SHELL CANADA PRODUCTS
Location: 1440 PRINCE OF WALES DRIVE (C03311), OTTAWA, ON

Title: **SAMPLING LOCATIONS AND CROSS-SECTIONAL LINES**

Drawn: AG Date: DECEMBER 2023 Project No: 694129
Verified: AA Project Manager: AA Dwg No: **FIGURE 5**



LEGEND

LS	LIGHT STANDARD
HW	HAND WELL
	MANHOLE
	CATCH BASIN
	BOREHOLE
	MONITORING WELL
	OBSERVATION/RECOVERY WELL
	PHASE ONE PROPERTY LINE
	PROPERTY LINE
	EXISTING BUILDING
- X - X -	FENCE LINE
	INFRASTRUCTURE
	FORMER INFRASTRUCTURE
	UNDERGROUND TANK
97.00	INTERPRETED WATER LEVEL ELEVATION CONTOUR (m)
	INTERPRETED SHALLOW HORIZONTAL GROUNDWATER FLOW DIRECTION
MW-20	IDENTIFICATION
98.11	WATER LEVEL ELEVATION (m) (JUNE 9, 2022)
<5	OVm READING

SCALE 1:250

0 5 10m

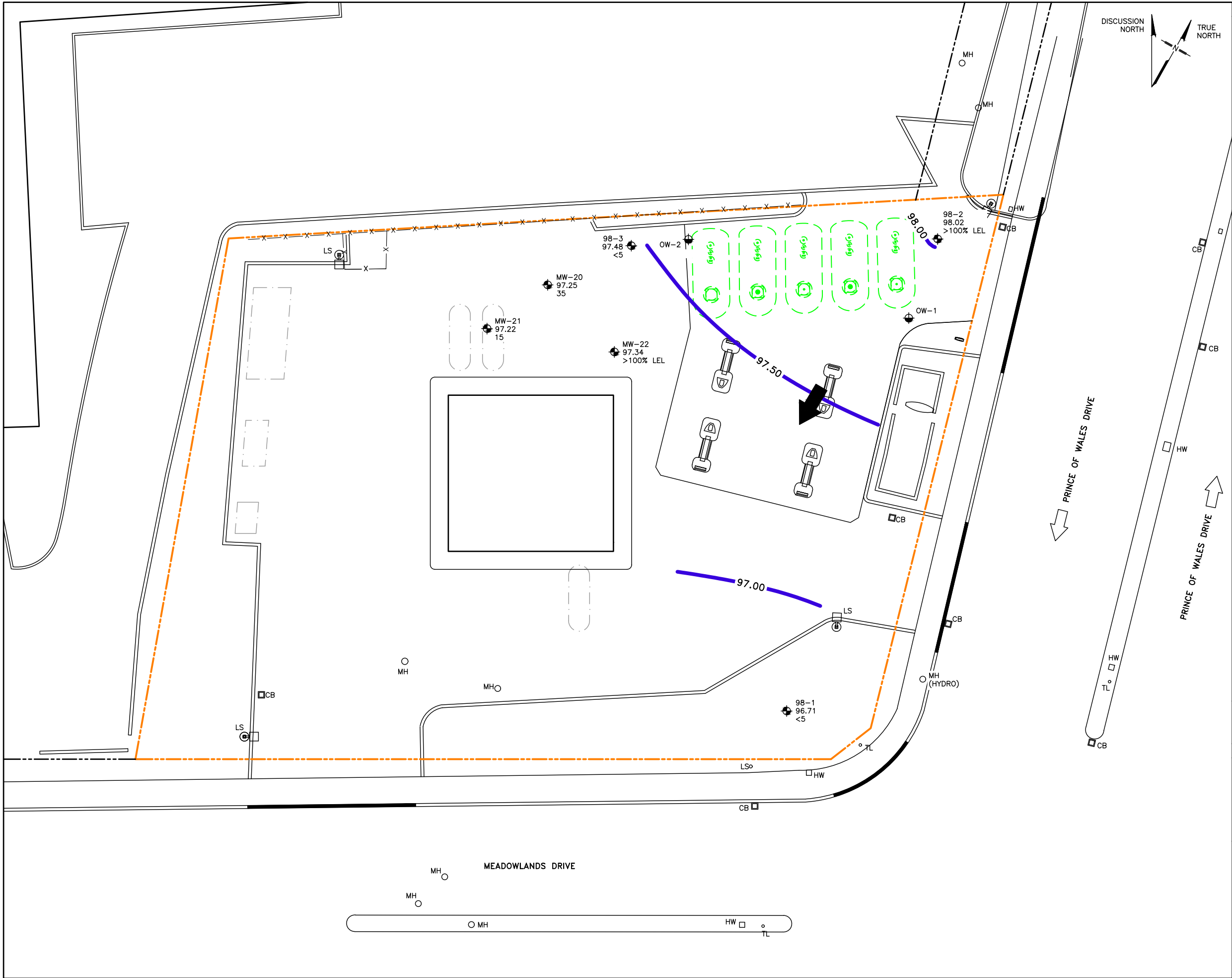
NOTES

- SCALE AND SITE INFRASTRUCTURE LOCATIONS ARE APPROXIMATE
- INFORMATION ON THIS FIGURE MAY BE LOST IF IT IS PRINTED, PHOTOCOPIED OR FAXED IN OTHER THAN ITS ORIGINAL SIZE AND COLOURS
- ALL OVm READINGS ARE IN ppmv UNLESS OTHERWISE NOTED
- 'OVm' : ORGANIC VAPOUR METER
- 'ppmv' : PARTS PER MILLION BY VOLUME
- '% LEL' : PERCENT OF THE LOWER EXPLOSIVE LIMIT OF HEXANE
- 'm' : METRES

AtkinsRéalis

Client Name:	SHELL CANADA PRODUCTS	Location:	1440 PRINCE OF WALES DRIVE (C03311), OTTAWA, ON
Title: INTERPRETED SHALLOW HORIZONTAL GROUNDWATER FLOW DIRECTION (JUNE 9, 2022)			
Drawn:	AG	Date:	DECEMBER 2023
Verified:	AA	Project Manager:	AA
Project No:		694129	

FIGURE 6A



LEGEND

LS	LIGHT STANDARD
HW	HAND WELL
MH	MANHOLE
CB	CATCH BASIN
○	BOREHOLE
⊕	MONITORING WELL
⊕	OBSERVATION/RECOVERY WELL
—	PHASE ONE PROPERTY LINE
---	PROPERTY LINE
-X-X-	EXISTING BUILDING
-X-X-	FENCE LINE
- - -	INFRASTRUCTURE
- - -	FORMER INFRASTRUCTURE
- - -	UNDERGROUND TANK
97.00	INTERPRETED WATER LEVEL ELEVATION CONTOUR (m)
→	INTERPRETED SHALLOW HORIZONTAL GROUNDWATER FLOW DIRECTION
MW-20	IDENTIFICATION
97.25	WATER LEVEL ELEVATION (m) (JUNE 20, 2023)
35	OVM READING

SCALE 1:250

0 5 10m

NOTES

1. SCALE AND SITE INFRASTRUCTURE LOCATIONS ARE APPROXIMATE
2. INFORMATION ON THIS FIGURE MAY BE LOST IF IT IS PRINTED, PHOTOCOPIED OR FAXED IN OTHER THAN ITS ORIGINAL SIZE AND COLOURS
3. ALL OVM READINGS ARE IN ppmv UNLESS OTHERWISE NOTED
4. 'OVM' : ORGANIC VAPOUR METER
5. 'ppmv' : PARTS PER MILLION BY VOLUME
6. '% LEL' : PERCENT OF THE LOWER EXPLOSIVE LIMIT OF HEXANE
7. 'm' : METRES

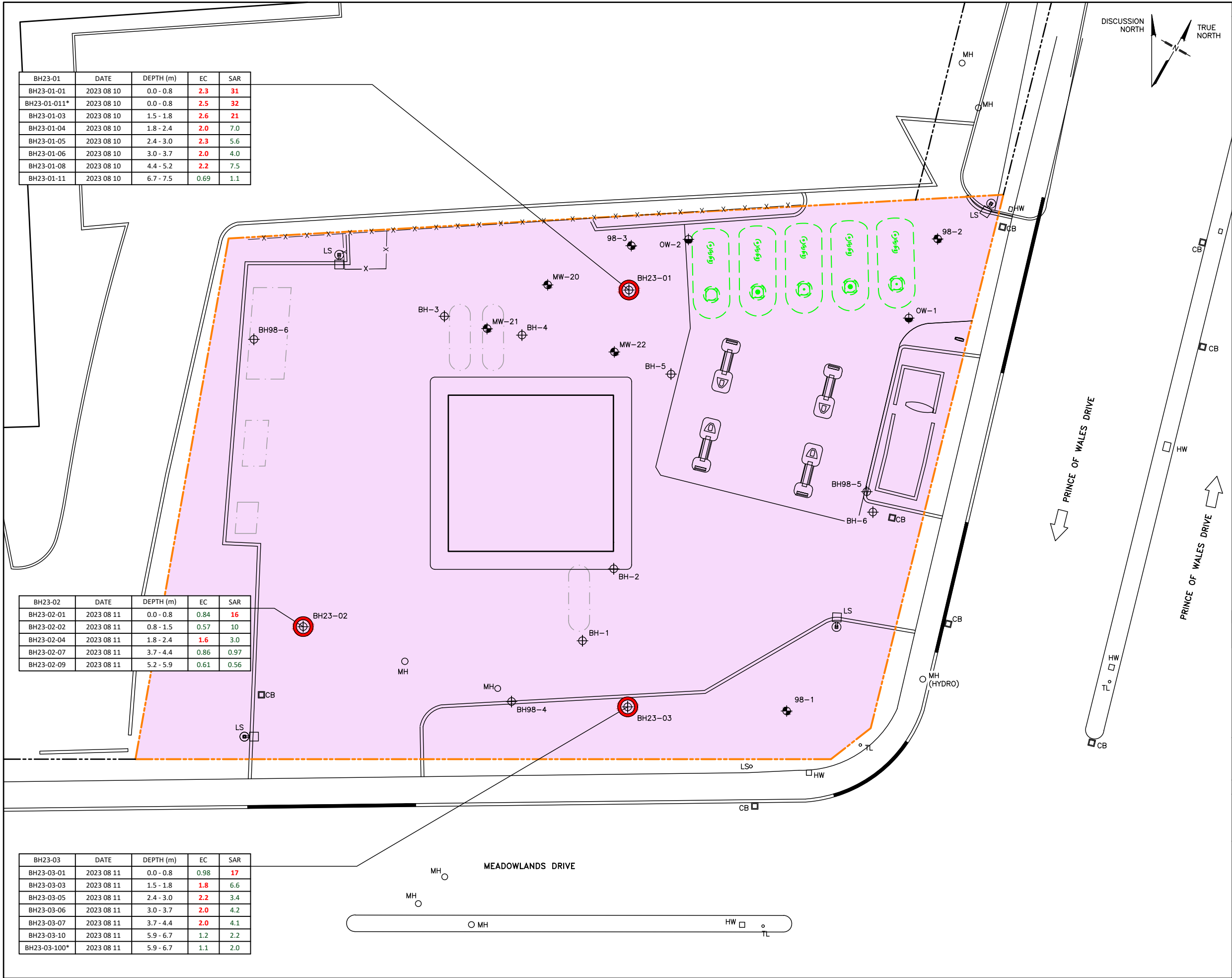
AtkinsRéalis

Client Name: SHELL CANADA PRODUCTS	Location: 1440 PRINCE OF WALES DRIVE (C03311), OTTAWA, ON
Title: INTERPRETED SHALLOW HORIZONTAL GROUNDWATER FLOW DIRECTION (JUNE 20, 2023)	
Drawn: AG	Date: DECEMBER 2023
Verified: AA	Project Manager: AA
Project No: 694129	Dwg No: FIGURE 6B

BH23-01	DATE	DEPTH (m)	EC	SAR
BH23-01-01	2023 08 10	0.0 - 0.8	2.3	31
BH23-01-011*	2023 08 10	0.0 - 0.8	2.5	32
BH23-01-03	2023 08 10	1.5 - 1.8	2.6	21
BH23-01-04	2023 08 10	1.8 - 2.4	2.0	7.0
BH23-01-05	2023 08 10	2.4 - 3.0	2.3	5.6
BH23-01-06	2023 08 10	3.0 - 3.7	2.0	4.0
BH23-01-08	2023 08 10	4.4 - 5.2	2.2	7.5
BH23-01-11	2023 08 10	6.7 - 7.5	0.69	1.1

BH23-02	DATE	DEPTH (m)	EC	SAR
BH23-02-01	2023 08 11	0.0 - 0.8	0.84	16
BH23-02-02	2023 08 11	0.8 - 1.5	0.57	10
BH23-02-04	2023 08 11	1.8 - 2.4	1.6	3.0
BH23-02-07	2023 08 11	3.7 - 4.4	0.86	0.97
BH23-02-09	2023 08 11	5.2 - 5.9	0.61	0.56

BH23-03	DATE	DEPTH (m)	EC	SAR
BH23-03-01	2023 08 11	0.0 - 0.8	0.98	17
BH23-03-03	2023 08 11	1.5 - 1.8	1.8	6.6
BH23-03-05	2023 08 11	2.4 - 3.0	2.2	3.4
BH23-03-06	2023 08 11	3.0 - 3.7	2.0	4.2
BH23-03-07	2023 08 11	3.7 - 4.4	2.0	4.1
BH23-03-10	2023 08 11	5.9 - 6.7	1.2	2.2
BH23-03-100*	2023 08 11	5.9 - 6.7	1.1	2.0



LEGEND

LS □ LIGHT STANDARD
○ HW HAND WELL
□ MANHOLE
□ CATCH BASIN
⊕ BOREHOLE
⊕ BOREHOLE/MONITORING WELL
⊕ OBSERVATION/RECOVERY WELL

GREEN
GREEN COLOURED CONCENTRATION MET THE MOE STANDARD

RED
RED COLOURED CONCENTRATION EXCEEDED THE MOE STANDARD

○ LOCATION WHERE ALL SOIL SAMPLES ANALYSED MET THE SELECTED STANDARD FOR ALL PARAMETERS ANALYSED

○ LOCATION WHERE AT LEAST ONE SOIL SAMPLE ANALYSED EXCEEDED THE SELECTED STANDARD FOR AT LEAST ONE PARAMETER ANALYSED

□ INFERRED LIMITS OF CONTAMINATION AS DEFINED IN ACCORDANCE WITH O.REG 153/04 SCHEDULE E, PART III, SECTION 7(4)

--- PHASE ONE PROPERTY LINE

--- PROPERTY LINE

--- EXISTING BUILDING

--- X --- FENCE LINE

--- INFRASTRUCTURE

--- FORMER INFRASTRUCTURE

--- UNDERGROUND TANK

PARAMETERS	ABBREVIATION	MOE TABLE 3
ELECTRICAL CONDUCTIVITY	EC	1.4
SODIUM ADSORPTION RATIO	SAR	12

STANDARDS:

- TABLE 3 FULL DEPTH GENERIC SITE CONDITION STANDARDS IN A NON-POTABLE GROUNDWATER CONDITION FOR INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE, MEDIUM AND FINE TEXTURED SOILS (MOE, 2011)

GENERAL NOTES:

- ELECTRICAL CONDUCTIVITY CONCENTRATIONS IN MILLISIEMENS/CENTIMETRE (mS/cm)
- '*' : FIELD DUPLICATE OF PREVIOUSLY LISTED SAMPLE

SCALE 1:250

0 5 10m

NOTES

- SCALE AND SITE INFRASTRUCTURE LOCATIONS ARE APPROXIMATE
- INFORMATION ON THIS FIGURE MAY BE LOST IF IT IS PRINTED, PHOTOCOPIED OR FAXED IN OTHER THAN ITS ORIGINAL SIZE AND COLOURS
- 'm' : METRES

Client Name:
SHELL CANADA PRODUCTS

Location:
1440 PRINCE OF WALES DRIVE (C03311), OTTAWA, ON

Title:

SOIL ANALYTICAL RESULTS (EC/SAR)

Drawn: AG

Date: DECEMBER 2023

Project No: 694129

Verified: AA

Project Manager: AA

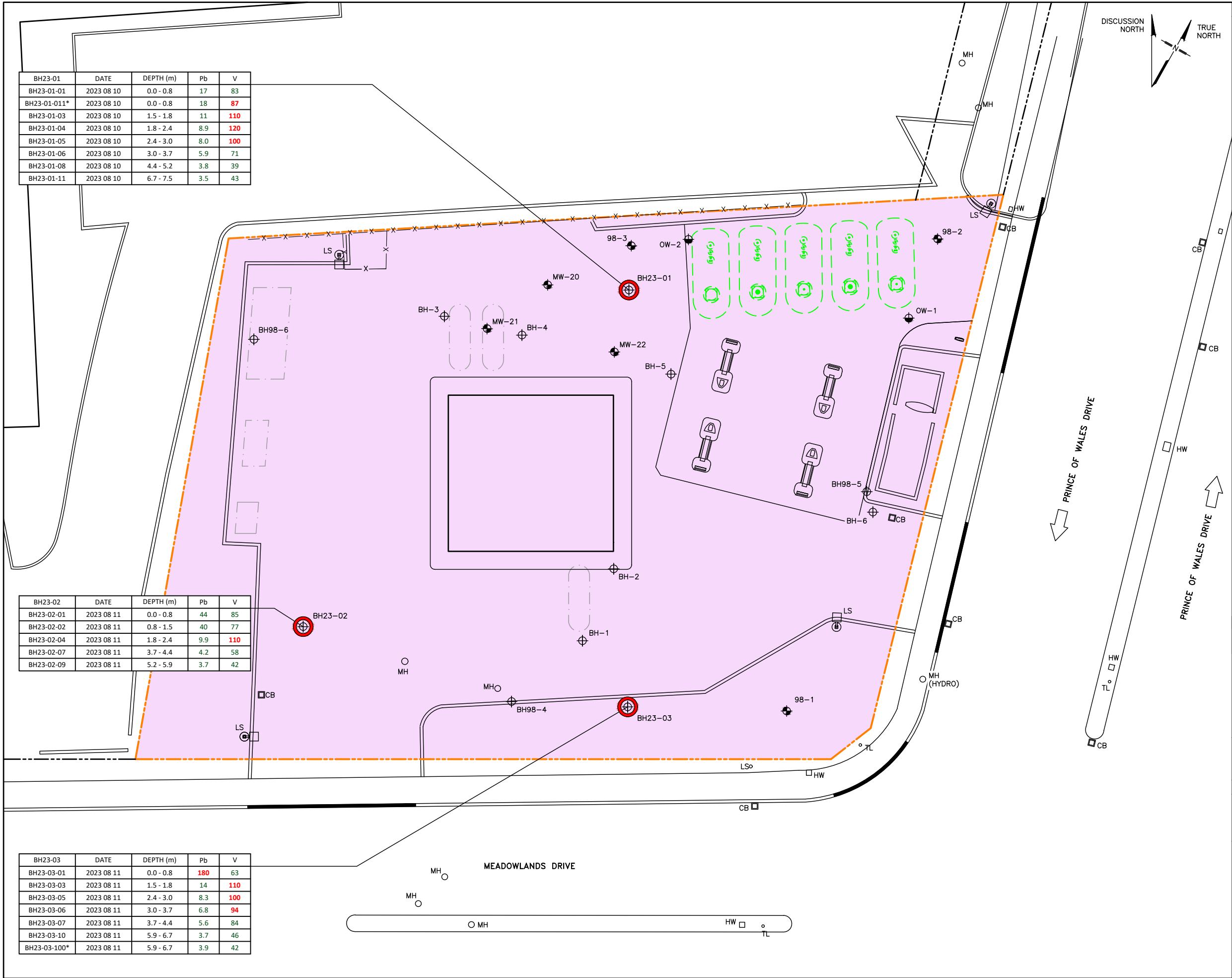
Dwg No: **FIGURE 7**

PATH: P:\SHELL\1440 PRINCE OF WALES DR., OTTAWA\694129\40_EXECUTION\45_GIS_DWG\005 (2023 PHASE 1)\006FO7_694129.DWG

BH23-01	DATE	DEPTH (m)	Pb	V
BH23-01-01	2023 08 10	0.0 - 0.8	17	83
BH23-01-011*	2023 08 10	0.0 - 0.8	18	87
BH23-01-03	2023 08 10	1.5 - 1.8	11	110
BH23-01-04	2023 08 10	1.8 - 2.4	8.9	120
BH23-01-05	2023 08 10	2.4 - 3.0	8.0	100
BH23-01-06	2023 08 10	3.0 - 3.7	5.9	71
BH23-01-08	2023 08 10	4.4 - 5.2	3.8	39
BH23-01-11	2023 08 10	6.7 - 7.5	3.5	43

BH23-02	DATE	DEPTH (m)	Pb	V
BH23-02-01	2023 08 11	0.0 - 0.8	44	85
BH23-02-02	2023 08 11	0.8 - 1.5	40	77
BH23-02-04	2023 08 11	1.8 - 2.4	9.9	110
BH23-02-07	2023 08 11	3.7 - 4.4	4.2	58
BH23-02-09	2023 08 11	5.2 - 5.9	3.7	42

BH23-03	DATE	DEPTH (m)	Pb	V
BH23-03-01	2023 08 11	0.0 - 0.8	180	63
BH23-03-03	2023 08 11	1.5 - 1.8	14	110
BH23-03-05	2023 08 11	2.4 - 3.0	8.3	100
BH23-03-06	2023 08 11	3.0 - 3.7	6.8	94
BH23-03-07	2023 08 11	3.7 - 4.4	5.6	84
BH23-03-10	2023 08 11	5.9 - 6.7	3.7	46
BH23-03-100*	2023 08 11	5.9 - 6.7	3.9	42



LEGEND

LS □ LIGHT STANDARD
HW □ HAND WELL
○ MANHOLE
□ CATCH BASIN
⊕ BOREHOLE
⊕ BOREHOLE/MONITORING WELL
⊕ OBSERVATION/RECOVERY WELL
GREEN
○ GREEN COLOURED CONCENTRATION MET THE MOE STANDARD
RED
○ RED COLOURED CONCENTRATION EXCEEDED THE MOE STANDARD
○ LOCATION WHERE ALL SOIL SAMPLES ANALYSED MET THE SELECTED STANDARD FOR ALL PARAMETERS ANALYSED
○ LOCATION WHERE AT LEAST ONE SOIL SAMPLE ANALYSED EXCEEDED THE SELECTED STANDARD FOR AT LEAST ONE PARAMETER ANALYSED
□ INFERRED LIMITS OF CONTAMINATION AS DEFINED IN ACCORDANCE WITH O.REG 153/04 SCHEDULE E, PART III, SECTION 7(4)
- - - PHASE ONE PROPERTY LINE
- - - PROPERTY LINE
- - - EXISTING BUILDING
- X - FENCE LINE
- - - INFRASTRUCTURE
- - - FORMER INFRASTRUCTURE
- - - UNDERGROUND TANK

PARAMETERS	ABBREVIATION	MOE TABLE 3
LEAD	Pb	120
VANADIUM	V	86

STANDARDS:

- TABLE 3 FULL DEPTH GENERIC SITE CONDITION STANDARDS IN A NON-POTABLE GROUNDWATER CONDITION FOR INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE, MEDIUM AND FINE TEXTURED SOILS (MOE, 2011)

GENERAL NOTES:

- ALL CONCENTRATIONS IN MICROGRAMS/LITRE (µg/L)
- '*': FIELD DUPLICATE OF PREVIOUSLY LISTED SAMPLE

SCALE 1:250

0 5 10m

NOTES

- SCALE AND SITE INFRASTRUCTURE LOCATIONS ARE APPROXIMATE
- INFORMATION ON THIS FIGURE MAY BE LOST IF IT IS PRINTED, PHOTOCOPIED OR FAXED IN OTHER THAN ITS ORIGINAL SIZE AND COLOURS
- 'm' : METRES

AtkinsRéalis

Client Name: SHELL CANADA PRODUCTS Location: 1440 PRINCE OF WALES DRIVE (C03311), OTTAWA, ON

Title: **SOIL ANALYTICAL RESULTS (LEAD AND VANADIUM)**

Drawn: AG Date: DECEMBER 2023 Project No: 694129

Verified: AA Project Manager: AA Dwg No: **FIGURE 8**

PATH: P:\SHELL\1440 PRINCE OF WALES DR, OTTAWA\694129\40_EXECUTION\45_GIS_DWG\005 (2023 PHASE 1)\005FOR_694129.DWG

MW-20										
SAMPLE DATE	B	T	E	X	F1	F2	F3	F4	F4G	
2022 06 09	0.69	<0.20	<0.20	<0.40	28	140	370	230	-	
2023 06 21	7.0	<0.20	<0.20	<0.40	30	<100	<200	<200	-	
2023 11 27	540	8.6	410	78	-	-	-	-	-	

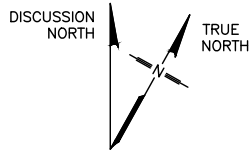
98-3								
SAMPLE DATE	B	T	E	X	F1	F2	F3	F4
2022 06 09	700	8.7	430	230	5,100	13,000	32,000	17,000
2023 06 21	740	7.6	450	110	1,500	720	250	<200

98-2									
SAMPLE DATE	B	T	E	X	F1	F2	F3	F4	F4G
2022 06 09	1,200	130	1,200	4,900	13,000	14,000	1,500	1,200	11,000
2023 06 21	1,500	330	1,000	4,000	5,000	3,200	<200	<200	-
2023 11 27	1,800	450	1,200	4,700	-	-	-	-	-

MW-21									
SAMPLE DATE	B	T	E	X	F1	F2	F3	F4	
2022 06 09	150	5.1	66	16	400	1,300	26,000	4,400	
2023 06 21	490	27	360	350	630	520	300	<200	

MW-22									
SAMPLE DATE	B	T	E	X	F1	F2	F3	F4	
2023 06 21	5,100	1,600	1,500	7,700	6,700	3,800	220	<200	

98-1								
SAMPLE DATE	B	T	E	X	F1	F2	F3	F4
2023 06 21	<0.20	<0.20	<0.20	<0.40	<25	<100	<200	<200
2023 11 27	<0.20	<0.20	<0.20	<0.20	-	-	-	-
2023 11 27*	<0.20	<0.20	<0.20	<0.20	-	-	-	-

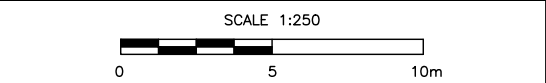


LEGEND	
LS	LIGHT STANDARD
HW	HAND WELL
MH	MANHOLE
CB	CATCH BASIN
OW	MONITORING WELL
OW	OBSERVATION/RECOVERY WELL
OW	GREEN COLOURED CONCENTRATION MET THE MOE STANDARD
OW	RED COLOURED CONCENTRATION EXCEEDED THE MOE STANDARD
OW	LOCATION WHERE MOST RECENT GROUNDWATER SAMPLE MET STANDARDS FOR ALL PARAMETERS THAT WERE ANALYSED
OW	LOCATION WHERE MOST RECENT GROUNDWATER SAMPLE EXCEEDED STANDARDS FOR AT LEAST ONE PARAMETER THAT WAS ANALYSED
OW	INFERRED LIMITS OF CONTAMINATION AS DEFINED IN ACCORDANCE WITH O. REG 153/04 SCHEDULE E, PART III, SECTION 7(4)
---	PHASE ONE PROPERTY LINE
---	PROPERTY LINE
---	EXISTING BUILDING
-X-X-	FENCE LINE
---	INFRASTRUCTURE
---	FORMER INFRASTRUCTURE
---	UNDERGROUND TANK

PARAMETERS	ABBREVIATION	STANDARDS
BENZENE	B	430
TOLUENE	T	18,000
ETHYLBENZENE	E	2,300
TOTAL XYLENES	X	4,200
PHC F1	F1	750
PHC F2	F2	150
PHC F3	F3	500
PHC F4	F4	500
PHC F4 (GRAVIMETRIC)	F4G	500

STANDARDS:
* TABLE 3 FULL DEPTH GENERIC SITE CONDITION STANDARDS IN A NON-POTABLE GROUNDWATER CONDITION FOR ALL TYPES OF PROPERTY USE, MEDIUM AND FINE TEXTURED SOILS (MOE, 2011)

GENERAL NOTES:
1. ALL CONCENTRATIONS IN MICROGRAMS/LITRE (µg/L)
2. * : FIELD DUPLICATE OF PREVIOUSLY LISTED SAMPLE



NOTES
1. SCALE AND SITE INFRASTRUCTURE LOCATIONS ARE APPROXIMATE
2. INFORMATION ON THIS FIGURE MAY BE LOST IF IT IS PRINTED, PHOTOCOPIED OR FAXED IN OTHER THAN ITS ORIGINAL SIZE AND COLOURS
3. 'm' : METRES

Client Name:
SHELL CANADA PRODUCTS

Location:
1440 PRINCE OF WALES DRIVE
(C03311), OTTAWA, ON

Title:
**GROUNDWATER ANALYTICAL RESULTS
(BTEX AND PHCs)**

Drawn:
AG

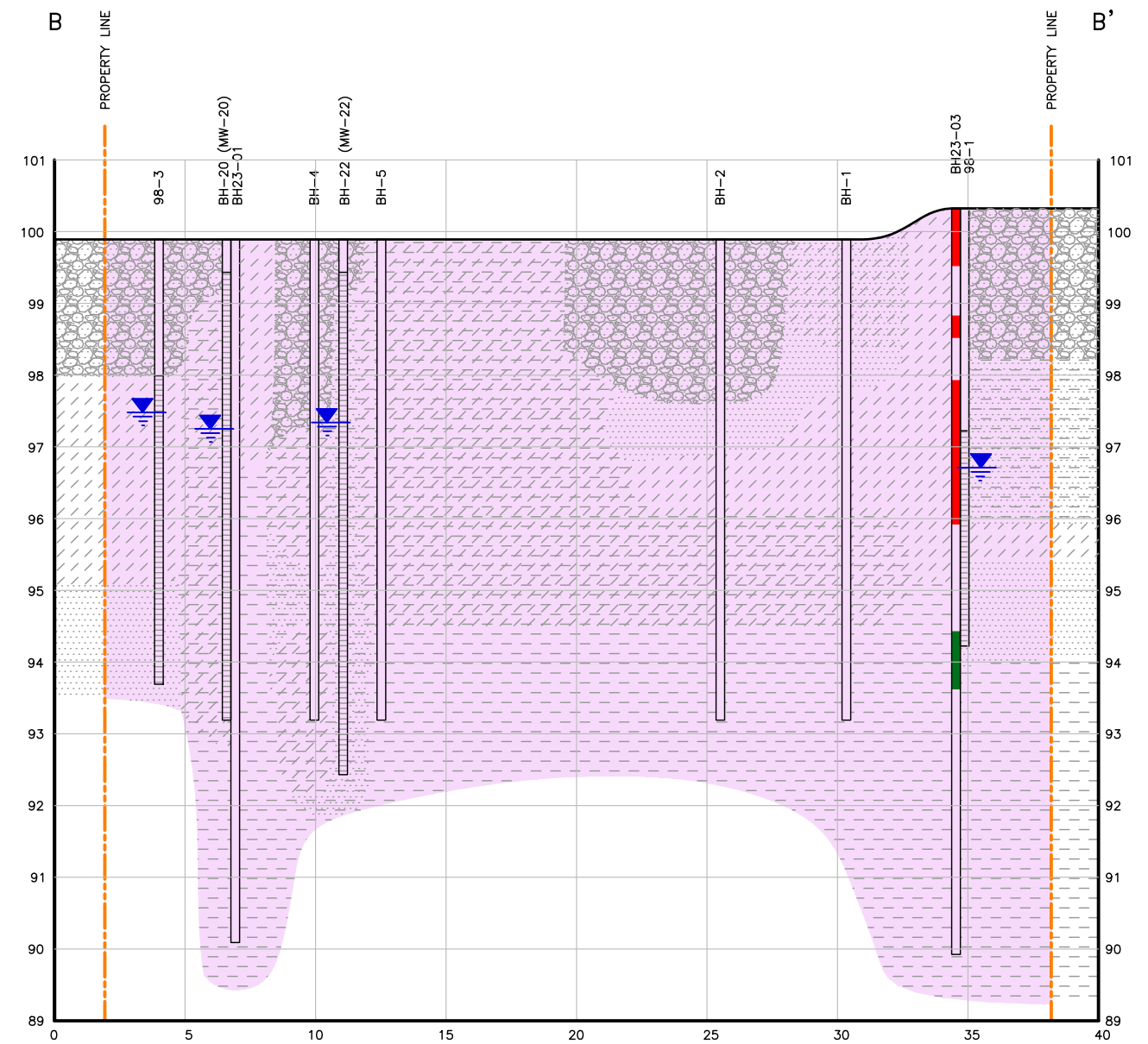
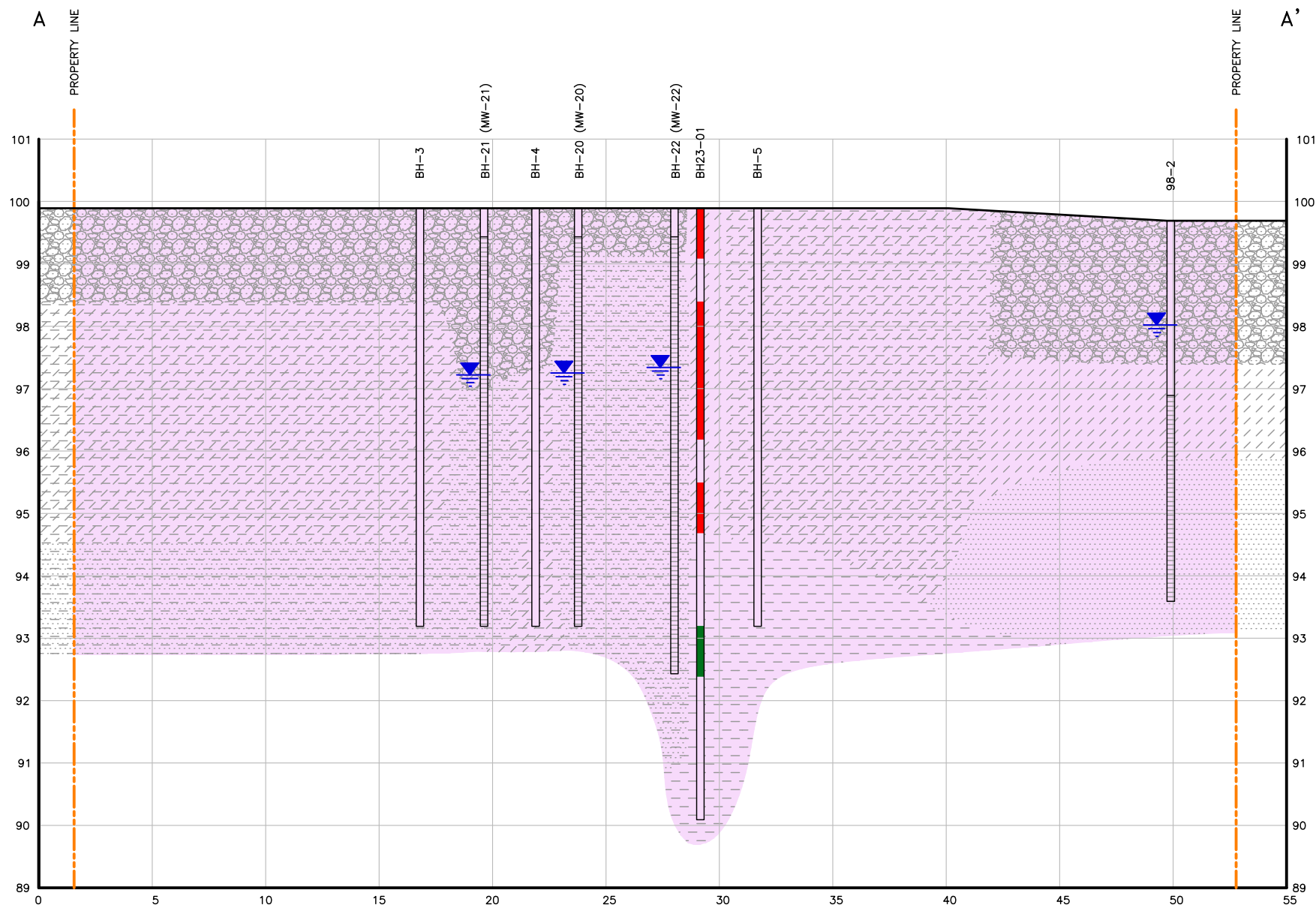
Date:
DECEMBER 2023

Project No.:
694129

Verified:
AA

Project Manager:
AA

Dep. No.:
AA



SCALE 1:250

0 5 10m

LEGEND									
	GROUNDWATER ELEVATIONS (JUNE 20, 2023)		SAND AND GRAVEL FILL		SILTY SAND, SANDY SILT		SAND AND CLAY		INFERRED LIMITS OF CONTAMINATION AS DEFINED IN ACCORDANCE WITH O. REG 153/04 SCHEDULE E, PART III, SECTION 7(4)
	BOREHOLE		SAND		CLAY		LOCATION WHERE ALL SOIL SAMPLES ANALYSED MET THE SELECTED STANDARD FOR ALL PARAMETERS ANALYSED		
	MONITORING WELL		SILT		SILT AND CLAY, CLAYEY SILT		LOCATION WHERE AT LEAST ONE SOIL SAMPLE ANALYSED EXCEEDED THE SELECTED STANDARD FOR AT LEAST ONE PARAMETER ANALYSED		

- NOTES
- SCALE AND SITE INFRASTRUCTURE LOCATIONS ARE APPROXIMATE
 - INFORMATION ON THIS FIGURE MAY BE LOST IF IT IS PRINTED, PHOTOCOPIED OR FAXED IN OTHER THAN ITS ORIGINAL SIZE AND COLOURS
 - 'm' : METRES

AtkinsRéalis

Client Name: SHELL CANADA PRODUCTS Location: 1440 PRINCE OF WALES DRIVE (C03311), OTTAWA, ON

Title: **GENERALIZED GEOLOGICAL CROSS SECTION (A-A' AND B-B') WITH SOIL ANALYTICAL RESULTS FOR EC/SAR**

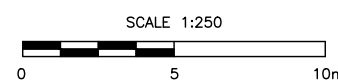
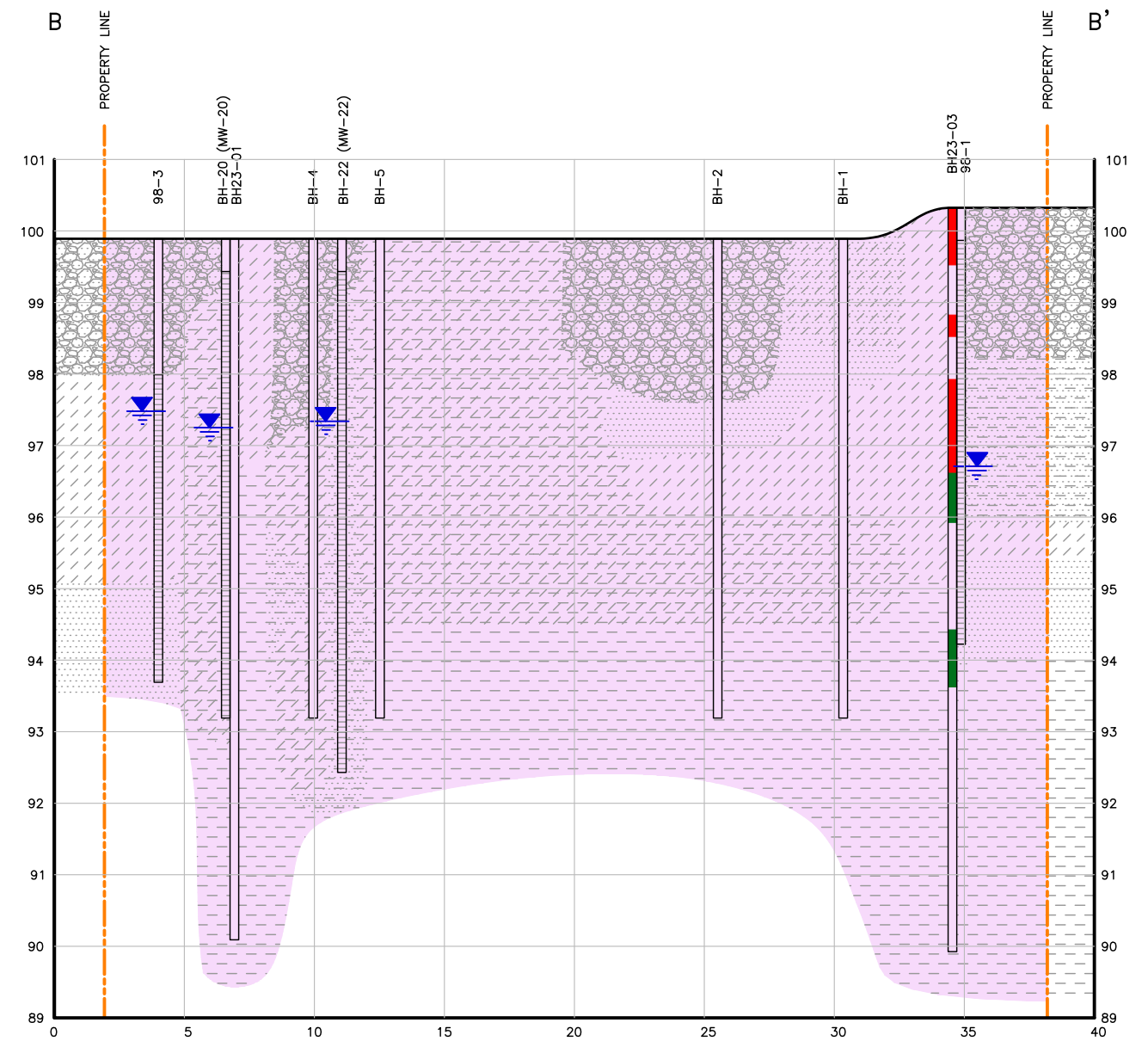
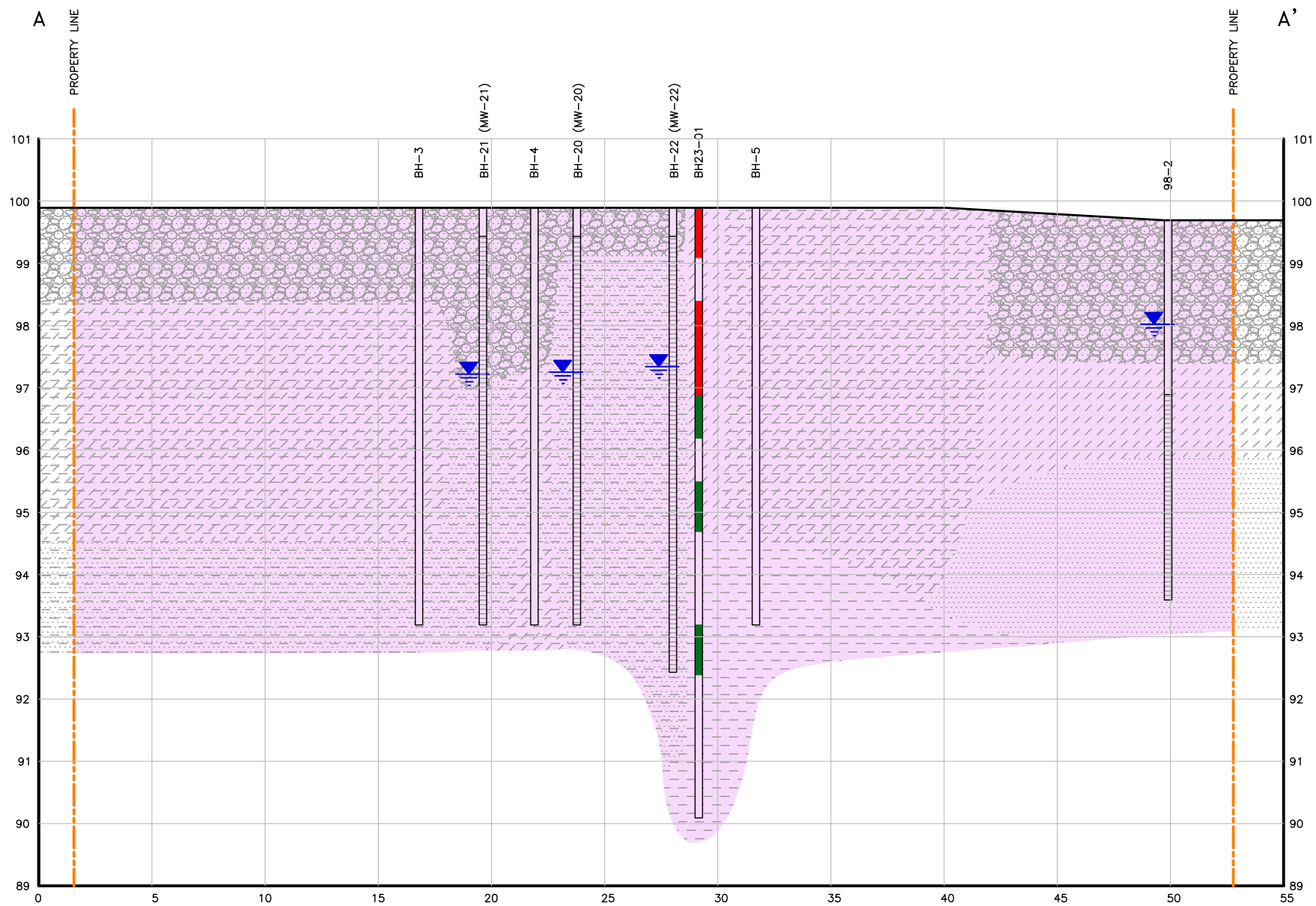
Drawn: AG Date: DECEMBER 2023 Project No: 694129

Verified: AA Project Manager: AA

FIGURE 11

PAGE FORMAT: 17x22

PRINCE OF WALES DR. OTTAWA 084129 VOL EXECUTION V3_03_0105_005 (2023 PHASE 1) 005P11_084129.DWG



LEGEND



GROUNDWATER ELEVATIONS
(JUNE 20, 2023)



BOREHOLE



MONITORING WELL



SAND AND GRAVEL FILL



SAND



SILT



SILTY SAND, SANDY SILT



CLAY



SILTY AND CLAY, CLAYEY SILT



SAND AND CLAY

LOCATION WHERE ALL SOIL SAMPLES ANALYSED MET THE SELECTED STANDARD FOR ALL PARAMETERS ANALYSED

LOCATION WHERE AT LEAST ONE SOIL SAMPLE ANALYSED EXCEEDED THE SELECTED STANDARD FOR AT LEAST ONE PARAMETER ANALYSED



INFERRED LIMITS OF CONTAMINATION AS DEFINED IN ACCORDANCE WITH O. REG. 153/04 SCHEDULE E, PART III, SECTION 7(4)

NOTES

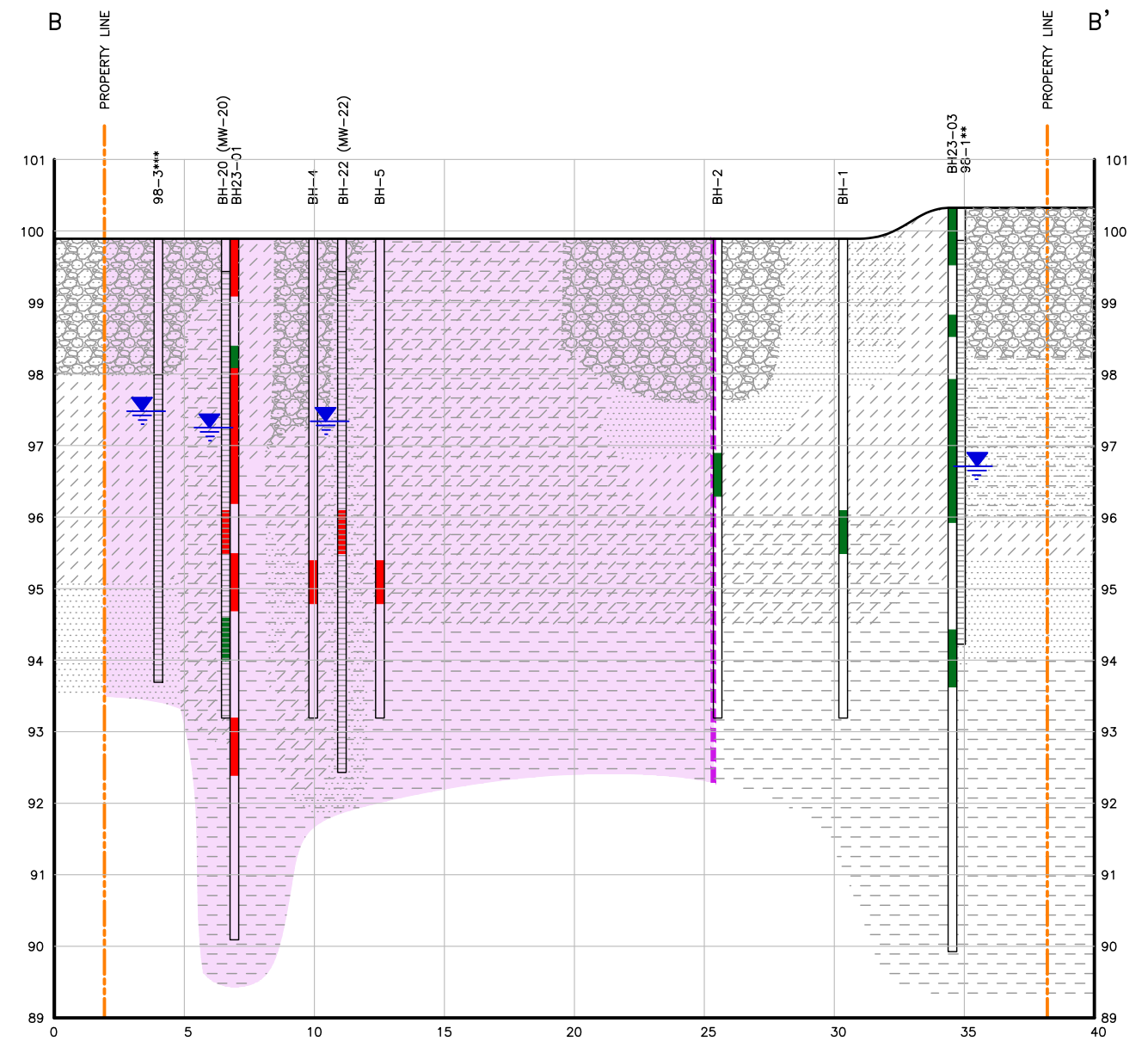
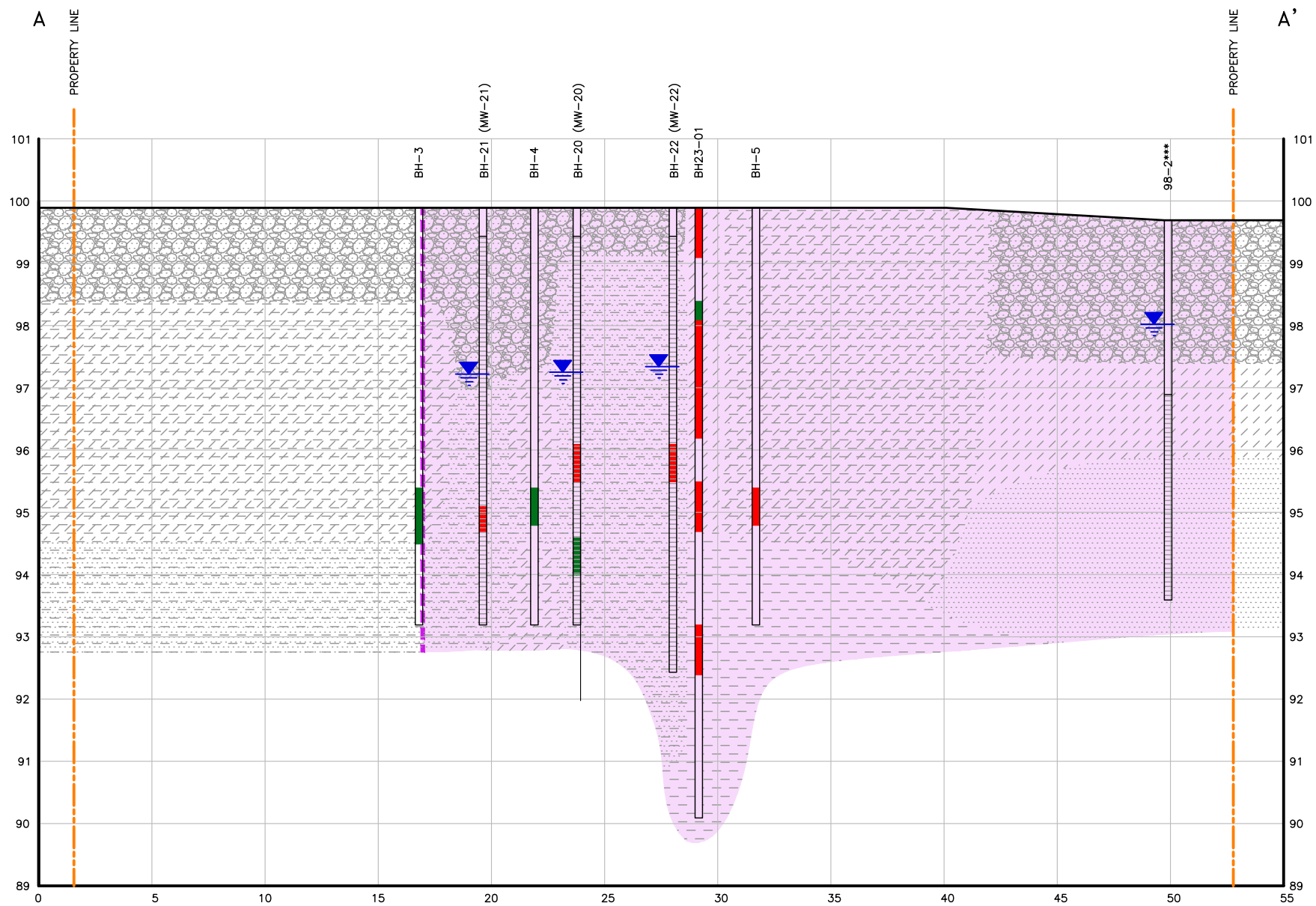
- SCALE AND SITE INFRASTRUCTURE LOCATIONS ARE APPROXIMATE
- INFORMATION ON THIS FIGURE MAY BE LOST IF IT IS PRINTED, PHOTOCOPIED OR FAXED IN OTHER THAN ITS ORIGINAL SIZE AND COLOURS
- 'm' : METRES



Client Name: SHELL CANADA PRODUCTS Location: 1440 PRINCE OF WALES DRIVE (C03311), OTTAWA, ON

Title: **GENERALIZED GEOLOGICAL CROSS-SECTION (A-A' AND B-B') WITH SOIL ANALYTICAL RESULTS FOR LEAD AND VANADIUM**

Drawn: AG Date: DECEMBER 2023 Project No: 694129
Verified: AA Project Manager: AA Dep. No: AA



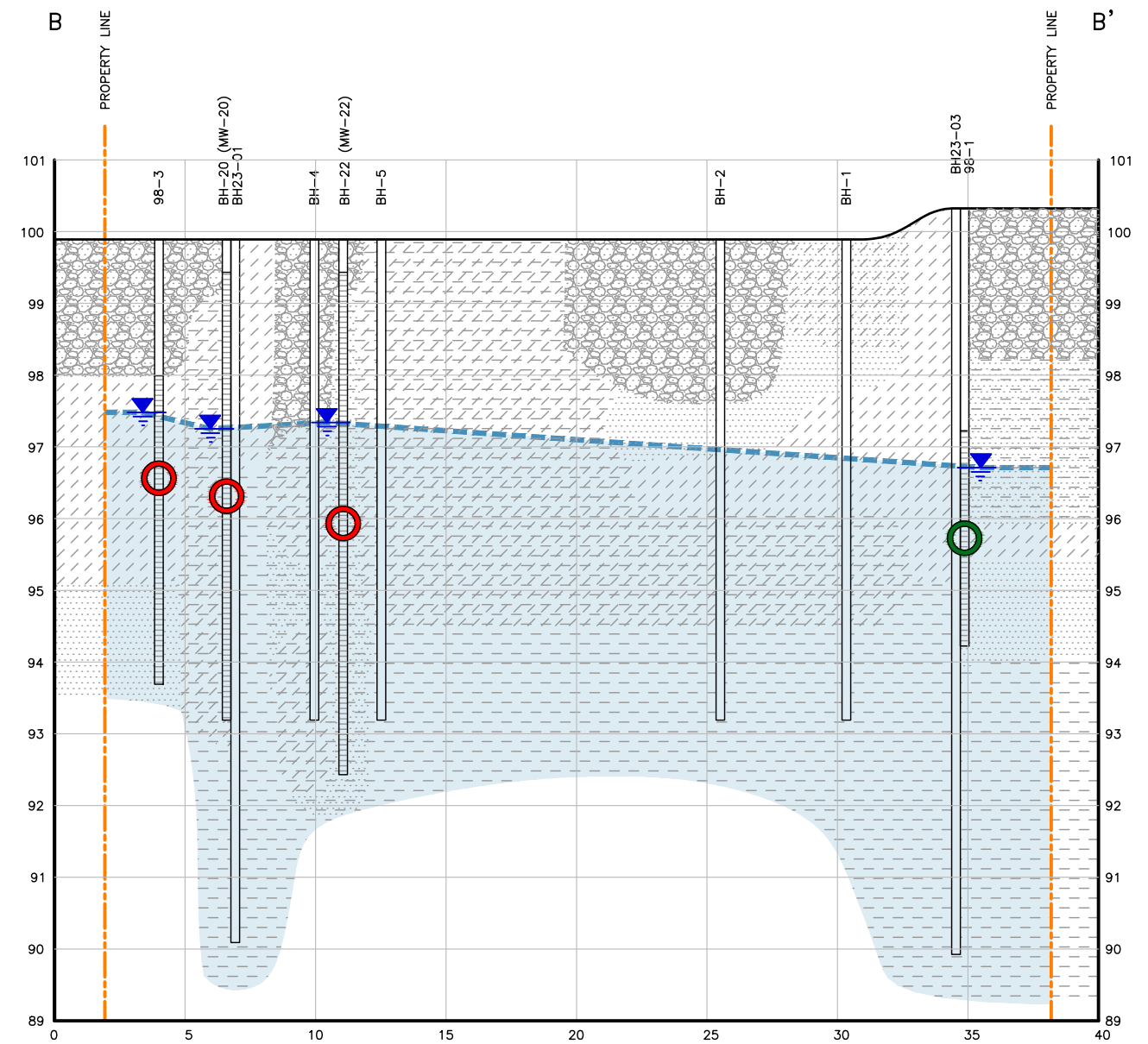
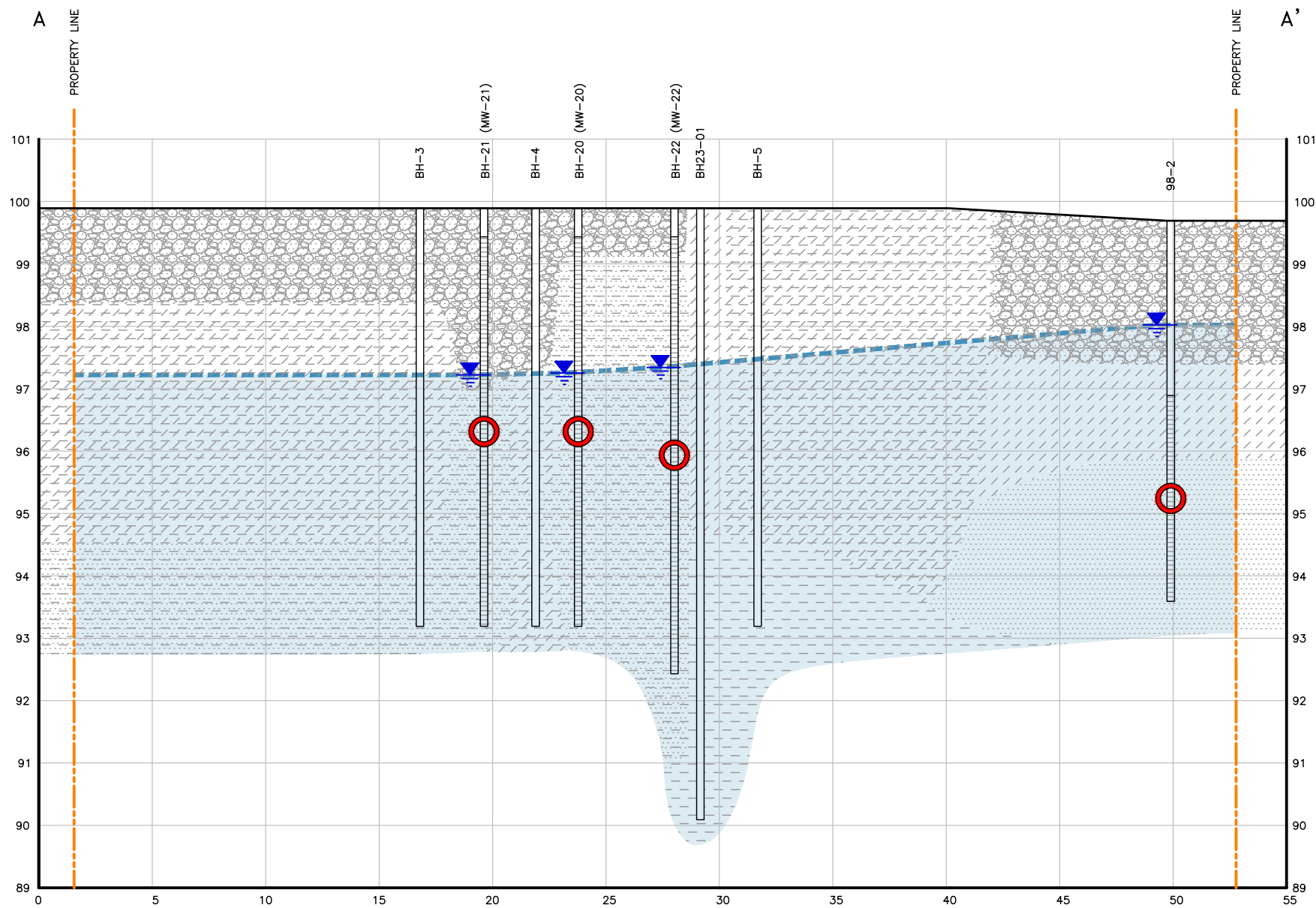
SCALE 1:250

0 5 10m

LEGEND									
	GROUNDWATER ELEVATIONS (JUNE 20, 2023)		SAND AND GRAVEL FILL		SILTY SAND, SANDY SILT		SAND AND CLAY		INFERRED LIMITS OF CONTAMINATION AS DEFINED IN ACCORDANCE WITH O. REG 153/04 SCHEDULE E, PART III, SECTION 7(4)
	BOREHOLE		SAND		CLAY		LOCATION WHERE ALL SOIL SAMPLES ANALYSED MET THE SELECTED STANDARD FOR ALL PARAMETERS ANALYSED		
	MONITORING WELL		SILT		SILT AND CLAY, CLAYEY SILT		LOCATION WHERE AT LEAST ONE SOIL SAMPLE ANALYSED EXCEEDED THE SELECTED STANDARD FOR AT LEAST ONE PARAMETER ANALYSED		

NOTES			
1. SCALE AND SITE INFRASTRUCTURE LOCATIONS ARE APPROXIMATE			
2. INFORMATION ON THIS FIGURE MAY BE LOST IF IT IS PRINTED, PHOTOCOPIED OR FAXED IN OTHER THAN ITS ORIGINAL SIZE AND COLOURS			
4. ***: LOCATION MET APPLICABLE STANDARD AT THE TIME OF SAMPLING (ANALYTICAL RESULTS NOT AVAILABLE FOR THESE LOCATIONS TO COMPARE TO THE CURRENT STANDARDS)			
5. ****: LOCATION EXCEEDED APPLICABLE STANDARD AT THE TIME OF SAMPLING (ANALYTICAL RESULTS NOT AVAILABLE FOR THESE LOCATIONS TO COMPARE TO THE CURRENT STANDARDS)			
6. 'm': METRES			

 AtkinsRéalis				FIGURE 13
Client Name: SHELL CANADA PRODUCTS		Location: 1440 PRINCE OF WALES DRIVE (C03311), OTTAWA, ON		
Title: GENERALIZED GEOLOGICAL CROSS SECTION (A-A' AND B-B') WITH SOIL ANALYTICAL RESULTS FOR BTX AND PHCS				
Drawn: AC	Date: DECEMBER 2023	Project No: 694129		
Verified: AA	Project Manager: AA	Reg. No:		



SCALE 1:250
0 5 10m

LEGEND GROUNDWATER ELEVATIONS (JUNE 20, 2023) BOREHOLE MONITORING WELL		SAND AND GRAVEL FILL SAND SILT SILTY SAND, SANDY SILT CLAY SILT AND CLAY, CLAYEY SILT SAND AND CLAY		INFERRED LIMITS OF CONTAMINATION AS DEFINED IN ACCORDANCE WITH O. REG 153/04 SCHEDULE E, PART III, SECTION 7(4) LOCATION WHERE MOST RECENT GROUNDWATER SAMPLE MET STANDARDS FOR ALL PARAMETERS THAT WERE ANALYSED LOCATION WHERE MOST RECENT GROUNDWATER SAMPLE EXCEEDED STANDARDS FOR AT LEAST ONE PARAMETER THAT WAS ANALYSED	
--	--	---	--	---	--

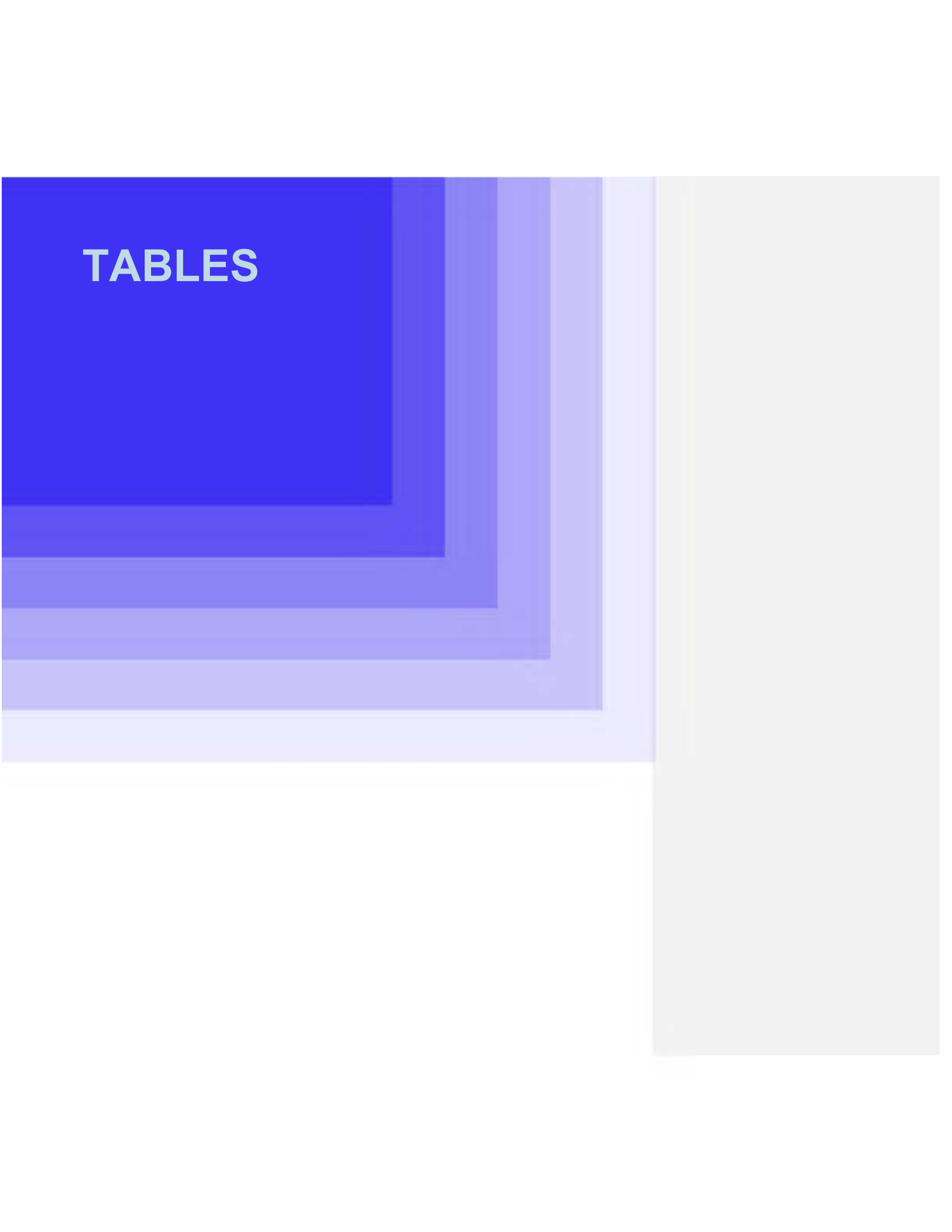
NOTES

- SCALE AND SITE INFRASTRUCTURE LOCATIONS ARE APPROXIMATE
- INFORMATION ON THIS FIGURE MAY BE LOST IF IT IS PRINTED, PHOTOCOPIED OR FAXED IN OTHER THAN ITS ORIGINAL SIZE AND COLOURS
- 'm' : METRES

Client Name: SHELL CANADA PRODUCTS	Location: 1440 PRINCE OF WALES DRIVE (C03311), OTTAWA, ON
Title: GENERALIZED GEOLOGICAL CROSS SECTION (A-A' AND B-B') WITH GROUNDWATER ANALYTICAL RESULTS FOR BTX AND PHCS	
Drawn: AG	Date: DECEMBER 2023
Verified: AA	Project Manager: AA
Project No: 694129	Draw No: AA

FIGURE 14
PAGE FORMAT: 17x22

P:\SHELL\1440 PRINCE OF WALES DR. OTTAWA\984129 VOL EXECUTION\A-A', B-B' 005 (2023) PHASE 1\005P\A-L_984129.DWG



TABLES

**TABLE 1: Groundwater Monitoring
1440 Prince of Wales Drive & Vicinity, Ottawa, Ontario**

Sampling Location	Property Owner	Top of Riser Elevation ¹ (m rld)	Ground Surface Elevation ¹ (m rld)	Sample Date	OVM Reading ²	LNAPL Thicknes Thickness in Well (m)	Depth to Water (m btr)	Depth to Water (m bgs)	Water Level Elevation ¹ (m rld)
98-1	Shell	100.25	100.33	09-Jun-22	<5	nd	3.23	3.30	97.02
				18-Nov-22	<5	nd	3.89	3.97	96.36
				20-Jun-23	<5	nd	3.54	3.61	96.71
98-2	Shell	99.47	99.69	09-Jun-22	>100% LEL	nd	1.01	1.22	98.46
				18-Nov-22	>100% LEL	Sheen	1.21	1.43	98.26
				20-Jun-23	>100% LEL	Sheen	1.45	1.66	98.02
98-3	Shell	99.69	99.89	09-Jun-22	<5	Sheen	1.89	2.09	97.80
				18-Nov-22	440	nd	3.38	3.57	96.31
				20-Jun-23	<5	Sheen	2.22	2.41	97.48
MW-20	Shell	99.68	99.89	09-Jun-22	<5	nd	1.57	1.78	98.11
				18-Nov-22	<5	nd	3.05	3.26	96.63
				20-Jun-23	35	nd	2.44	2.64	97.25
MW-21	Shell	99.67	99.89	09-Jun-22	<5	nd	2.18	2.41	97.49
				18-Nov-22	<5	Sheen	3.21	3.43	96.46
				20-Jun-23	15	Sheen	2.45	2.67	97.22
MW-22	Shell	99.67	99.90	09-Jun-22	>100% LEL	0.005	2.04	2.27	97.63
				18-Nov-22	>100% LEL	Sheen	2.90	3.12	96.78
				20-Jun-23	>100% LEL	Sheen	2.33	2.56	97.34

Notes:

¹ 100.19 Relative to local datum with an assigned elevation of 100.00 m. Reported survey measurement by GHD (Table 1, 2020). Survey date unknown. Ground surface elevations calculated using SNC-Lavalin April 2005 survey (100.19 Relative to local benchmark (arrowhead on top of fire hydrant on the east side of Prince of Wales Dr.) with an assigned elevation of 100.00 m)

² Organic vapour meter readings measured in ppmv or % LEL using RKI Eagle II (or equivalent) operated in methane elimination mode and calibrated to hexane standards.

btr = below top of riser pipe

bgs = below ground surface

rld = relative to local datum

nd = not detected

nm = not monitored

dry = groundwater not detected in PVC pipe

ppmv = parts per million by volume

% LEL = percentage of the lower explosive limit of hexane

** = LNAPL drawn into well while manually purging

TABLE 2: Soil Analytical Results for General Chemistry, Total Metals
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd) Depth Interval (mbgs) Field Screen (ppmv)			Table 3 ² Standard I/C/C FG	BH23-01 WRD345 BH23-01-01 2023/08/10 0.0 - 0.8 <5	BH23-01 WRD346 BH23-01-011 2023/08/10 0.0 - 0.8 <5 Duplicate of BH23-01	BH23-01 WRD347 BH23-01-03 2023/08/10 1.5 - 1.8 <5	BH23-01 WRD348 BH23-01-04 2023/08/10 1.8 - 2.4 <5	BH23-01 WRD349 BH23-01-05 2023/08/10 2.4 - 3.0 175	BH23-01 WRD350 BH23-01-06 2023/08/10 3.0 - 3.7 2,650	BH23-01 WRD351 BH23-01-08 2023/08/10 4.4 - 5.2 5	BH23-01 WRD352 BH23-01-11 2023/08/10 6.7 - 7.5 -	BH23-02 WRD360 BH23-02-01 2023/08/11 0.0 - 0.8 <5	BH23-02 WRD361 BH23-02-02 2023/08/11 0.8 - 1.5 <5
Parameter	RDL	Units											
General Chemistry													
Free Cyanide	0.01	µg/g	0.051	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Electrical Conductivity	0.002	mS/cm	1.4	2.3	2.5	2.6	2.0	2.3	2.0	2.2	0.69	0.84	0.57
pH ²	-	pH	9 (5-9)	9.44	9.51	7.73	7.18	7.64	7.36	7.66	7.59	7.75	7.72
Sodium Adsorption Ratio	-	None	12	31	32	21	7.0	5.6	4.0	7.5	1.1	16	10
Total Metals													
Antimony	0.20	µg/g	50	< 0.20	0.24	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.24	0.22
Arsenic	1.0	µg/g	18	1.5	1.5	1.7	1.5	1.1	< 1.0	1.7	< 1.0	1.8	1.8
Barium	0.50	µg/g	670	200	230	310	300	200	200	95	79	230	210
Beryllium	0.20	µg/g	10	0.75	0.79	0.91	0.87	0.82	0.47	0.33	0.30	0.76	0.68
Boron	5.0	µg/g	120	5.7	6.0	6.4	6.4	5.9	< 5.0	< 5.0	< 5.0	5.4	5.1
Boron (Hot Water Soluble)	0.050	µg/g	2	0.59	0.47	0.21	0.21	0.19	0.19	0.080	0.082	0.19	0.16
Cadmium	0.10	µg/g	1.9	0.12	0.18	0.15	0.13	0.13	< 0.10	< 0.10	< 0.10	0.26	0.25
Chromium (total)	1.0	µg/g	160	99	100	140	140	110	70	25	22	100	88
Chromium (VI)	0.18	µg/g	10	< 0.18	< 0.18	< 0.18	< 0.18	0.25	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18
Cobalt	0.10	µg/g	100	17	17	25	27	20	13	7.3	6.7	19	18
Copper	0.50	µg/g	300	29	37	59	53	49	33	16	17	48	37
Lead	1.0	µg/g	120	17	18	11	8.9	8.0	5.9	3.8	3.5	44	40
Mercury	0.050	µg/g	20	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.055	0.079
Molybdenum	0.50	µg/g	40	0.68	0.55	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.73	1.0	0.58
Nickel	0.50	µg/g	340	46	51	72	73	56	37	15	12	53	47
Selenium	0.50	µg/g	5.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Silver	0.20	µg/g	50	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Thallium	0.050	µg/g	3.3	0.36	0.35	0.44	0.43	0.39	0.24	0.14	0.15	0.30	0.31
Uranium	0.050	µg/g	33	0.95	0.98	0.97	0.90	0.92	0.74	0.49	0.98	0.73	0.79
Vanadium	5.0	µg/g	86	83	87	110	120	100	71	39	43	85	77
Zinc	5.0	µg/g	340	110	110	130	130	110	71	40	31	130	120

Footnotes:

Laboratory analysis by Bureau Veritas Canada (2019) Inc., ,
Additional terms may be defined within the body of SNC-Lavalin's report.

RDL - Reportable Detection Limit, unless otherwise noted

< - Denotes concentration less than indicated detection limit

"-" - Not analyzed

na - Not applicable

mbgs - metres below ground surface

Field Screen - organic vapour meter reading

Conversion factor of 1% LEL = 110 ppmv applied

ppmv - parts per million by volume (relative to hexane)

µg/g - micrograms per gram, dry weight basis

BOLD Concentration greater than Table 3 Standard

¹ Table 3 full depth generic site condition standards in a non-potable groundwater condition for industrial/commercial/community property use, medium and fine textured soils (MOE, 2011)

² Acceptable pH range for applying generic standards (O. Reg. 153/04, as amended): 5 to 9 for surface soil (0-1.5 mbg); 5 to 11 for subsurface soil (>1.5 mbg)

TABLE 2: Soil Analytical Results for General Chemistry, Total Metal
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd) Depth Interval (mbgs) Field Screen (ppmv)			Table 3 ² Standard I/C/C FG	BH23-02 WRD362 BH23-02-04 2023/08/11 1.8 - 2.4 <5	BH23-02 WRD363 BH23-02-07 2023/08/11 3.7 - 4.4 <5	BH23-02 WRD364 BH23-02-09 2023/08/11 5.2 - 5.9 <5	BH23-03 WRD353 BH23-03-01 2023/08/11 0.0 - 0.8 <5	BH23-03 WRD354 BH23-03-03 2023/08/11 1.5 - 1.8 <5	BH23-03 WRD355 BH23-03-05 2023/08/11 2.4 - 3.0 <5	BH23-03 WRD356 BH23-03-06 2023/08/11 3.0 - 3.7 <5	BH23-03 WRD357 BH23-03-07 2023/08/11 3.7 - 4.4 <5	BH23-03 WRD358 BH23-03-10 2023/08/11 5.9 - 6.7 <5	BH23-03 WRD359 BH23-03-100 2023/08/11 5.9 - 6.7 <5 Duplicate of BH23-03
Parameter	RDL	Units											
General Chemistry													
Free Cyanide	0.01	µg/g	0.051	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Electrical Conductivity	0.002	mS/cm	1.4	1.6	0.86	0.61	0.98	1.8	2.2	2.0	2.0	1.2	1.1
pH ²	-	pH	9 (5-9)	7.06	7.04	7.53	7.63	7.22	7.14	7.25	7.28	7.63	7.50
Sodium Adsorption Ratio	-	None	12	3.0	0.97	0.56	17	6.6	3.4	4.2	4.1	2.2	2.0
Total Metals													
Antimony	0.20	µg/g	50	< 0.20	< 0.20	< 0.20	0.56	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Arsenic	1.0	µg/g	18	1.6	< 1.0	1.6	1.5	1.2	1.4	1.4	< 1.0	1.3	1.6
Barium	0.50	µg/g	670	310	150	88	180	310	310	280	250	120	110
Beryllium	0.20	µg/g	10	0.90	0.41	0.34	0.54	0.94	0.86	0.72	0.59	0.36	0.34
Boron	5.0	µg/g	120	6.2	< 5.0	< 5.0	5.7	7.4	8.4	6.3	5.4	< 5.0	< 5.0
Boron (Hot Water Soluble)	0.050	µg/g	2	0.14	< 0.050	< 0.050	0.69	0.81	1.1	0.80	0.85	0.51	0.34
Cadmium	0.10	µg/g	1.9	0.11	< 0.10	< 0.10	0.22	0.11	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium (total)	1.0	µg/g	160	140	58	24	74	140	110	93	85	31	28
Chromium (VI)	0.18	µg/g	10	0.36	< 0.36	< 0.18	< 0.18	0.37	0.30	0.23	< 0.18	< 0.18	< 0.18
Cobalt	0.10	µg/g	100	24	9.5	7.3	14	29	23	21	16	8.1	7.7
Copper	0.50	µg/g	300	53	26	14	26	55	51	43	41	17	16
Lead	1.0	µg/g	120	9.9	4.2	3.7	180	14	8.3	6.8	5.6	3.7	3.9
Mercury	0.050	µg/g	20	< 0.050	< 0.050	< 0.050	0.080	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Molybdenum	0.50	µg/g	40	< 0.50	< 0.50	0.75	0.75	< 0.50	< 0.50	< 0.50	< 0.50	0.84	0.98
Nickel	0.50	µg/g	340	71	28	14	36	76	61	54	45	18	16
Selenium	0.50	µg/g	5.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Silver	0.20	µg/g	50	< 0.20	< 0.20	< 0.20	0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Thallium	0.050	µg/g	3.3	0.41	0.18	0.13	0.24	0.40	0.43	0.35	0.30	0.15	0.15
Uranium	0.050	µg/g	33	0.98	0.65	4.3	0.62	0.98	0.87	0.77	0.83	1.5	3.3
Vanadium	5.0	µg/g	86	110	58	42	63	110	100	94	84	46	42
Zinc	5.0	µg/g	340	120	57	37	140	120	110	100	88	44	40

Footnotes:

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RDL - Reportable Detection Limit, unless otherwise noted
< - Denotes concentration less than indicated detection limit
"- " - Not analyzed
na - Not applicable
mbgs - metres below ground surface
Field Screen - organic vapour meter reading
Conversion factor of 1% LEL = 110 ppmv applied
ppmv - parts per million by volume (relative to hexane)
µg/g - micrograms per gram, dry weight basis

BOLD Concentration greater than Table 3 Standard

¹ Table 3 full depth generic site condition standards in a non-potable groundwater condition for industrial/commercial/community property use, medium and fine textured soils (MOE, 2011)

² Acceptable pH range for applying generic standards (O. Reg. 153/04, as amended): 5 to 9 for surface soil (0-1.5 mbg); 5 to 11 for subsurface soil (>1.5 mbg)

TABLE 3: Soil Analytical Results for BTEX and PHCs
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd) Depth Interval (mbgs) Field Screen (ppmv)			Table 3 ¹ Standard I/C/C FG	BH23-01 WRD345 BH23-01-01 2023/08/10 0.0 - 0.8 <5	BH23-01 WRD346 BH23-01-011 2023/08/10 0.0 - 0.8 <5 Duplicate of BH23-01	BH23-01 WRD347 BH23-01-03 2023/08/10 1.5 - 1.8 <5	BH23-01 WRD348 BH23-01-04 2023/08/10 1.8 - 2.4 <5	BH23-01 WRD349 BH23-01-05 2023/08/10 2.4 - 3.0 175	BH23-01 WRD350 BH23-01-06 2023/08/10 3.0 - 3.7 2,650	BH23-01 WRD351 BH23-01-08 2023/08/10 4.4 - 5.2 5
Parameter	RDL	Units								
Volatiles										
Benzene	0.0060	µg/g	0.4	<u>1.0</u>	<u>0.44</u>	0.11	<u>1.1</u>	<u>4.1</u>	<u>5.8</u>	<u>1.1</u>
Toluene	0.020	µg/g	78	0.18	0.092	< 0.020	0.14	24	43	0.21
Ethylbenzene	0.010	µg/g	19	0.66	0.77	0.14	1.9	13	<u>20</u>	1.6
Xylenes	0.020	µg/g	30	0.14	0.12	< 0.020	7.4	<u>72</u>	<u>110</u>	1.5
m+p-Xylenes	0.020	µg/g	na	0.057	0.043	< 0.020	5.6	53	83	1.1
o-Xylenes	0.020	µg/g	na	0.086	0.081	< 0.020	1.8	19	29	0.45
Petroleum Hydrocarbons (PHC)										
PHC F1 - BTEX	10	µg/g	65	27	31	< 10	27	<u>260</u>	<u>430</u>	< 10
PHC F2	10	µg/g	250	< 10	< 10	< 10	51	110	<u>810</u>	< 10
PHC F3	50	µg/g	2,500	56	< 50	55	< 50	< 50	120	< 50
PHC F4	50	µg/g	6,600	51	< 50	< 50	< 50	< 50	< 50	< 50

Footnotes:

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"-" - Not analyzed
na - Not applicable
mbgs - metres below ground surface
Field Screen - organic vapour meter reading
Conversion factor of 1% LEL = 110 ppmv applied
ppmv - parts per million by volume (relative to hexane)
µg/g - micrograms per gram, dry weight basis

BOLD Concentration greater than Table 3 Standard

¹ Table 3 full depth generic site condition standards in a non-potable groundwater condition for industrial/commercial/community property use, medium and fine textured soils (MOE, 2011)

TABLE 3: Soil Analytical Results for BTEX and PHCs
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd) Depth Interval (mbgs) Field Screen (ppmv)			Table 3 ¹ Standard I/C/C FG	BH23-01 WRD352 BH23-01-11 2023/08/10 6.7 - 7.5 -	BH23-02 WRD360 BH23-02-01 2023/08/11 0.0 - 0.8 <5	BH23-02 WRD361 BH23-02-02 2023/08/11 0.8 - 1.5 <5	BH23-02 WRD362 BH23-02-04 2023/08/11 1.8 - 2.4 <5	BH23-02 WRD363 BH23-02-07 2023/08/11 3.7 - 4.4 <5	BH23-02 WRD364 BH23-02-09 2023/08/11 5.2 - 5.9 <5	BH23-03 WRD353 BH23-03-01 2023/08/11 0.0 - 0.8 <5	BH23-03 WRD354 BH23-03-03 2023/08/11 1.5 - 1.8 <5
Parameter	RDL	Units									
<u>Volatiles</u>											
Benzene	0.0060	µg/g	0.4	1.3	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Toluene	0.020	µg/g	78	0.028	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Ethylbenzene	0.010	µg/g	19	0.037	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Xylenes	0.020	µg/g	30	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
m+p-Xylenes	0.020	µg/g	na	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
o-Xylenes	0.020	µg/g	na	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
<u>Petroleum Hydrocarbons (PHC)</u>											
PHC F1 - BTEX	10	µg/g	65	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
PHC F2	10	µg/g	250	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
PHC F3	50	µg/g	2,500	< 50	< 50	< 50	< 50	< 50	< 50	100	< 50
PHC F4	50	µg/g	6,600	< 50	82	51	< 50	< 50	< 50	< 50	< 50

Footnotes:

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RDL - Reportable Detection Limit, unless otherwise noted
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"- " - Not analyzed
na - Not applicable
mbgs - metres below ground surface
Field Screen - organic vapour meter reading
Conversion factor of 1% LEL = 110 ppmv applied
ppmv - parts per million by volume (relative to hexane)
µg/g - micrograms per gram, dry weight basis

BOLD Concentration greater than Table 3 Standard

¹ Table 3 full depth generic site condition standards in a non-potable groundwater condition for industrial/commercial/community property use, medium and fine textured soils (MOE, 2011)

TABLE 3: Soil Analytical Results for BTEX and PHCs
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd) Depth Interval (mbgs) Field Screen (ppmv)			Table 3 ¹ Standard I/C/C FG	BH23-03 WRD355 BH23-03-05 2023/08/11 2.4 - 3.0 <5	BH23-03 WRD356 BH23-03-06 2023/08/11 3.0 - 3.7 <5	BH23-03 WRD357 BH23-03-07 2023/08/11 3.7 - 4.4 <5	BH23-03 WRD358 BH23-03-10 2023/08/11 5.9 - 6.7 <5	BH23-03 WRD359 BH23-03-100 2023/08/11 5.9 - 6.7 <5 Duplicate of BH23-03
Parameter	RDL	Units						
<u>Volatiles</u>								
Benzene	0.0060	µg/g	0.4	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Toluene	0.020	µg/g	78	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Ethylbenzene	0.010	µg/g	19	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Xylenes	0.020	µg/g	30	< 0.020	< 0.020	< 0.020	0.025	< 0.020
m+p-Xylenes	0.020	µg/g	na	< 0.020	< 0.020	< 0.020	0.025	< 0.020
o-Xylenes	0.020	µg/g	na	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
<u>Petroleum Hydrocarbons (PHC)</u>								
PHC F1 - BTEX	10	µg/g	65	< 10	< 10	< 10	< 10	< 10
PHC F2	10	µg/g	250	< 10	< 10	< 10	< 10	< 10
PHC F3	50	µg/g	2,500	< 50	< 50	< 50	< 50	< 50
PHC F4	50	µg/g	6,600	< 50	< 50	< 50	< 50	< 50

Footnotes:

Laboratory analysis by Bureau Veritas Canada (2019) Inc.
Additional terms may be defined within the body of SNC-Lavalin's report.
RDL - Reportable Detection Limit, unless otherwise noted
< - Denotes concentration less than indicated detection limit
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Conversion factor of 1% LEL = 110 ppmv applied
ppmv - parts per million by volume (relative to hexane)
µg/g - micrograms per gram, dry weight basis

BOLD Concentration greater than Table 3 Standard

¹ Table 3 full depth generic site condition standards in a non-potable groundwater condition for industrial/commercial/community property use, medium and fine textured soils (MOE, 2011)

Table 3a: Soil Analytical Results - Petroleum Parameters
(Extracted from Aqua Terre Soils Investigation report dated Aug. 28, 2000)

Table 1

Soil Analytical Results - Petroleum Compounds

1440 Prince of Wales Drive, Ottawa, Ontario

Project No. 00-642

Page 1 of 1

Date Parameter	Sample ID		Sample Identification						MOE Soil Remediation Criteria+ Table B	
	LOQ	Units	BH-1-5	BH-2-4	BH-3-6	BH-4-6	BH-5-6			BH-6-5
			31/07/00	31/07/00	31/07/00	31/07/00	31/07/00	Duplicate 31/07/00		31/07/00
Sample Depth	na	m bgs	3.8 - 4.4	3.0 - 3.6	4.5 - 5.1	4.5 - 5.1	4.5 - 5.1	4.5 - 5.1	3.8 - 4.4	na
OVUM Reading	na	ppmv	40	8% LEL	50	100% LEL	100% LEL	100% LEL	300	na
Benzene	0.02	µg/g	nd	nd	nd	10.3	29	10.8	nd	25
Toluene	0.02	µg/g	nd	TR	nd	47.2	125	77.6	0.09	150
Ethylbenzene	0.02	µg/g	nd	TR	nd	10.5	30.1	24.2	0.38	1000
m,p-Xylenes	0.04	µg/g	nd	TR	nd	39.7	116	102	0.07	nv
o-Xylene	0.02	µg/g	nd	TR	nd	15	53.8	52.8	0.16	nv
Total Xylenes	na	µg/g	nd	TR	nd	54.7	169.8	154.8	0.23	210
Total Purgeable Hydrocarbons	10	µg/g	nd	nd	nd	698	2040	1520	25	nv
Total Extractable Hydrocarbons	10.0	µg/g	nd	nd	nd	86.2	328	191	nd	nv
TPH - Gas/Diesel	na	µg/g	nd	nd	nd	784.2	2368	1711	25	2000
TPH - Heavy Oils	100	µg/g	nd	nd	nd	nd	nd	nd	nd	5000
Resemblance	na	na	na	na	na	EGD?	EGD?	EGD?	na	na

Limit of Quantitation=lowest level of the parameter that can be quantified with confidence

LOQ

m bgs
metres below ground surface

nd
parameter not detected

TR
trace level below LOQ

na
not applicable

nv
no guideline criteria for this parameter

Total Xylenes
sum of o-xylene and m,p-xylene

TPH Gas-Diesel
sum of purgeable and extractable hydrocarbons

+ MOE Surface

Soil Remediation Criteria
Table B: Remediation Criteria for medium/fine textured soils, industrial/commercial land use in a non-potable groundwater situation.
Guideline for Use at Contaminated Sites in Ontario, Ontario Ministry of Environment and Energy (February, 1997)

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Exceeds MOE Table B soil remediation criteria

All analyses by Philip Analytical Services Corporation, Mississauga, Ontario

Table 3b: Soil Analytical Results - Petroleum Parameters
(Extracted from 2001 Remedial Activities report dated March 26, 2002)

Table 1 Soil Analytical Results - Petroleum Compounds 1440 Prince of Wales Drive, Ottawa, Ontario Project No. 00-642									
Date Parameter	Sample ID	EQL	Units	Sample Identification				MOE Soil Remediation Criteria+ Table B	
				BH-20-5	BH-20-7	BH-21-6	BH-22-5		
				12/07/01	12/07/01	12/07/01	12/07/01		
Sample Depth	na	na	m bgs	3.8/-4.42	5.33-5.94	4.57-5.18	3.8/-4.42	na	
OV/M Reading	na	na	ppmv	60% LEL	5% LEL	80% LEL	>100% LEL	na	
Benzene	0.02	0.02	µg/g	2.53	nd	5.36	4.27	25	
Toluene	0.02	0.02	µg/g	10.1	0.80	22.4	12.3	150	
Ethylbenzene	0.02	0.02	µg/g	5.05	0.84	9.08	3.47	1000	
m,p-Xylenes	0.04	0.04	µg/g	17.4	2.15	28.4	11.6	nv	
o-Xylene	0.02	0.02	µg/g	6.96	0.96	11.1	5.35	nv	
Total Xylenes	na	na	µg/g	24.36	3.11	39.5	16.95	210	
Total Purgeable Hydrocarbons	10	10	µg/g	187	59	308	121	nv	
Total Extractable Hydrocarbons	10.0	10.0	µg/g	528	100	148	116	nv	
TPH - Gas/Diesel	na	na	µg/g	715	159	456	237	2000	
TPH - Heavy Oils	100	100	µg/g	-	-	-	-	5000	

Estimated Quantitation Limit = lowest level of the parameter that can be quantified with confidence

EQL

m bgs

metres below ground surface

nd

parameter not detected

TR

trace level below EQL

na

not applicable

nv

no guideline criteria for this parameter

-

not analysed

Total Xylenes

sum of o-xylene and m,p-xylene

TPH Gas-Diesel

sum of purgeable and extractable hydrocarbons

+ MOE Surface

Soil Remediation Criteria

Table B: Remediation Criteria for medium/fine textured soils, industrial/commercial land use in a non-potable groundwater condition. Guideline for Use at Contaminated Sites in Ontario, Ontario Ministry of Environment and Energy (September, 1998)

TABLE 4: Soil Analytical Results for VOCs.
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd) Depth Interval (mbgs) Field Screen (ppmv)			Table 3 ¹ Standard I/C/C FG	BH23-01 WRD345 BH23-01-01 2023/08/10 0.0 - 0.8 <5	BH23-01 WRD346 BH23-01-011 2023/08/10 0.0 - 0.8 <5 Duplicate of BH23-01	BH23-01 WRD347 BH23-01-03 2023/08/10 1.5 - 1.8 <5	BH23-01 WRD348 BH23-01-04 2023/08/10 1.8 - 2.4 <5	BH23-01 WRD349 BH23-01-05 2023/08/10 2.4 - 3.0 175	BH23-01 WRD350 BH23-01-06 2023/08/10 3.0 - 3.7 2,650	BH23-01 WRD351 BH23-01-08 2023/08/10 4.4 - 5.2 5	BH23-01 WRD352 BH23-01-11 2023/08/10 6.7 - 7.5 -	BH23-02 WRD360 BH23-02-01 2023/08/11 0.0 - 0.8 <5	BH23-02 WRD361 BH23-02-02 2023/08/11 0.8 - 1.5 <5	BH23-02 WRD362 BH23-02-04 2023/08/11 1.8 - 2.4 <5	BH23-02 WRD363 BH23-02-07 2023/08/11 3.7 - 4.4 <5	BH23-02 WRD364 BH23-02-09 2023/08/11 5.2 - 5.9 <5	BH23-03 WRD353 BH23-03-01 2023/08/11 0.0 - 0.8 <5	BH23-03 WRD354 BH23-03-03 2023/08/11 1.5 - 1.8 <5	BH23-03 WRD355 BH23-03-05 2023/08/11 2.4 - 3.0 <5	BH23-03 WRD356 BH23-03-06 2023/08/11 3.0 - 3.7 <5
Parameter	RDL	Units																		
Volatile Organic Compounds																				
Acetone	0.49	µg/g	28	< 1.4	< 1.5	< 0.49	< 0.49	< 6.3	< 8.8	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49
Bromodichloromethane	0.040	µg/g	18	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Bromoform	0.040	µg/g	1.7	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Bromomethane	0.040	µg/g	0.05	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Carbon Tetrachloride	0.040	µg/g	1.5	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Chlorobenzene	0.040	µg/g	2.7	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Chloroform	0.040	µg/g	0.18	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dichloropropene, trans-1,3-	0.040	µg/g	na	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dibromochloromethane (Chlorodibromomethane)	0.040	µg/g	13	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dichloropropene, cis-1,3-	0.030	µg/g	na	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
Dichlorobenzene, 1,2- (o-DCB)	0.040	µg/g	8.5	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dichlorobenzene, 1,3- (m-DCB)	0.040	µg/g	12	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dichlorobenzene, 1,4- (p-DCB)	0.040	µg/g	0.84	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dichlorodifluoromethane	0.040	µg/g	25	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dichloroethane, 1,1-	0.040	µg/g	21	< 0.040	< 0.040	< 0.040	< 0.040	< 0.050	< 0.070	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dichloroethane, 1,2-	0.049	µg/g	0.05	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049
Dichloroethylene, 1,1-	0.040	µg/g	0.48	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dichloroethylene, cis-1,2-	0.040	µg/g	37	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dichloroethylene, trans-1,2-	0.040	µg/g	9.3	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dichloropropane, 1,2-	0.040	µg/g	0.68	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dichloropropene, 1,3-	0.050	µg/g	0.21	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Ethylene Dibromide (Dibromoethane, 1,2-)	0.040	µg/g	0.05	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Hexane(n)	0.040	µg/g	88	0.28	0.13	< 0.040	0.33	9.4	19	0.45	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Methyl Ethyl Ketone	0.40	µg/g	88	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Methyl Isobutyl Ketone	0.40	µg/g	210	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Methyl tert butyl ether (MTBE)	0.040	µg/g	3.2	< 0.040	< 0.040	< 0.040	< 0.040	< 0.060	0.055	< 0.040	0.12	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Methylene Chloride (Dichloromethane)	0.049	µg/g	2	< 0.20	< 0.30 ¹	< 0.049	< 0.050	< 0.060	< 0.070	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049
Styrene	0.040	µg/g	43	< 0.040	< 0.040	< 0.040	< 0.080	< 0.80	< 1.2	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Tetrachloroethane, 1,1,1,2-	0.040	µg/g	0.11	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Tetrachloroethane, 1,1,2,2-	0.040	µg/g	0.094	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Trichloroethane, 1,1,1-	0.040	µg/g	12	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Trichloroethane, 1,1,2-	0.040	µg/g	0.11	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Trichloroethylene	0.010	µg/g	0.61	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Tetrachloroethylene	0.040	µg/g	21	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Trichlorofluoromethane	0.040	µg/g	5.8	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Vinyl Chloride	0.019	µg/g	0.25	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019

Footnotes:
Laboratory analysis by Bureau Veritas Canada (2019) Inc.
Additional terms may be defined within the body of SNC-Lavalin's report.
RDL - Reportable Detection Limit, unless otherwise noted
< - Denotes concentration less than indicated detection limit
"- " - Not analyzed
na - Not applicable
mbgs - metres below ground surface
Field Screen - organic vapour meter reading
Conversion factor of 1% LEL = 110 ppmv applied
ppmv - parts per million by volume (relative to hexane)
µg/g - micrograms per gram, dry weight basis

BOLD Concentration greater than Table 3 Standard

¹ Table 3 full depth generic site condition standards in a non-potable groundwater condition for industrial/commercial/community property use, medium and fine textured soils (MOE, 2011)

TABLE 4: Soil Analytical Results for VOCs.
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd) Depth Interval (mbgs) Field Screen (ppmv)			Table 3 ¹ Standard I/C/C FG	BH23-03 WRD357 BH23-03-07 2023/08/11 3.7 - 4.4 <5	BH23-03 WRD358 BH23-03-10 2023/08/11 5.9 - 6.7 <5	BH23-03 WRD359 BH23-03-100 2023/08/11 5.9 - 6.7 <5 Duplicate of BH23-03
Parameter	RDL	Units				
<u>Volatile Organic Compounds</u>						
Acetone	0.49	µg/g	28	< 0.49	< 0.49	< 0.49
Bromodichloromethane	0.040	µg/g	18	< 0.040	< 0.040	< 0.040
Bromoform	0.040	µg/g	1.7	< 0.040	< 0.040	< 0.040
Bromomethane	0.040	µg/g	0.05	< 0.040	< 0.040	< 0.040
Carbon Tetrachloride	0.040	µg/g	1.5	< 0.040	< 0.040	< 0.040
Chlorobenzene	0.040	µg/g	2.7	< 0.040	< 0.040	< 0.040
Chloroform	0.040	µg/g	0.18	< 0.040	< 0.040	< 0.040
Dichloropropene, trans-1,3-	0.040	µg/g	na	< 0.040	< 0.040	< 0.040
Dibromochloromethane (Chlorodibromomethane)	0.040	µg/g	13	< 0.040	< 0.040	< 0.040
Dichloropropene, cis-1,3-	0.030	µg/g	na	< 0.030	< 0.030	< 0.030
Dichlorobenzene, 1,2- (o-DCB)	0.040	µg/g	8.5	< 0.040	< 0.040	< 0.040
Dichlorobenzene, 1,3- (m-DCB)	0.040	µg/g	12	< 0.040	< 0.040	< 0.040
Dichlorobenzene, 1,4- (p-DCB)	0.040	µg/g	0.84	< 0.040	< 0.040	< 0.040
Dichlorodifluoromethane	0.040	µg/g	25	< 0.040	< 0.040	< 0.040
Dichloroethane, 1,1-	0.040	µg/g	21	< 0.040	< 0.040	< 0.040
Dichloroethane, 1,2-	0.049	µg/g	0.05	< 0.049	< 0.049	< 0.049
Dichloroethylene, 1,1-	0.040	µg/g	0.48	< 0.040	< 0.040	< 0.040
Dichloroethylene, cis-1,2-	0.040	µg/g	37	< 0.040	< 0.040	< 0.040
Dichloroethylene, trans-1,2-	0.040	µg/g	9.3	< 0.040	< 0.040	< 0.040
Dichloropropane, 1,2-	0.040	µg/g	0.68	< 0.040	< 0.040	< 0.040
Dichloropropene, 1,3-	0.050	µg/g	0.21	< 0.050	< 0.050	< 0.050
Ethylene Dibromide (Dibromoethane, 1,2-)	0.040	µg/g	0.05	< 0.040	< 0.040	< 0.040
Hexane(n)	0.040	µg/g	88	< 0.040	< 0.040	< 0.040
Methyl Ethyl Ketone	0.40	µg/g	88	< 0.40	< 0.40	< 0.40
Methyl Isobutyl Ketone	0.40	µg/g	210	< 0.40	< 0.40	< 0.40
Methyl tert butyl ether (MTBE)	0.040	µg/g	3.2	< 0.040	< 0.040	< 0.040
Methylene Chloride (Dichloromethane)	0.049	µg/g	2	< 0.049	< 0.049	< 0.049
Styrene	0.040	µg/g	43	< 0.040	< 0.040	< 0.040
Tetrachloroethane, 1,1,1,2-	0.040	µg/g	0.11	< 0.040	< 0.040	< 0.040
Tetrachloroethane, 1,1,2,2-	0.040	µg/g	0.094	< 0.040	< 0.040	< 0.040
Trichloroethane, 1,1,1-	0.040	µg/g	12	< 0.040	< 0.040	< 0.040
Trichloroethane, 1,1,2-	0.040	µg/g	0.11	< 0.040	< 0.040	< 0.040
Trichloroethylene	0.010	µg/g	0.61	< 0.010	< 0.010	< 0.010
Tetrachloroethylene	0.040	µg/g	21	< 0.040	< 0.040	< 0.040
Trichlorofluoromethane	0.040	µg/g	5.8	< 0.040	< 0.040	< 0.040
Vinyl Chloride	0.019	µg/g	0.25	< 0.019	< 0.019	< 0.019

Footnotes:
Laboratory analysis by Bureau Veritas Canada (2019) Inc.
Additional terms may be defined within the body of SNC-Lavalin's report.
RDL - Reportable Detection Limit, unless otherwise noted
< - Denotes concentration less than indicated detection limit
"- " - Not analyzed
na - Not applicable
mbgs - metres below ground surface
Field Screen - organic vapour meter reading
Conversion factor of 1% LEL = 110 ppmv applied
ppmv - parts per million by volume (relative to hexane)
µg/g - micrograms per gram, dry weight basis

BOLD Concentration greater than Table 3 Standard

¹ Table 3 full depth generic site condition standards in a non-potable groundwater condition for industrial/commercial/community property use, medium and fine textured soils (MOE, 2011)

**TABLE 5: Groundwater Analytical Results for General Chemistry, Metals, VOCs, PAHs.
1440 Prince of Wales Dr., Ottawa, ON**

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd)			Leachate Quality Criteria ¹	BH23-01 WRD316 BH23-01-TCLP 2023/08/11
Parameter	RDL	Units		
<u>Leachable General Chemistry</u>				
Cyanide	0.010	mg/L	20	< 0.010
Fluoride	0.10	mg/L	150	0.34
Nitrite	0.10	mg/L	na	< 0.10
Nitrate+Nitrite as N	1.0	mg/L	1,000	< 1.0
Final pH	-	pH	na	5.58
Initial pH	-	pH	na	8.96
Nitrate	1.0	mg/L	na	< 1.0
<u>Leachable Metals</u>				
Arsenic	200	µg/L	2,500	< 200
Barium	200	µg/L	100,000	400
Boron	100	µg/L	500,000	200
Cadmium	50	µg/L	500	< 50
Chromium (total)	100	µg/L	5,000	< 100
Lead	100	µg/L	5,000	< 100
Mercury	1	µg/L	100	< 1
Selenium	100	µg/L	1,000	< 100
Silver	10	µg/L	5,000	< 10
Uranium	10	µg/L	10,000	< 10
<u>Leachable Volatiles</u>				
Benzene	0.020	mg/L	0.5	< 0.020
Carbon Tetrachloride	0.020	mg/L	0.5	< 0.020
Chlorobenzene	0.020	mg/L	8	< 0.020
Chloroform	0.020	mg/L	10	< 0.020
Dichlorobenzene, 1,2- (o-DCB)	0.050	mg/L	20	< 0.050
Dichlorobenzene, 1,4- (p-DCB)	0.050	mg/L	0.5	< 0.050
Dichloroethane, 1,2-	0.050	mg/L	0.5	< 0.050
Dichloroethylene, 1,1-	0.020	mg/L	1.4	< 0.020
Methyl Ethyl Ketone	1.0	mg/L	200	< 1.0
Methylene Chloride (Dichloromethane)	0.20	mg/L	5	< 0.20
Tetrachloroethylene	0.020	mg/L	3	< 0.020
Trichloroethylene	0.020	mg/L	5	< 0.020
Vinyl Chloride	0.020	mg/L	0.2	< 0.020
<u>Leachable PAHs</u>				
Benzo(a)pyrene	0.10	µg/L	1	< 0.10
Perylene	0.20	µg/L	na	< 0.20

Footnotes:

Laboratory analysis by Bureau Veritas Canada (2019) Inc., ,
Additional terms may be defined within the body of SNC-Lavalin's report.

RDL - Reportable Detection Limit, unless otherwise noted

< - Denotes concentration less than indicated detection limit

"-" - Not analyzed

na - Not applicable

mbgs - metres below ground surface

Field Screen - organic vapour meter reading

Conversion factor of 1% LEL = 110 ppmv applied

ppmv - parts per million by volume (relative to hexane)

µg/L - micrograms per litre

mg/L - milligrams per litre

BOLD Concentration greater than Leachate Quality Criteria

¹ Ontario Regulation 347 as amended. "Waste Management". Schedule 4 Leachate Quality Criteria.

Table 5a: Soil Waste Characterization
(Extracted from Aqua Terre, 2000 Soils Investigation
report dated August 28, 2000)

TABLE 2 REG. 347 LEACHATE ANALYTICAL RESULTS 1440 Prince of Wales Drive, Ottawa, Ontario Project No. 00-642				
	Sample ID		BH-6-5	Hazardous Waste Criteria ¹
	MDL	Units		
<i>Depth</i>	na	m bgs	3.8 - 4.4	na
<i>OVM Concentration</i>	na	ppmv	300	na
<i>Leachate Parameters</i>				
Nitrate (as N)	0.2	mg/L	nd	100
Nitrite (as N)	0.2	mg/L	nd	1000
Cyanide free	0.001	mg/L	nd	20
Fluoride	0.1	mg/L	0.1	240
Mercury	0.0005	mg/L	nd	0.1
Arsenic	0.005	mg/L	nd	5
Barium	0.005	mg/L	0.050	100
Boron	0.01	mg/L	0.02	500
Cadmium	0.001	mg/L	nd	0.5
Chromium	0.010	mg/L	nd	5
Lead	0.005	mg/L	nd	5
Selenium	0.005	mg/L	nd	1
Silver	0.005	mg/L	nd	5
Uranium	0.001	mg/L	nd	2
PCB	0.05	ug/g	nd	300
<i>Soil Parameters</i>				
Ignitability	1.0	°C	non-flammable solid	61

MDL

Method Detection Limit

lowest level of the parameter that can be quantified with confidence

m bgs

metres below ground surface

<

less than MDL

nd

parameter not detected

na

not applicable

nc

no criteria

¹

Ontario EPA, 1993-95 "Ontario Regulation 347 - Waste Management - Definitions"

Schedule 4: Leachate Quality Criteria

Exceeds criterion

All analyses by Philip Analytical Services Corporation, Mississauga, Ontario

Table 5b: Soil Waste Characterization
(Extracted from Aqua Terre, 2001 Remedial Activities
report dated March 26, 2002)

TABLE 2 SOIL DISPOSAL ANALYTICAL RESULTS 1440 Prince of Wales Drive, Ottawa, Ontario Project No. 00-642				
Date	Sample ID		BH-21-5 12/07/01	Non-Hazardous Waste Criteria ¹
	MDL	Units		
<i>Depth</i>	na	m bgs	3.81-4.42	na
<i>Location</i>	na	na		na
<i>OVM Concentration</i>	na	na	15% LEL	na
<i>Leachate Parameters</i>				
Nitrate and Nitrite (as N)	0.2	mg/L	nd	1000
Cyanide free	0.01	mg/L	nd	20
Fluoride	0.1	mg/L	0.1	150
Mercury	0.01	mg/L	nd	0.1
Arsenic	0.200	mg/L	nd	2.5
Barium	0.200	mg/L	nd	100
Boron	0.100	mg/L	nd	500
Cadmium	0.050	mg/L	nd	0.5
Chromium	0.100	mg/L	nd	5
Lead	0.100	mg/L	nd	5
Selenium	0.100	mg/L	nd	1
Silver	0.010	mg/L	nd	5
Uranium	0.01	mg/L	nd	10
Total PCB	0.05	ug/L	nd	0.3
Benzene	0.01	mg/L	nd	0.5
<i>Soil Parameters</i>				
Ignitability	1	°C	nfs	non-ignitable

MDL

Method Detection Limit

lowest level of the parameter that can be quantified with confidence

m bgs

metres below ground surface

nd

less than MDL

na

not applicable

nc

no criteria

nfs

Nonflammable solid

¹

Schedule 4: Leachate Quality Criteria and Ignitability Criterion from
Ontario Regulation 347 (amended March 21, 2001)

Exceeds criterion

TABLE 6: Groundwater Analytical Results for Petroleum Hydrocarbon Parameters
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd)			Table 3 NPG FG ¹ Standard	98-1 WEK284 98-1-230621 2023/06/21	98-1 XSK595 Jan-98 2023/11/27	98-1 XSK596 Nov-98 2023/11/27 Duplicate of 98-1	98-2 WEK340 98-2-230621 2023/06/21	98-2 XSK605 98-2-231127 2023/11/27	98-3 WEK339 98-3-230621 2023/06/21
Parameter	RDL	Units							
Volatiles									
Benzene	0.20	µg/L	430	< 0.20	<0.20	<0.20	1,500	1,800	740
Toluene	0.20	µg/L	18,000	< 0.20	<0.20	<0.20	330	450	7.6
Ethylbenzene	0.20	µg/L	2,300	< 0.20	<0.20	<0.20	1,000	1,200	450
Xylenes	0.40	µg/L	4,200	< 0.40	<0.20	<0.20	4,000	4,700	110
Petroleum Hydrocarbon (PHC) Fractions									
PHC F1	25	µg/L	750	< 25	-	-	5,000	-	1,500
PHC F2	100	µg/L	150	< 100	-	-	3,200	-	720
PHC F3	200	µg/L	500	< 200	-	-	< 200	-	250
PHC F4	200	µg/L	500	< 200	-	-	< 200	-	< 200

Laboratory analysis by Bureau Veritas Canada (2019) Inc., ,
Additional terms may be defined within the body of SNC-Lavalin's report.
RDL - Reportable Detection Limit, unless otherwise noted
< - Denotes concentration less than indicated detection limit
"- " - Not analyzed
na - Not applicable
µg/L - micrograms per litre

BOLD Concentration greater than Table 3 NPG FG Standard

¹ Table 3 full depth generic site condition standards in a non-potable groundwater condition for all types of property use, medium and fine textured soils (MOE, 2011)

TABLE 6: Groundwater Analytical Results for Petroleum Hydrocarbon Parameters
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd)			Table 3 NPG FG ¹ Standard	MW-20 WEK336 MW-20-230621 2023/06/21	MW-20 XSK594 MW-20 2023/11/27	MW-21 WEK337 MW-21-230621 2023/06/21	MW-22 WEK338 MW-22-230621 2023/06/21
Parameter	RDL	Units					
<u>Volatiles</u>							
Benzene	0.20	µg/L	430	2.0	540	490	5,100
Toluene	0.20	µg/L	18,000	< 0.20	8.6	27	1,600
Ethylbenzene	0.20	µg/L	2,300	< 0.20	410	360	1,500
Xylenes	0.40	µg/L	4,200	< 0.40	78	350	7,700
<u>Petroleum Hydrocarbon (PHC) Fractions</u>							
PHC F1	25	µg/L	750	30	- ¹	630	6,700
PHC F2	100	µg/L	150	< 100	-	520	3,800
PHC F3	200	µg/L	500	< 200	-	300	220
PHC F4	200	µg/L	500	< 200	-	< 200	< 200

Laboratory analysis by Bureau Veritas Canada (2019) Inc., ,
Additional terms may be defined within the body of SNC-Lavalin's report.
RDL - Reportable Detection Limit, unless otherwise noted
< - Denotes concentration less than indicated detection limit
"- " - Not analyzed
na - Not applicable
µg/L - micrograms per litre

BOLD Concentration greater than Table 3 NPG FG Standard

¹ Table 3 full depth generic site condition standards in a non-potable groundwater condition for all types of property use, medium and fine textured soils (MOE, 2011)

TABLE 7: Groundwater Analytical Results for VOCS
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd)			Table 3 NPG FG ¹ Standard	98-1 XSK595 Jan-98 2023/11/27	98-1 XSK596 Nov-98 2023/11/27 Duplicate of 98-1	98-2 XSK605 98-2-231127 2023/11/27	MW-20 XSK594 MW-20 2023/11/27
Parameter	RDL	Units					
Volatile Organic Compounds							
Acetone	10	µg/L	130,000	< 10	< 10	< 71	< 10
Bromodichloromethane	0.50	µg/L	85,000	< 0.50	< 0.50	< 0.50	< 0.50
Bromoform	1.0	µg/L	770	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	0.50	µg/L	56	< 0.50	< 0.50	< 0.50	< 0.50
Carbon Tetrachloride	0.19	µg/L	8.4	< 0.19	< 0.19	< 0.19	< 0.19
Chlorobenzene	0.20	µg/L	630	< 0.20	< 0.20	< 0.20	< 0.20
Chloroform	0.20	µg/L	22	< 0.20	< 0.20	< 0.20	< 0.20
Dibromochloromethane	0.50	µg/L	82,000	< 0.50	< 0.50	< 0.50	< 0.50
Dichlorobenzene, 1,2- (o-DCB)	0.40	µg/L	9,600	< 0.40	< 0.40	< 0.40	< 0.40
Dichlorobenzene, 1,3- (m-DCB)	0.40	µg/L	9,600	< 0.40	< 0.40	< 0.40	< 0.40
Dichlorobenzene, 1,4- (p-DCB)	0.40	µg/L	67	< 0.40	< 0.40	< 0.40	< 0.40
Dichlorodifluoromethane	1.0	µg/L	4,400	< 1.0	< 1.0	< 1.0	< 1.0
Dichloroethane, 1,1-	0.20	µg/L	3,100	< 0.20	< 0.20	< 2.3	< 0.50
Dichloroethane, 1,2-	0.49	µg/L	12	< 0.49	< 0.49	< 0.49	< 0.49
Dichloroethylene, 1,1-	0.20	µg/L	17	< 0.20	< 0.20	< 0.20	< 0.20
Dichloroethylene, cis-1,2-	0.50	µg/L	17	< 0.50	< 0.50	< 0.50	< 0.50
Dichloroethylene, trans-1,2-	0.50	µg/L	17	< 0.50	< 0.50	< 0.50	< 0.50
Dichloropropane, 1,2-	0.20	µg/L	140	< 0.20	< 0.20	< 0.50	< 0.20
Dichloropropane, 1,3-	0.50	µg/L	45	< 0.50	< 0.50	< 0.50	< 0.50
Dichloropropene, cis-1,3-	0.30	µg/L	na	< 0.30	< 0.30	< 0.30	< 0.30
Dichloropropene, trans-1,3-	0.40	µg/L	na	< 0.40	< 0.40	< 0.40	< 0.40
Ethylene Dibromide (Dibromoethane, 1,2-)	0.19	µg/L	0.83	< 0.19	< 0.19	< 0.19	< 0.19
Hexane (n)	1.0	µg/L	520	< 1.0	< 1.0	120	8.2
Methyl Ethyl Ketone	10	µg/L	1,500,000	< 10	< 10	< 10	< 10
Methyl Isobutyl Ketone	5.0	µg/L	580,000	< 5.0	< 5.0	13	< 5.0
Methyl t-butyl ether (MTBE)	0.50	µg/L	1,400	< 0.50	< 0.50	65	8.5
Methylene Chloride (Dichloromethane)	2.0	µg/L	5,500	< 2.0	< 2.0	< 2.0	< 2.0
Styrene	0.40	µg/L	9,100	< 0.40	< 0.40	< 33	< 0.40
Tetrachloroethane, 1,1,1,2-	0.50	µg/L	28	< 0.50	< 0.50	< 0.50	< 0.50
Tetrachloroethane, 1,1,2,2-	0.40	µg/L	15	< 0.40	< 0.40	< 0.40	< 0.40
Tetrachloroethylene	0.20	µg/L	17	< 0.20	< 0.20	< 0.20	< 0.20
Trichloroethane, 1,1,1-	0.20	µg/L	6,700	< 0.20	< 0.20	< 0.20	< 0.20
Trichloroethane, 1,1,2-	0.40	µg/L	30	< 0.40	< 0.40	< 0.40	< 0.40
Trichloroethylene	0.20	µg/L	17	< 0.20	< 0.20	< 0.20	< 0.20
Trichlorofluoromethane	0.50	µg/L	2,500	< 0.50	< 0.50	< 0.50	< 0.50
Vinyl Chloride	0.20	µg/L	1.7	< 0.20	< 0.20	< 0.20	< 0.20

Footnotes:

Laboratory analysis by Bureau Veritas Canada (2019) Inc.
Additional terms may be defined within the body of SNC-Lavalin's report.
RDL - Reportable Detection Limit, unless otherwise noted
< - Denotes concentration less than indicated detection limit
"- " - Not analyzed
na - Not applicable
µg/L - micrograms per litre

BOLD Concentration greater than Table 3 NPG FG Standard

¹ Table 3 full depth generic site condition standards in a non-potable groundwater condition for all types of property use, medium and fine textured soils (MOE, 2011)

The background features a series of nested, semi-transparent blue rectangles in the upper-left quadrant, creating a layered effect. The rest of the page is a solid light grey.

APPENDIX A

Borehole Logs



Client
Shell

Borehole No. : BH23-01

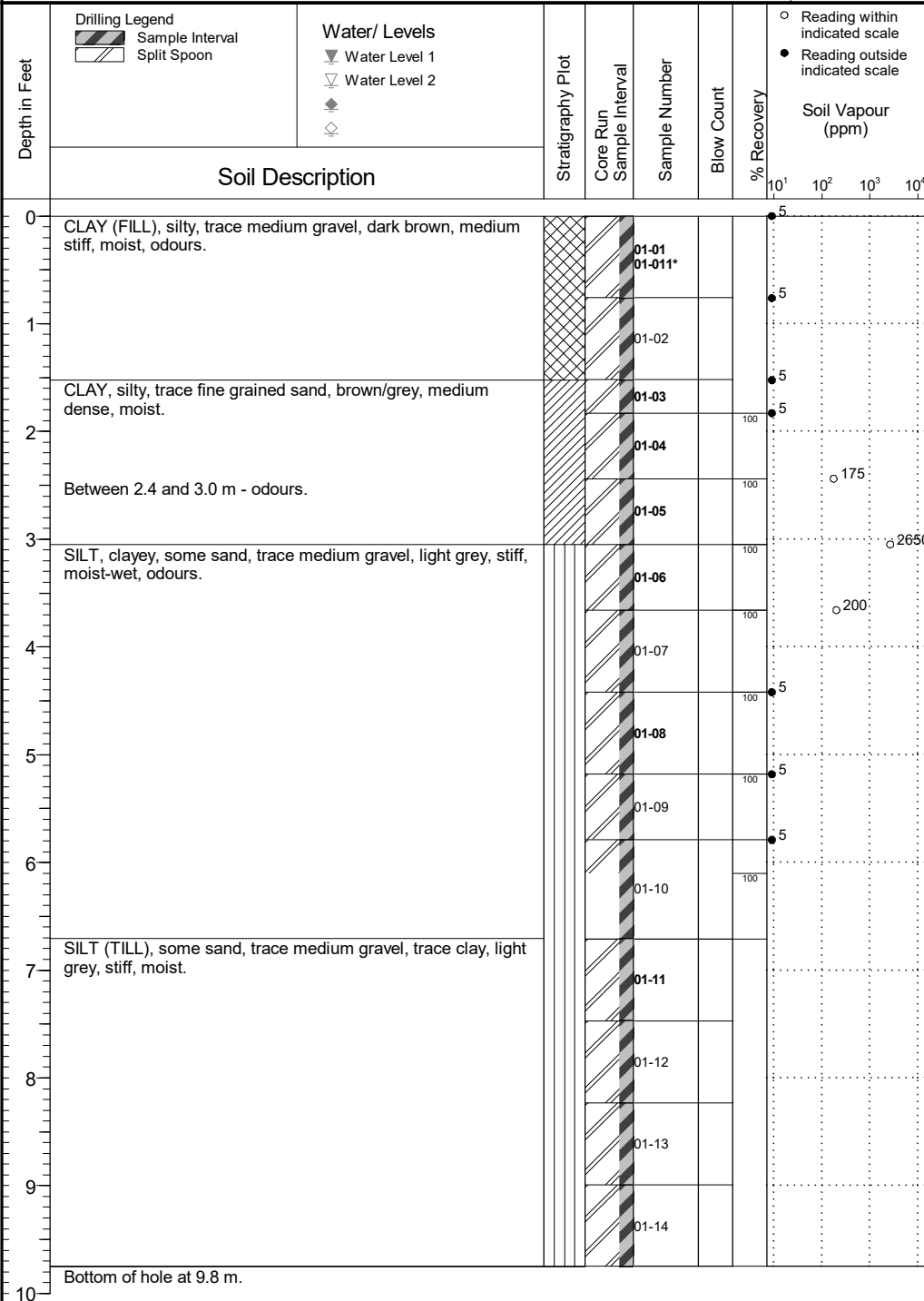
Location
1440 Prince of Wales Dr., Ottawa, ON

PAGE 1 OF 1

Drilling Contractor
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0.16
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored
Ground Surface Elev. (m) n/a
Top of Casing Elev. (m) n/a
Northing: 5024140.792 Easting: 445046.998

Project Number: 676801_694129
Borehole Logged By: JP
Date Drilled: 2023 08 10
Log Typed By: MD



NOTES
*denotes blind field duplicate.



Client
Shell

Borehole No. : BH23-02

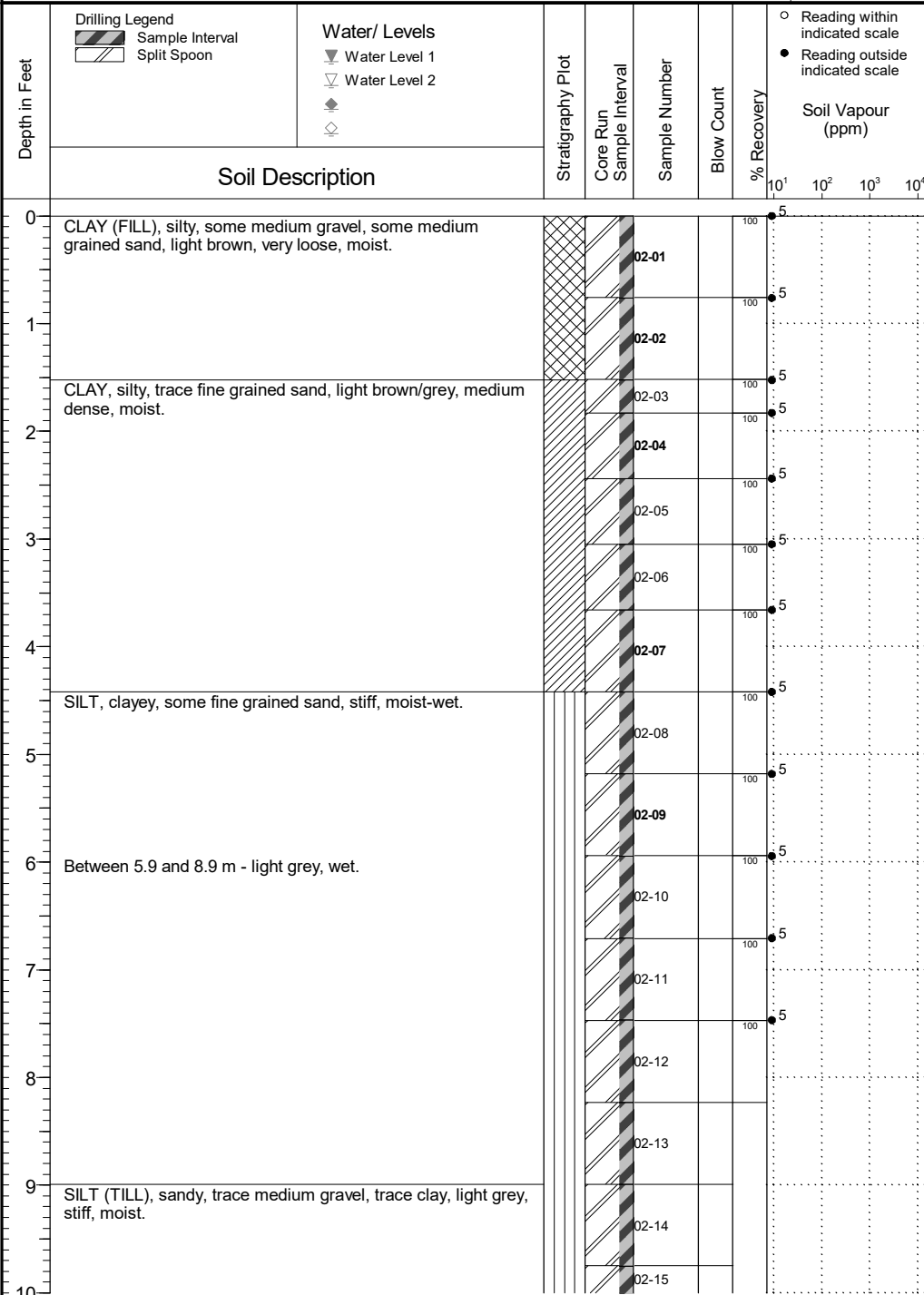
Location
1440 Prince of Wales Dr., Ottawa, ON

PAGE 1 OF 2

Drilling Contractor
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0.16
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 82.462
Top of Casing Elev. (m) n/a
Northing: 5024109.329 Easting: 445938.978

Project Number: 676801_694129
Borehole Logged By: JP
Date Drilled: 2023 08 11
Log Typed By: MD



NOTES



Client
Shell

Borehole No. : BH23-02

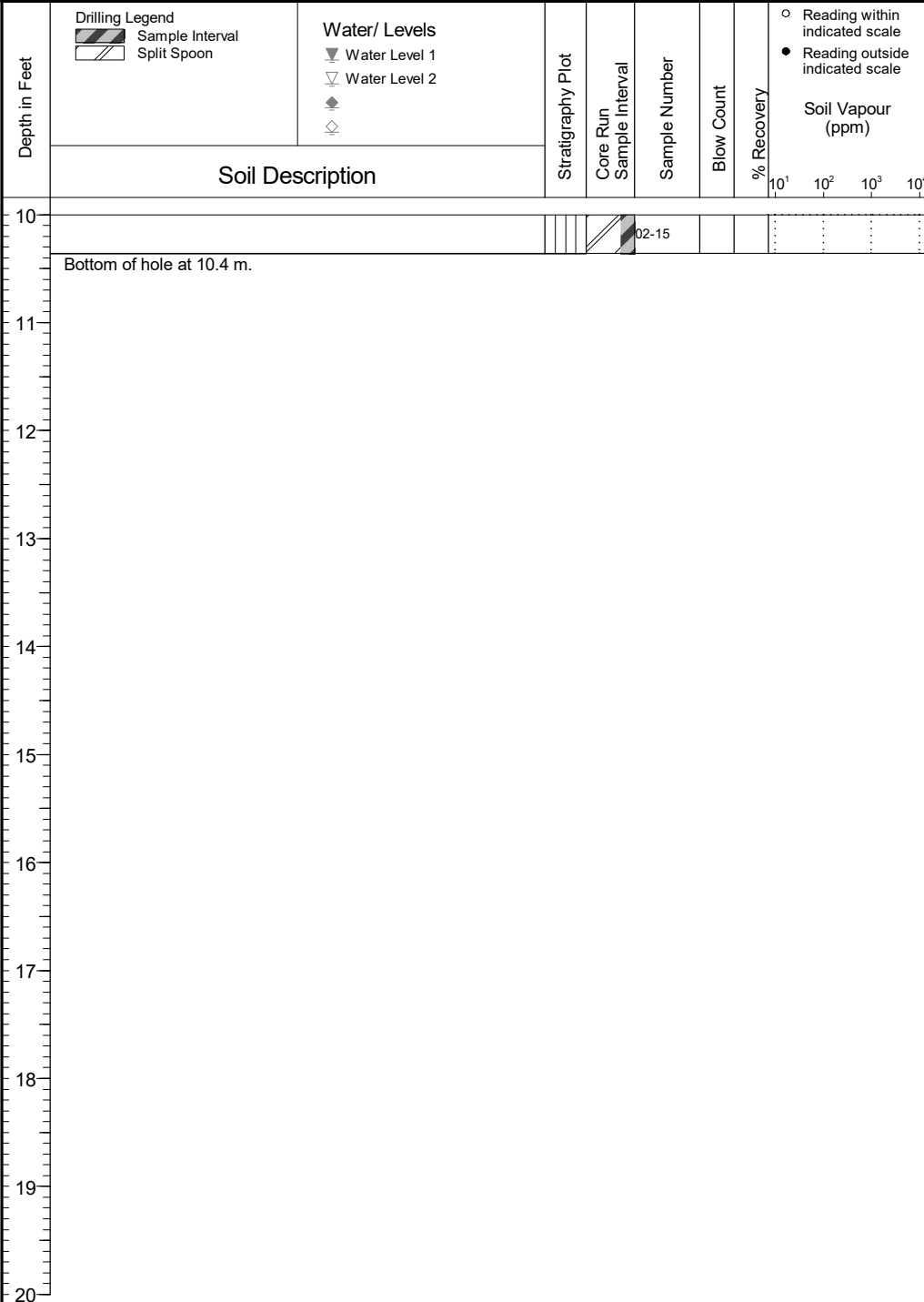
Location
1440 Prince of Wales Dr., Ottawa, ON

PAGE 2 OF 2

Drilling Contractor
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0.16
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 82.462
Top of Casing Elev. (m) n/a
Northing: 5024109.329 Easting: 445038.978

Project Number: 676801_694129
Borehole Logged By: JP
Date Drilled: 2023 08 11
Log Typed By: MD



NOTES



Client
Shell

Borehole No. : BH23-03

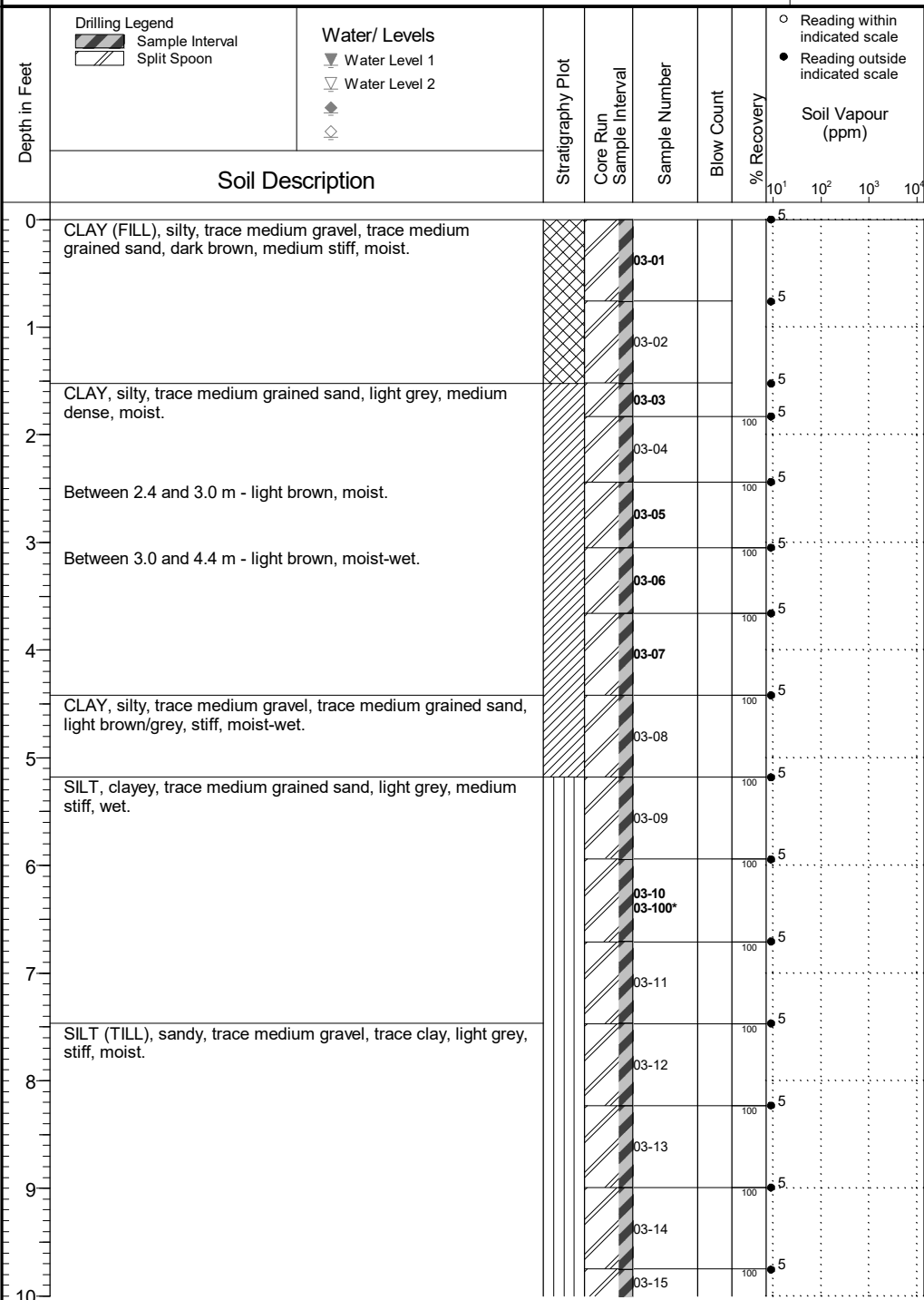
Location
1440 Prince of Wales Dr., Ottawa, ON

PAGE 1 OF 2

Drilling Contractor
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0.16
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 82.686
Top of Casing Elev. (m) n/a
Northing: 5024115.901 Easting: 445060.466

Project Number: 676801_694129
Borehole Logged By: JP
Date Drilled: 2023 08 11
Log Typed By: MD



NOTES

*denotes blind field duplicate.



Client
Shell

Borehole No. : BH23-03

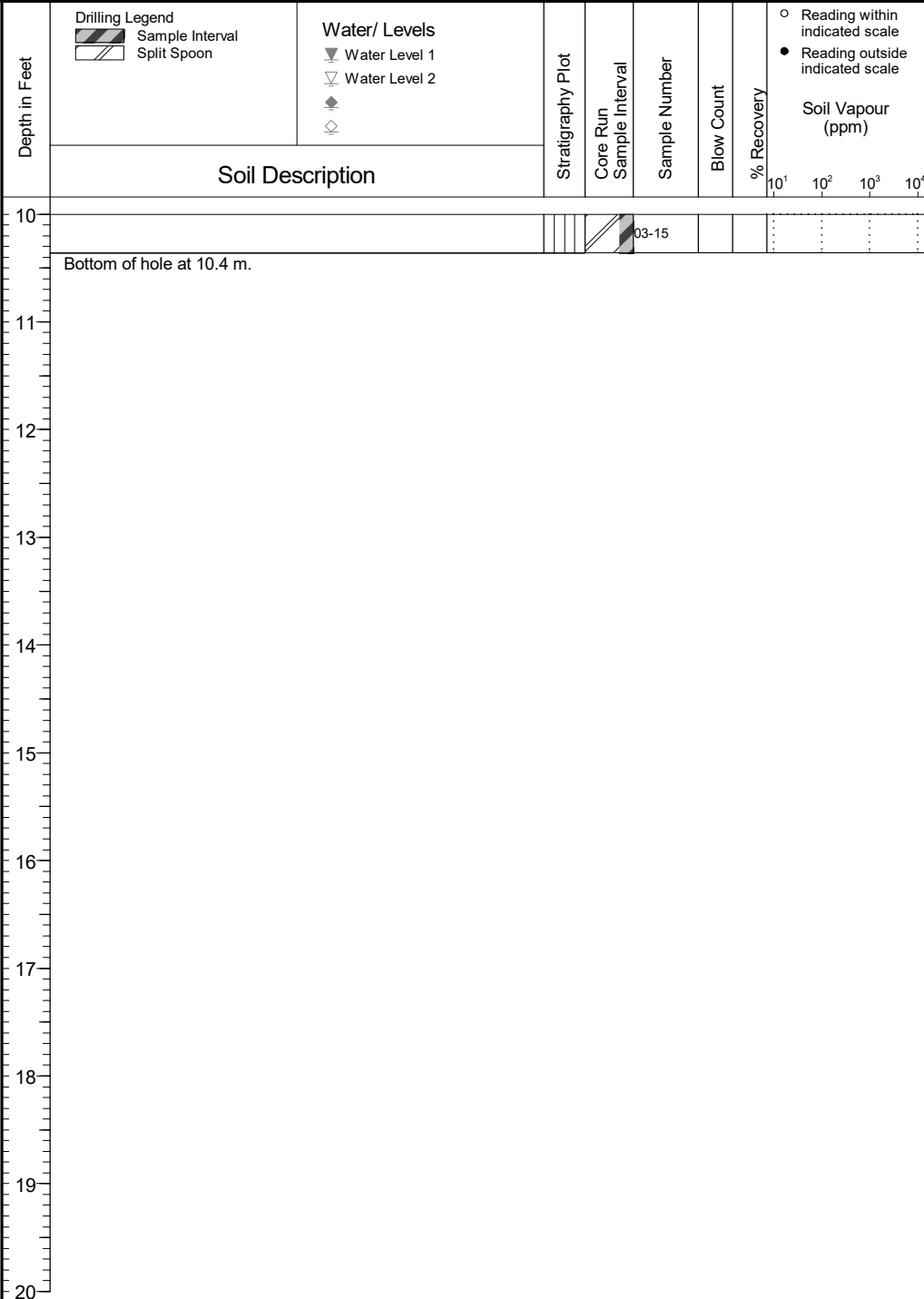
Location
1440 Prince of Wales Dr., Ottawa, ON

PAGE 2 OF 2

Drilling Contractor
Drilling Method Solid Stem Auger
Borehole Dia. (m) 0.16
Pipe/Slotted Pipe Dia. (m) none/none

Date Monitored n/a
Ground Surface Elev. (m) 82.686
Top of Casing Elev. (m) n/a
Northing: 5024115.901 Easting: 445060.466

Project Number: 676801_694129
Borehole Logged By: JP
Date Drilled: 2023 08 11
Log Typed By: MD



NOTES
*denotes blind field duplicate.

JACQUES WHITFORD
ENVIRONMENT LIMITED

MONITORING WELL RECORD

MW98-1

CLIENT Shell Canada Products Limited

LOCATION 1440 Prince of Wales Drive

DATES BORING: 98-03-16

WATER LEVEL 98-03-21

PROJECT No. 31088

DATUM Local

TPC ELEV. 100.69

DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	VAPOUR CONCENTRATIONS				SAMPLES		WELL CONSTRUCTION
						OVM ◆ ppm	GASTECUTOR ● %LEL ▲ ppm			TYPE	N-VALUE OR RQD	
0	100.85					● 20 ▲ 100	40 200	60 300	80 400			
1	100.8	40mm TOPSOIL and fine roots Brown, sand and gravel, trace debris: FILL										
2	98.8	Grey, silty sand to silty clay, trace organics: FILL										
3												
4	96.4	Grey, silty CLAY										
5	96.0	Grey to light brown, silty SAND										
6	94.8	End of Monitoring Well										
7												
8												
9												
10												

Groundwater Level



JACQUES WHITFORD
ENVIRONMENT LIMITED

MONITORING WELL RECORD

MW98-2

CLIENT Shell Canada Products Limited

LOCATION 1440 Prince of Wales Drive

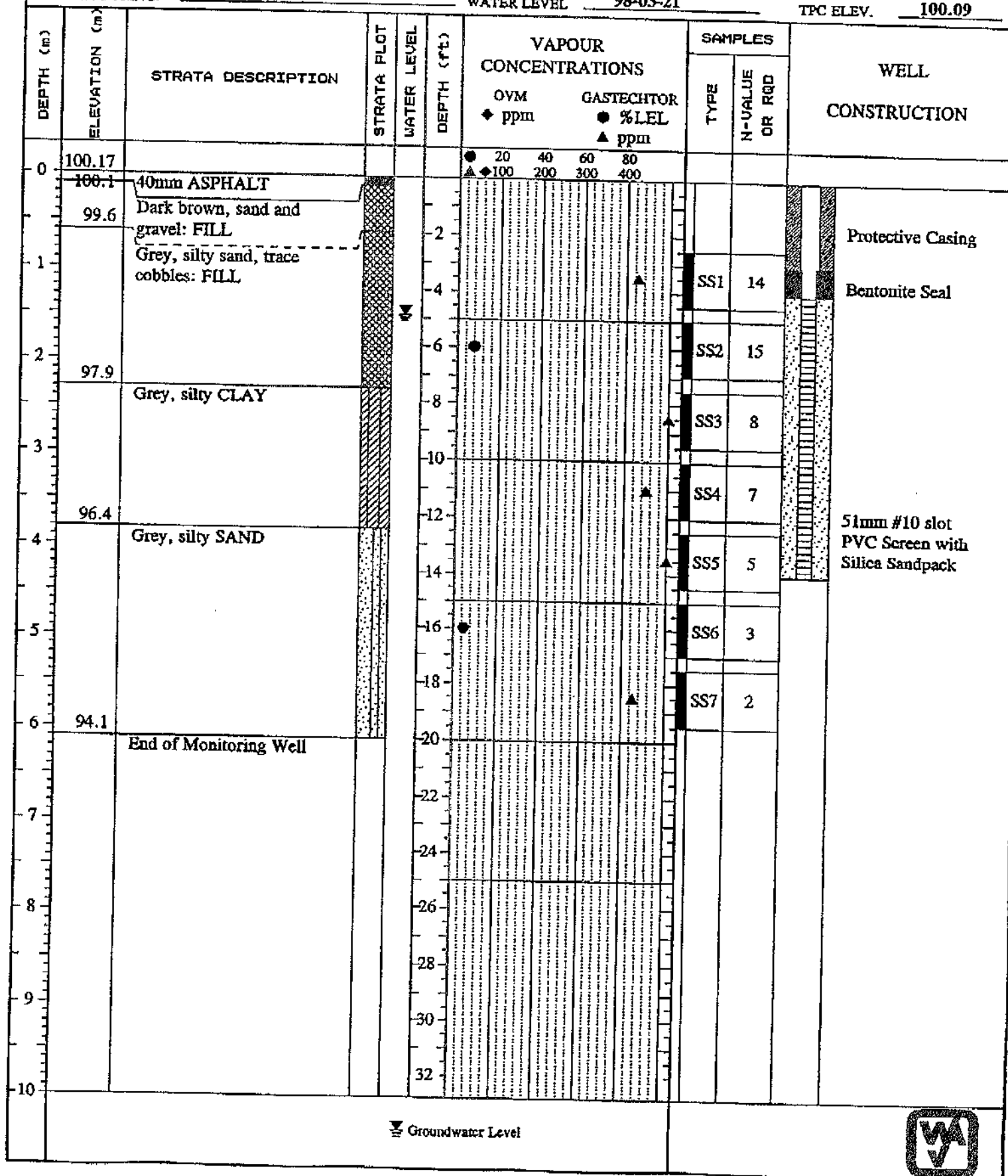
DATES BORING: 98-03-16

WATER LEVEL 98-03-21

PROJECT No. 31088

DATUM Local

TPC ELEV. 100.09



**JACQUES WHITFORD
ENVIRONMENT LIMITED**

MONITORING WELL RECORD

MW98-3

CLIENT Shell Canada Products Limited

LOCATION 1440 Prince of Wales Drive

DATES BORING: 98-03-16

WATER LEVEL 98-03-21

PROJECT No. 31088

DATUM Local

TPC ELEV. 100.26

DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	VAPOUR CONCENTRATIONS				SAMPLES		WELL CONSTRUCTION
						OVM	GASTECUTOR			TYPE	N-VALUE OR RQD	
						◆ ppm	● %LEL	▲ ppm				
0	100.34					● 20	40	60	80			
	100.2	40mm ASPHALT				▲ 100	200	300	400			
1		Dark brown, sand and gravel: FILL Apparent concrete slab .60m - .76m										Protective Casing
	99.0	Grey, silty CLAY								SS1	8	
2										SS2	15	Bentonite Seal
3										SS3	16	
4										SS4	6	
5	95.5	Grey, silty SAND								SS5	4	51mm #10 slot PVC Screen with Silica Sandpack
6	94.2	End of Monitoring Well								SS6	3	
7										SS7	2	
8												
9												
10												

 Groundwater Level



AQUA TERRE		Borehole ID: BH-1		Page 1 of 1	
Project Name and Number: <u>00-642</u> Client: <u>Shell Canada Products Ltd</u> Location: <u>1440 Prince of Wales, Ottawa, ON</u> Date Completed: <u>July 31, 2000</u> Site Datum: _____			Drill Supervisor: <u>TLH</u> Drilling Method: <u>Hollow Stem Auger</u> Borehole Diameter: <u>20.0 cm</u> Well Diameter: _____		
Depth (meters) (feet)	BLOW COUNT (1)	SAMPLE ID	LOCATION (2)	GRAPHIC LOG	DESCRIPTION
-0.5 2	2	BH-1-1	10		CLAYEY SAND FILL - dry, brown, loose, fine to coarse
-1.0 3	3				
-1.5 4	3				
-2.0 4	4				
-1.5 8	2	BH-1-2	22		SAND FILL - moist, brown, fine to coarse
-2.0 6	1				
-2.5 8	1				
-3.0 10	1				
-2.5 8	2	BH-1-3	20		CLAY - moist, brown, fine, firm, fractured
-3.0 10	4				
-3.5 12	6				
-4.0 14	7				
-3.5 12	2	BH-1-4	40		
-4.0 14	2				
-4.5 16	3				
-5.0 18	4				
-4.5 16	1	BH-1-5	40		SILTY CLAY - wet, brown to grey, soft, very fractured
-5.0 18	1				
-5.5 20	2				
-6.0 22	4				
-5.5 18	1	BH-1-6	38		
-6.0 20	1				
-6.5 22	1				
-7.0 24	2				
-6.5 22	1	BH-1-7	24		
-7.0 24	1				
-7.5 26	1				
-8.0 28	1				
-6.5 22	1	BH-1-8	18		SILT - wet, grey, soft, compact
-7.0 24					
-7.5 26					
-8.0 28					
-7.5 26					End of hole @ 6.7 m bgs.
(1) Measured every 15 cm using SPT for overburden split spoon sample (2) Sample headspace reading using Tracetechnor The data presented in this borehole log requires interpretation by AQUA TERRE personnel. All elevations and locations are approximate.					



Borehole ID: BH-2

Page 1 of 1

Project Name and Number: 00-642
 Client: Shell Canada Products Ltd.
 Location: 1440 Prince of Wales, Ottawa, ON
 Date Completed: July 31, 2000
 Site Datum: _____

Drill Supervisor: TLH
 Drilling Method: Hollow Stem Auger
 Borehole Diameter: 20.0 cm
 Well Diameter: _____

Depth (meters) (feet)	BLOW COUNT (1)	SAMPLE ID	LOCATION	OVM (2)	GRAPHIC LOG	DESCRIPTION
0.5						SAND AND GRAVEL FILL - moist, brown, medium to coarse, loose
1	1	BH-2-1		12		
1.5	1	BH-2-2		10		
2	1					
2.5	3	BH-2-3		126		SAND FILL - wet, brown, loose - medium to coarse - black staining at 2.8 m
3	1					
3.5	1	BH-2-4		8% LEL		CLAY - wet, brown, fine, soft
4	2					
4.5	2	BH-2-5		80		SILTY CLAY - wet, brown, fine soft, fractured
5	3					
5.5	1	BH-2-6		60		
6	1					
6.5	1	BH-2-7		30		SILT - wet, mottled brown to grey, fine, soft
7	1					
7.5	1	BH-2-8		30		
						End of hole @ 6.7 m bgs.

- (1) Measured every 15 cm using SPT for overburden split spoon sample
 (2) Sample headspace reading using Tracetechnor

The data presented in this borehole log requires interpretation by
 AQUA TERRE personnel.

All elevations and locations are approximate.

AQUA TERRE		Borehole ID: BH-3				Page 1 of 1
Project Name and Number: <u>00-642</u> Client: <u>Shell Canada products Ltd.</u> Location: <u>1440 Prince of Wales, Ottawa, ON</u> Date Completed: <u>July 31, 2000</u> Site Datum: _____		Drill Supervisor: <u>TLH</u> Drilling Method: <u>Hollow Stem Auger</u> Borehole Diameter: <u>20.0 cm</u> Well Diameter: _____				
Depth (meters) (feet)	BLOW COUNT (1)	SAMPLE ID	LOCATION	OVM (2)	GRAPHIC LOG	DESCRIPTION
-0.5 2	4	BH-3-1		20		SAND AND GRAVEL FILL - dry, brown, coarse, loose
-1 4	6					
-1.5 4	4					
-2 6	2					
-2.5 8	2	BH-3-2		30		SILTY CLAY - moist, brown to grey, soft to firm, fractured - minor pockets of fine sand
-3 10	2					
-3.5 12	2					
-4 14	2					
-4.5 16	1	BH-3-3		36		- silty seams
-5 18	5					
-5.5 19	7					
-6 20	9					
-6.5 22	2	BH-3-4		34		SILTY CLAY - wet, grey, fine, compact
-7 24	1					
-7.5	1					
	1					
	1	BH-3-5		50		SANDY SILT - wet, mottled brown to grey, fine, compact
	1					
	1					
	1					
	1	BH-3-6		30		End of hole @ 6.7 m bgs.
	1					
	1					
	1					
	1	BH-3-7		30		
	1					
	1					
	1					
	1	BH-3-8		30		
	1					
	1					
	1					

(1) Measured every 15 cm using SPT for overburden split spoon sample
 (2) Sample headspace reading using Tracetehtor

The data presented in this borehole log requires interpretation by
AQUA TERRE personnel.

All elevations and locations are approximate.

AQUA TERRE		Borehole ID: BH-4		Page 1 of 1		
Project Name and Number: 00-642		Drill Supervisor: TLH				
Client: Shell Canada Products Ltd.		Drilling Method: Hollow Stem Auger				
Location: 1440 Prince of Wales, Ottawa, ON		Borehole Diameter: 20.0 cm				
Date Completed: July 31, 2000		Well Diameter: _____				
Site Datum: _____						
Depth (meters) (feet)	BLOW COUNT (i)	SAMPLE ID	LOCATION	OVM (2)	GRAPHIC LOG	DESCRIPTION
-0.5	2					SAND AND GRAVEL FILL - brown, dry, coarse, loose
-1	3	BH-4-1		18		
-1.5	2					
-2	3	BH-4-2		20		SILTY CLAY - moist to wet, mottled brown to grey - compact to dense, fractured
-2.5	3					
-3	2	BH-4-3		140		
-3.5	4	BH-4-4		50%LEL		SANDY SILT - grey, wet, firm, compact - hydrocarbon sheen
-4	1					
-4.5	2	BH-4-5		50%LEL		
-5	2	BH-4-6		100%LEL		CLAYEY SILT - brown to grey, wet, fine to medium, compact - hydrocarbon sheen
-5.5	1					
-6	2	BH-4-7		80%LEL		
-6.5	1	BH-4-8		90		End of hole @ 6.7 m bgs.
-7						
-7.5						
(1) Measured every 15 cm using SPT for overburden split spoon sample (2) Sample headspace reading using Tracethector The data presented in this borehole log requires interpretation by AQUA TERRE personnel. All elevations and locations are approximate.						

AQUA TERRE		Borehole ID: BH-5				Page 1 of 1
Project Name and Number: 00-642		Drill Supervisor: TLH				
Client: Shell Canada Products Ltd		Drilling Method: Hollow Stem Auger				
Location: 1440 Prince of Wales, Ottawa, ON		Borehole Diameter: 20.0 cm				
Date Completed: July 31, 2000		Well Diameter: _____				
Site Datum: _____						
Depth (meters) (feet)	BLOW COUNT (1)	SAMPLE ID	LOCATION	OVM (2)	GRAPHIC LOG	DESCRIPTION
-0.5	2					SILTY CLAY
-1	1 2 4 4	BH-5-1		18		- moist to wet, brown to grey, fractured - dry, brown to grey, compact, fractured
-1.5	2 4 7 8	BH-5-2		60		- dry, brown to grey, compact, fractured
-2	5 6 8 9	BH-5-3		70% LEL		- dry, brown to grey, dense, fractured
-2.5	2 3 5 7	BH-5-4		100% LEL		- moist, brown to grey, dense, fractured
-3	1 2 3 4	BH-5-5		100% LEL		- moist, brown to grey, dense, fractured
-3.5	1 2 2 3	BH-5-6		100% LEL		- moist, brown to grey, dense, fractured - hydrocarbon sheen
-4	1 1 1 1	BH-5-7		80% LEL		SILT - wet, brown, dense
-4.5	1	BH-5-8		100		- wet, grey, compact
-5						End of hole @ 6.7 m bgs.
-5.5						
-6						
-6.5						
-7						
-7.5						

(1) Measured every 15 cm using SPT for overburden split spoon sample
(2) Sample headspace reading using Tracetechnor

The data presented in this borehole log requires interpretation by
AQUA TERRE personnel.

All elevations and locations are approximate.

AQUA TERRE		Borehole ID: BH-6		Page 1 of 1		
Project Name and Number: 00-642			Drill Supervisor: TLH			
Client: Shell Canada Products Ltd			Drilling Method: Hollow Stem Auger			
Location: 1440 Prince of Wales, Ottawa, ON			Borehole Diameter: 20.0 cm			
Date Completed: July 31, 2000			Well Diameter: _____			
Site Datum: _____						
Depth (meters) (feet)	BLOW COUNT (1)	SAMPLE ID	LOCATION	OVM (2)	GRAPHIC LOG	DESCRIPTION
-0.5 2	1					SAND AND SANDY CLAY FILL - dry, brown to grey, medium, loose
-1 4	2 2 4	BH-6-1		38		
-1.5 6	2 5 7 8	BH-6-2		38		SILTY CLAY - dry, brown, dense, compact, fractured
-2 8	2 4 6 8	BH-6-3		72		
-2.5 10	2 4 5 6	BH-6-4		118		- moist, grey, compact
-3 12	1 2 2 4	BH-6-5		300		
-4 16	1 2 2 3	BH-6-6		60		SANDY SILT - wet, brown to grey, fine, compact
-4.5 18	1 1 1 1	BH-6-7		24		
-5 20	1 1 1 1	BH-6-8		14		- wet, mottled brown to grey, compact
-6 22						End of hole @ 6.7 m bgs.
-7 24						
-7.5						
(1) Measured every 15 cm using SPT for overburden split spoon sample (2) Sample headspace reading using Tracethector The data presented in this borehole log requires interpretation by AQUA TERRE personnel. All elevations and locations are approximate.						

AQUA TERRE		Borehole ID: BH-20 (MW-20)				Page 1 of 1		
Project Name and Number: 00-642 Client: Shell Canada Products Ltd Location: 1440 Prince of Wales, Ottawa, ON Date Completed: July 12, 2001 Site Datum: Fire hydrant on east side of Prince of Wales.		Drill Supervisor: LS Drilling Method: Hollow Stem Auger Borehole Diameter: 20.0 cm Well Diameter: 5.1 cm						
Depth (meters) (feet)	BLOW COUNT (1)	SAMPLE ID	LOCATION	OVM (2)	GRAPHIC LOG	DESCRIPTION	G.S.= 98.67	TOP of PVC 98.52
-5	2					ASPHALT GRAVELLY SAND FILL - dry to moist, fine to medium, brown	98	
-1	3 4 14 10	BH-20-1	▲	15 ppm		SANDY SILT - dry to moist, brownish grey, soft - trace clay	97.45	97.15
-1.5	1 2 4 6	BH-20-2	▲	5% LEL			97	
-2	4 5 8 10	BH-20-3	▲	10%LEL			96	
-2.5	3 3 5 6	BH-20-4	▲	40%LEL			95	
-3	3 3 2 5	BH-20-5	▲	60%LEL			94	
-3.5	1 1 2 2	BH-20-6	▲	>100%LEL		- wet at 4.57 m - strong odour - weathered brown product	93	
-4.5	1 2 1 2	BH-20-7	▲	5% LEL			92.58	
-5	0 1 1 1	BH-20-8	▲	100 ppm			92	
-6						End of hole @ 6.71 m		
-6.5								
-7								
-7.5								

86.26 m
 07/17/01

(1) Measured every 15 cm using SPT for overburden split spoon sample
 (2) Sample headspace reading using Tracetehtor

The data presented in this borehole log requires interpretation by
 AQUA TERRE personnel.

All elevations and locations are approximate.

AQUA TERRE		Borehole ID: BH-21 (MW-21)				Page 1 of 1		
Project Name and Number: <u>00-642</u> Client: <u>Shell Canada Products Ltd</u> Location: <u>1440 Prince of Wales, Ottawa, ON</u> Date Completed: <u>July 12, 2001</u> Site Datum: <u>Fire hydrant on east side of Prince of Wales.</u>		Drill Supervisor: <u>LS</u> Drilling Method: <u>Hollow Stem Auger</u> Borehole Diameter: <u>20.0 cm</u> Well Diameter: <u>5.1 cm</u>						
Depth (meters) (feet)	BLOW COUNT (1)	SAMPLE ID	LOCATION	OVM (2)	GRAPHIC LOG	DESCRIPTION	G.S.= 98.71	TOP of PVC 98.57
-0.5	2					ASPHALT SAND AND GRAVEL FILL - dry to moist, fine to medium		
-1.0	7	BH-21-1		200 ppm			98	97.48
-1.5	6							
-2.0	8							
-2.5	1	BH-21-2		90 ppm			97	97.19
-3.0	2							
-3.5	3							
-4.0	2	BH-21-3		50 ppm			96	
-4.5	2							
-5.0	1							
-5.5	3	BH-21-4		450 ppm		SANDY SILT - dry to moist, brownish grey, soft - trace sand - trace clay	95	
-6.0	5							
-6.5	9							
-7.0	3	BH-21-5		15% LEL		- wet at 4.57 m	94	
-7.5	3							
-8.0	4							
-8.5	5	BH-21-6		80% LEL			93	92.61
-9.0	2							
-9.5	2							
-10.0	2	BH-21-7		80 ppm			92	
-10.5	0							
-11.0	1							
-11.5	1	BH-21-8		100 ppm			91	
-12.0	1							
-12.5	1							
End of hole @ 6.71 m								
								91

(1) Measured every 15 cm using SPT for overburden split spoon sample

(2) Sample headspace reading using Tracetehtor

The data presented in this borehole log requires interpretation by
AQUA TERRE personnel.

All elevations and locations are approximate.

85.77 m 07/17/01

AQUA TERRE		Borehole ID: BH-22 (MW-22)				Page 1 of 1		
Project Name and Number: <u>00-642</u>		Drill Supervisor: <u>LS</u>						
Client: <u>Shell Canada Products Ltd</u>		Drilling Method: <u>Hollow Stem Auger</u>						
Location: <u>1440 Prince of Wales, Ottawa, ON</u>		Borehole Diameter: <u>20.0 cm</u>						
Date Completed: <u>July 12, 2001</u>		Well Diameter: <u>5.1 cm</u>						
Site Datum: <u>Fire hydrant on east side of Prince of Wales.</u>								
Depth (meters) (feet)	BLOW COUNT (1)	SAMPLE ID	LOCATION	OVM (2)	GRAPHIC LOG	DESCRIPTION	G.S. = 98.63	TOP of PVC 98.55
-0.5	2					ASPHALT		
-1.0	3					GRAVELLY SAND FILL - dry to moist, fine to medium, brown		
-1.5	4	BH-22-1		25 ppm		SANDY SILT - dry to moist, brownish grey, soft - trace clay		97.41
-2.0	4							
-2.5	6	BH-22-2		100 ppm				97.11
-3.0	4							
-3.5	8	BH-22-3		10% LEL				96
-4.0	4							
-4.5	5	BH-22-4		65% LEL				95
-5.0	5							
-5.5	6	BH-22-5		>100%LEL				94
-6.0	3							
-6.5	3	BH-22-6		>100%LEL		- wet at 4.57 m - strong odour - weathered black product		93
-7.0	2							
-7.5	2	BH-22-7		>100%LEL				92.54
-8.0	2							
-8.5	1	BH-22-8		10% LEL				92
-9.0	0							
-9.5	1	BH-22-9		200 ppm				91
-10.0	1							
End of hole @ 7.46 m								
(1) Measured every 15 cm using SPT for overburden split spoon sample (2) Sample headspace reading using Tracetechnor								
The data presented in this borehole log requires interpretation by AQUA TERRE personnel.								
All elevations and locations are approximate.								

98.56 m 07/13/01

APPENDIX B

Certificates of Analysis (Soil)

TABLE B.1: Soil Analytical Results for BTEX, General Chemistry, PHCs, Total Metals, Volatile Organic Compounds.
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd) Depth Interval (mbgs) Field Screen (ppmv)			RPD ¹ Limit	BH23-01 WRD345 BH23-01-01 2023/08/10 0.0 - 0.8 <5	BH23-01 WRD346 BH23-01-011 2023/08/10 0.0 - 0.8 <5 Duplicate of BH23-01	RPD	BH23-03 WRD358 BH23-03-10 2023/08/11 5.9 - 6.7 <5	BH23-03 WRD359 BH23-03-100 2023/08/11 5.9 - 6.7 <5 Duplicate of BH23-03	RPD
Parameter	RDL	Units							
General Chemistry									
Free Cyanide	0.01	µg/g	70%	< 0.01	< 0.01	*	< 0.01	< 0.01	*
Electrical Conductivity	0.002	mS/cm	40%	2.3	2.5	8%	1.2	1.1	9%
pH	-	pH	60% ²	9.44	9.51	*	7.63	7.50	*
Sodium Adsorption Ratio	-	None	n/a	31	32	*	2.2	2.0	*
Total Metals									
Antimony	0.20	µg/g	60%	< 0.20	0.24	*	< 0.20	< 0.20	*
Arsenic	1.0	µg/g	60%	1.5	1.5	*	1.3	1.6	*
Barium	0.50	µg/g	80%	200	230	14%	120	110	9%
Beryllium	0.20	µg/g	60%	0.75	0.79	*	0.36	0.34	*
Boron	5.0	µg/g	60%	5.7	6.0	*	< 5.0	< 5.0	*
Boron (Hot Water Soluble)	0.050	µg/g	80%	0.59	0.47	23%	0.51	0.34	40%
Cadmium	0.10	µg/g	60%	0.12	0.18	*	< 0.10	< 0.10	*
Chromium (total)	1.0	µg/g	70%	99	100	1%	31	28	10%
Chromium (VI)	0.18	µg/g	70%	< 0.18	< 0.18	*	< 0.18	< 0.18	*
Cobalt	0.10	µg/g	60%	17	17	0%	8.1	7.7	5%
Copper	0.50	µg/g	60%	29	37	24%	17	16	6%
Lead	1.0	µg/g	80%	17	18	6%	3.7	3.9	*
Mercury	0.050	µg/g	80%	< 0.050	< 0.050	*	< 0.050	< 0.050	*
Molybdenum	0.50	µg/g	80%	0.68	0.55	*	0.84	0.98	*
Nickel	0.50	µg/g	60%	46	51	10%	18	16	12%
Selenium	0.50	µg/g	60%	< 0.50	< 0.50	*	< 0.50	< 0.50	*
Silver	0.20	µg/g	80%	< 0.20	< 0.20	*	< 0.20	< 0.20	*
Thallium	0.050	µg/g	60%	0.36	0.35	3%	0.15	0.15	*
Uranium	0.050	µg/g	60%	0.95	0.98	3%	1.5	3.3	75%
Vanadium	5.0	µg/g	60%	83	87	5%	46	42	9%
Zinc	5.0	µg/g	60%	110	110	0%	44	40	10%
Volatiles									
Benzene	0.0060	µg/g	100%	1.0	0.44	78%	< 0.0060	< 0.0060	*
Toluene	0.020	µg/g	100%	0.18	0.092	*	< 0.020	< 0.020	*
Ethylbenzene	0.010	µg/g	100%	0.66	0.77	15%	< 0.010	< 0.010	*
Xylenes	0.020	µg/g	100%	0.14	0.12	15%	0.025	< 0.020	*
m+p-Xylenes	0.020	µg/g	100%	0.057	0.043	*	0.025	< 0.020	*
o-Xylenes	0.020	µg/g	100%	0.086	0.081	*	< 0.020	< 0.020	*
Petroleum Hydrocarbons (PHC)									
PHC F1 (C6-C10)	10	µg/g	60%	29	33	*	< 10	< 10	*
PHC F1 - BTEX	10	µg/g	60%	27	31	*	< 10	< 10	*
PHC F2	10	µg/g	60%	< 10	< 10	*	< 10	< 10	*
PHC F3	50	µg/g	60%	56	< 50	*	< 50	< 50	*
PHC F4	50	µg/g	60%	51	< 50	*	< 50	< 50	*
Volatile Organic Compounds									
Acetone	0.49	µg/g	100%	< 1.4	< 1.5	*	< 0.49	< 0.49	*
Bromodichloromethane	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Bromoform	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Bromomethane	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Carbon Tetrachloride	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Chlorobenzene	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Chloroform	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Dichloropropene, trans-1,3-	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Dibromochloromethane (Chlorodibromomethane)	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Dichloropropene, cis-1,3-	0.030	µg/g	100%	< 0.030	< 0.030	*	< 0.030	< 0.030	*
Dichlorobenzene, 1,2- (o-DCB)	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Dichlorobenzene, 1,3- (m-DCB)	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Dichlorobenzene, 1,4- (p-DCB)	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Dichlorodifluoromethane	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Dichloroethane, 1,1-	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Dichloroethane, 1,2-	0.049	µg/g	100%	< 0.049	< 0.049	*	< 0.049	< 0.049	*
Dichloroethylene, 1,1-	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Dichloroethylene, cis-1,2-	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Dichloroethylene, trans-1,2-	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Dichloropropane, 1,2-	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Dichloropropene, 1,3-	0.050	µg/g	100%	< 0.050	< 0.050	*	< 0.050	< 0.050	*
Ethylene Dibromide (Dibromoethane, 1,2-)	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Hexane(n)	0.040	µg/g	100%	0.28	0.13	*	< 0.040	< 0.040	*
Methyl Ethyl Ketone	0.40	µg/g	100%	< 0.40	< 0.40	*	< 0.40	< 0.40	*
Methyl Isobutyl Ketone	0.40	µg/g	100%	< 0.40	< 0.40	*	< 0.40	< 0.40	*
Methyl tert butyl ether (MTBE)	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Methylene Chloride (Dichloromethane)	0.049	µg/g	100%	< 0.20	< 0.30	*	< 0.049	< 0.049	*
Styrene	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Tetrachloroethane, 1,1,1,2-	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Tetrachloroethane, 1,1,2,2-	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Trichloroethane, 1,1,1-	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Trichloroethane, 1,1,2-	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Trichloroethylene	0.010	µg/g	100%	< 0.010	< 0.010	*	< 0.010	< 0.010	*
Tetrachloroethylene	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Trichlorofluoromethane	0.040	µg/g	100%	< 0.040	< 0.040	*	< 0.040	< 0.040	*
Vinyl Chloride	0.019	µg/g	100%	< 0.019	< 0.019	*	< 0.019	< 0.019	*

Footnotes:
Laboratory analysis by Bureau Veritas Canada (2019) Inc., .
Additional terms may be defined within the body of SNC-Lavalin's report.
RDL - Reportable Detection Limit, unless otherwise noted
< - Denotes concentration less than indicated detection limit
"- " - Not analyzed
na - Not applicable
mbgs - metres below ground surface
Field Screen - organic vapour meter reading
Conversion factor of 1% LEL = 110 ppmv applied
ppmv - parts per million by volume (relative to hexane)
µg/g - micrograms per gram, dry weight basis
mS/cm - milliSiemens per centimetre

BOLD Exceeds RPD Limit

¹ RPD limits calculated as 2x laboratory performance criteria (CCME, 2016) using limits provided in the CCME guidance.
² CCME performance criteria for pH is for lab duplicates to be within 0.3 units, therefore,
a performance criteria of 0.6 pH units has been applied to field duplicates following CCME (2016) guidance.

TABLE B.2: Soil Analytical Results for BTEX and PHCs
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd)			Table 3 ¹ Standard I/C/C FG	TRIP BLANK WRD444 TRIP BLANK 2023/08/11
Parameter	RDL	Units		
<u>Volatiles</u>				
Benzene	0.0060	µg/g	0.4	< 0.0060
Toluene	0.020	µg/g	78	< 0.020
Ethylbenzene	0.010	µg/g	19	< 0.010
Xylenes	0.020	µg/g	30	< 0.020
m+p-Xylenes	0.020	µg/g	na	< 0.020
o-Xylenes	0.020	µg/g	na	< 0.020
Hexane (n)	0.040	µg/g	88	< 0.040
<u>Petroleum Hydrocarbons (PHC)</u>				
PHC F1 (C6-C10)	10	µg/g	65	< 10
PHC F1 - BTEX	10	µg/g	65	< 10

Footnotes:

Laboratory analysis by Bureau Veritas Canada (2019) Inc.
Additional terms may be defined within the body of SNC-Lavalin's report.
RDL - Reportable Detection Limit, unless otherwise noted
< - Denotes concentration less than indicated detection limit
"- " - Not analyzed
na - Not applicable
mbgs - metres below ground surface
Field Screen - organic vapour meter reading
Conversion factor of 1% LEL = 110 ppmv applied
ppmv - parts per million by volume (relative to hexane)
µg/g - micrograms per gram, dry weight basis

BOLD Concentration greater than Table 3 Standard

¹ Table 3 full depth generic site condition standards in a non-potable groundwater condition for industrial/commercial/community property use, medium and fine textured soils (MOE, 2011)



Your P.O. #: 694129
 Your Project #: 694129
 Site Location: 1440 Prince of Wales Drive, Ottawa, ON
 Your C.O.C. #: 948522-01-01

Attention: Akruti Atawala

AtkinsRéalis
 Toronto - Shell
 235 Lesmill Road
 Toronto, ON
 CANADA M3B 2V1

Report Date: 2023/12/11
 Report #: R7949833
 Version: 5 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C303894

Received: 2023/08/11, 12:13

Sample Matrix: Soil
 # Samples Received: 21

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Hot Water Extractable Boron (1)	20	2023/08/17	2023/08/17	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum (1)	18	N/A	2023/08/18		EPA 8260C m
1,3-Dichloropropene Sum (1)	2	N/A	2023/08/21		EPA 8260C m
1,3-Dichloropropene Sum (1)	1	N/A	2023/08/24		EPA 8260C m
Free (WAD) Cyanide (1)	13	2023/08/17	2023/08/17	CAM SOP-00457	OMOE E3015 m
Free (WAD) Cyanide (1)	7	2023/08/17	2023/08/18	CAM SOP-00457	OMOE E3015 m
Conductivity (1)	5	2023/08/17	2023/08/17	CAM SOP-00414	OMOE E3530 v1 m
Conductivity (1)	15	2023/08/18	2023/08/18	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1, 2)	20	2023/08/17	2023/08/18	CAM SOP-00436	EPA 3060A/7199 m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	20	2023/08/17	2023/08/18	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS (1)	19	2023/08/17	2023/08/17	CAM SOP-00447	EPA 6020B m
Acid Extractable Metals by ICPMS (1)	1	2023/08/18	2023/08/18	CAM SOP-00447	EPA 6020B m
Moisture (1)	20	N/A	2023/08/16	CAM SOP-00445	Carter 2nd ed 51.2 m
pH CaCl2 EXTRACT (1)	12	2023/08/17	2023/08/17	CAM SOP-00413	EPA 9045 D m
pH CaCl2 EXTRACT (1)	8	2023/08/18	2023/08/18	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR) (1)	5	N/A	2023/08/18	CAM SOP-00102	EPA 6010C
Sodium Adsorption Ratio (SAR) (1)	15	N/A	2023/08/21	CAM SOP-00102	EPA 6010C
Volatile Organic Compounds and F1 PHCs (1)	20	N/A	2023/08/18	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds and F1 PHCs (1)	1	N/A	2023/08/23	CAM SOP-00230	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report.



Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your C.O.C. #: 948522-01-01

Attention: Akruiti Atawala

AtkinsRéalis
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Report Date: 2023/12/11
Report #: R7949833
Version: 5 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C303894

Received: 2023/08/11, 12:13

Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) Soils are reported on a dry weight basis unless otherwise specified.

(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Keshani Vijh, Sr. Project Manager

Email: keshani.vijh@bureauveritas.com

Phone# (613) 274-0573

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID				WRD345		WRD346		WRD347		
Sampling Date				2023/08/10 09:30		2023/08/10 09:30		2023/08/10 09:45		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-01	QC Batch	BH23-01-011	QC Batch	BH23-01-03	RDL	QC Batch

Calculated Parameters										
Sodium Adsorption Ratio	N/A	12	12	31	8855581	32	8855581	21		8855581
Inorganics										
Conductivity	mS/cm	1.4	1.4	2.3	8861105	2.5	8861105	2.6	0.002	8861105
Moisture	%	-	-	36	8857542	29	8857542	27	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	9.44	8858849	9.51	8858849	7.73		8858849
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	8858280	<0.01	8858208	<0.01	0.01	8861168
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use										
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)										
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition										
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil										

Bureau Veritas ID				WRD348			WRD348		WRD349		
Sampling Date				2023/08/10 09:50			2023/08/10 09:50		2023/08/10 10:00		
COC Number				948522-01-01			948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-04	RDL	QC Batch	BH23-01-04 Lab-Dup	QC Batch	BH23-01-05	RDL	QC Batch

Calculated Parameters											
Sodium Adsorption Ratio	N/A	12	12	7.0		8855581			5.6		8855581
Inorganics											
Conductivity	mS/cm	1.4	1.4	2.0	0.002	8859653			2.3	0.002	8861105
Moisture	%	-	-	28	1.0	8857542			28	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	7.18		8858849	7.37	8858849	7.64		8858849
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	0.01	8858280			<0.01	0.01	8858280
RDL = Reportable Detection Limit											
QC Batch = Quality Control Batch											
Lab-Dup = Laboratory Initiated Duplicate											
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use											
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)											
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition											
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil											



Bureau Veritas Job #: C303894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID				WRD350		WRD351		WRD352		
Sampling Date				2023/08/10 10:15		2023/08/10 10:30		2023/08/10 10:40		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-06	QC Batch	BH23-01-08	QC Batch	BH23-01-11	RDL	QC Batch

Calculated Parameters										
Sodium Adsorption Ratio	N/A	12	12	4.0	8855581	7.5	8855581	1.1		8855581
Inorganics										
Conductivity	mS/cm	1.4	1.4	2.0	8859653	2.2	8861105	0.69	0.002	8859653
Moisture	%	-	-	27	8857542	20	8857542	20	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	7.36	8861502	7.66	8861502	7.59		8858849
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	8858280	<0.01	8858280	<0.01	0.01	8858280
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use										
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)										
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition										
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil										

Bureau Veritas ID				WRD353		WRD354		WRD355		
Sampling Date				2023/08/10 12:30		2023/08/10 12:45		2023/08/11 07:20		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-01	QC Batch	BH23-03-03	QC Batch	BH23-03-05	RDL	QC Batch

Calculated Parameters										
Sodium Adsorption Ratio	N/A	12	12	17	8855581	6.6	8855581	3.4		8855581
Inorganics										
Conductivity	mS/cm	1.4	1.4	0.98	8861105	1.8	8859653	2.2	0.002	8861105
Moisture	%	-	-	22	8857542	27	8857542	29	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	7.63	8858849	7.22	8858849	7.14		8858849
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	8858353	<0.01	8858353	<0.01	0.01	8858353
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use										
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)										
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition										
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil										



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID				WRD356	WRD357		WRD358	WRD359		
Sampling Date				2023/08/11 07:25	2023/08/11 07:30		2023/08/11 07:40	2023/08/11 07:40		
COC Number				948522-01-01	948522-01-01		948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-06	BH23-03-07	QC Batch	BH23-03-10	BH23-03-100	RDL	QC Batch

Calculated Parameters										
Sodium Adsorption Ratio	N/A	12	12	4.2	4.1	8855581	2.2	2.0		8855581
Inorganics										
Conductivity	mS/cm	1.4	1.4	2.0	2.0	8861105	1.2	1.1	0.002	8861105
Moisture	%	-	-	30	28	8857542	28	26	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	7.25	7.28	8861502	7.63	7.50		8861502
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	<0.01	8858280	<0.01	<0.01	0.01	8858353
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use										
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)										
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition										
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil										

Bureau Veritas ID				WRD360		WRD361		WRD362		
Sampling Date				2023/08/11 08:20		2023/08/11 08:30		2023/08/11 08:45		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-01	QC Batch	BH23-02-02	QC Batch	BH23-02-04	RDL	QC Batch

Calculated Parameters										
Sodium Adsorption Ratio	N/A	12	12	16	8855581	10	8855581	3.0		8855581
Inorganics										
Conductivity	mS/cm	1.4	1.4	0.84	8861105	0.57	8861105	1.6	0.002	8861105
Moisture	%	-	-	24	8857542	24	8857542	28	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	7.75	8861502	7.72	8861502	7.06		8858849
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	8858280	<0.01	8858353	<0.01	0.01	8858208
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use										
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)										
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition										
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil										



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID				WRD363		WRD364			WRD364		
Sampling Date				2023/08/11 09:00		2023/08/11 09:10			2023/08/11 09:10		
COC Number				948522-01-01		948522-01-01			948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-07	QC Batch	BH23-02-09	RDL	QC Batch	BH23-02-09 Lab-Dup	RDL	QC Batch

Calculated Parameters											
Sodium Adsorption Ratio	N/A	12	12	0.97	8855581	0.56		8855581			
Inorganics											
Conductivity	mS/cm	1.4	1.4	0.86	8861105	0.61	0.002	8859653			
Moisture	%	-	-	36	8857542	20	1.0	8857542	18	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	7.04	8858849	7.53		8858849			
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	8858208	<0.01	0.01	8858208			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C303894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD345		WRD346	WRD347		
Sampling Date				2023/08/10 09:30		2023/08/10 09:30	2023/08/10 09:45		
COC Number				948522-01-01		948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-01	QC Batch	BH23-01-011	BH23-01-03	RDL	QC Batch

Inorganics									
Chromium (VI)	ug/g	8	10	<0.18	8858405	<0.18	<0.18	0.18	8858405
Metals									
Hot Water Ext. Boron (B)	ug/g	2	2	0.59	8859732	0.47	0.21	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	<0.20	8861445	0.24	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	1.5	8861445	1.5	1.7	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	200	8861445	230	310	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.75	8861445	0.79	0.91	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	5.7	8861445	6.0	6.4	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	0.12	8861445	0.18	0.15	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	99	8861445	100	140	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	17	8861445	17	25	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	29	8861445	37	59	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	17	8861445	18	11	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	0.68	8861445	0.55	<0.50	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	46	8861445	51	72	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	8861445	<0.50	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	<0.20	8861445	<0.20	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.36	8861445	0.35	0.44	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.95	8861445	0.98	0.97	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	83	8861445	87	110	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	110	8861445	110	130	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	<0.050	8861445	<0.050	<0.050	0.050	8859492

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD348	WRD349	WRD350		
Sampling Date				2023/08/10 09:50	2023/08/10 10:00	2023/08/10 10:15		
COC Number				948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-04	BH23-01-05	BH23-01-06	RDL	QC Batch
Inorganics								
Chromium (VI)	ug/g	8	10	<0.18	0.25	<0.18	0.18	8858405
Metals								
Hot Water Ext. Boron (B)	ug/g	2	2	0.21	0.19	0.19	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	<0.20	<0.20	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	1.5	1.1	<1.0	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	310	300	200	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.87	0.82	0.47	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	6.4	5.9	<5.0	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	0.13	0.13	<0.10	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	140	110	70	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	27	20	13	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	53	49	33	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	8.9	8.0	5.9	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	<0.50	<0.50	<0.50	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	73	56	37	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	<0.50	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	<0.20	<0.20	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.43	0.39	0.24	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.90	0.92	0.74	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	120	100	71	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	130	110	71	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	<0.050	<0.050	<0.050	0.050	8859492
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use								
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)								
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition								
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil								



Bureau Veritas Job #: C3O3894

Report Date: 2023/12/11

AtkinsRéalis

Client Project #: 694129

Site Location: 1440 Prince of Wales Drive, Ottawa, ON

Your P.O. #: 694129

Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD351		WRD352		
Sampling Date				2023/08/10 10:30		2023/08/10 10:40		
COC Number				948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-08	QC Batch	BH23-01-11	RDL	QC Batch
Inorganics								
Chromium (VI)	ug/g	8	10	<0.18	8858405	<0.18	0.18	8858931
Metals								
Hot Water Ext. Boron (B)	ug/g	2	2	0.080	8859824	0.082	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	<0.20	8859492	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	1.7	8859492	<1.0	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	95	8859492	79	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.33	8859492	0.30	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	<5.0	8859492	<5.0	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	<0.10	8859492	<0.10	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	25	8859492	22	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	7.3	8859492	6.7	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	16	8859492	17	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	3.8	8859492	3.5	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	<0.50	8859492	0.73	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	15	8859492	12	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	8859492	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	<0.20	8859492	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.14	8859492	0.15	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.49	8859492	0.98	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	39	8859492	43	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	40	8859492	31	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	<0.050	8859492	<0.050	0.050	8859492
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use								
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)								
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition								
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil								



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD352			WRD353		
Sampling Date				2023/08/10 10:40			2023/08/10 12:30		
COC Number				948522-01-01			948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-11 Lab-Dup	RDL	QC Batch	BH23-03-01	RDL	QC Batch
Inorganics									
Chromium (VI)	ug/g	8	10	<0.18	0.18	8858931	<0.18	0.18	8858405
Metals									
Hot Water Ext. Boron (B)	ug/g	2	2				0.69	0.050	8859824
Acid Extractable Antimony (Sb)	ug/g	40	50				0.56	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18				1.5	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670				180	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10				0.54	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120				5.7	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9				0.22	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160				74	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100				14	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300				26	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120				180	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40				0.75	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340				36	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5				<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50				0.40	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3				0.24	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33				0.62	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86				63	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340				140	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20				0.080	0.050	8859492
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil									



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD353			WRD354	WRD355		
Sampling Date				2023/08/10 12:30			2023/08/10 12:45	2023/08/11 07:20		
COC Number				948522-01-01			948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-01 Lab-Dup	RDL	QC Batch	BH23-03-03	BH23-03-05	RDL	QC Batch

Inorganics										
Chromium (VI)	ug/g	8	10				0.37	0.30	0.18	8858405
Metals										
Hot Water Ext. Boron (B)	ug/g	2	2				0.81	1.1	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	0.95	0.20	8859492	<0.20	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	1.3	1.0	8859492	1.2	1.4	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	190	0.50	8859492	310	310	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.54	0.20	8859492	0.94	0.86	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	5.7	5.0	8859492	7.4	8.4	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	0.21	0.10	8859492	0.11	0.10	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	72	1.0	8859492	140	110	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	14	0.10	8859492	29	23	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	27	0.50	8859492	55	51	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	170	1.0	8859492	14	8.3	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	0.81	0.50	8859492	<0.50	<0.50	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	36	0.50	8859492	76	61	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	0.50	8859492	<0.50	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	0.35	0.20	8859492	<0.20	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.21	0.050	8859492	0.40	0.43	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.66	0.050	8859492	0.98	0.87	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	62	5.0	8859492	110	100	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	130	5.0	8859492	120	110	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	0.072	0.050	8859492	<0.050	<0.050	0.050	8859492

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C303894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD356	WRD357	WRD358	WRD359		
Sampling Date				2023/08/11 07:25	2023/08/11 07:30	2023/08/11 07:40	2023/08/11 07:40		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-06	BH23-03-07	BH23-03-10	BH23-03-100	RDL	QC Batch

Inorganics									
Chromium (VI)	ug/g	8	10	0.23	<0.18	<0.18	<0.18	0.18	8858405
Metals									
Hot Water Ext. Boron (B)	ug/g	2	2	0.80	0.85	0.51	0.34	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	<0.20	<0.20	<0.20	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	1.4	<1.0	1.3	1.6	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	280	250	120	110	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.72	0.59	0.36	0.34	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	6.3	5.4	<5.0	<5.0	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	<0.10	<0.10	<0.10	<0.10	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	93	85	31	28	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	21	16	8.1	7.7	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	43	41	17	16	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	6.8	5.6	3.7	3.9	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	<0.50	<0.50	0.84	0.98	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	54	45	18	16	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	<0.50	<0.50	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	<0.20	<0.20	<0.20	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.35	0.30	0.15	0.15	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.77	0.83	1.5	3.3	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	94	84	46	42	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	100	88	44	40	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	<0.050	<0.050	<0.050	<0.050	0.050	8859492

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C303894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD360	WRD361		WRD362		
Sampling Date				2023/08/11 08:20	2023/08/11 08:30		2023/08/11 08:45		
COC Number				948522-01-01	948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-01	BH23-02-02	QC Batch	BH23-02-04	RDL	QC Batch
Inorganics									
Chromium (VI)	ug/g	8	10	<0.18	<0.18	8858405	0.36	0.18	8858396
Metals									
Hot Water Ext. Boron (B)	ug/g	2	2	0.19	0.16	8859824	0.14	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	0.24	0.22	8859492	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	1.8	1.8	8859492	1.6	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	230	210	8859492	310	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.76	0.68	8859492	0.90	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	5.4	5.1	8859492	6.2	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	0.26	0.25	8859492	0.11	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	100	88	8859492	140	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	19	18	8859492	24	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	48	37	8859492	53	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	44	40	8859492	9.9	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	1.0	0.58	8859492	<0.50	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	53	47	8859492	71	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	<0.50	8859492	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	<0.20	<0.20	8859492	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.30	0.31	8859492	0.41	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.73	0.79	8859492	0.98	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	85	77	8859492	110	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	130	120	8859492	120	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	0.055	0.079	8859492	<0.050	0.050	8859492
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil									



Bureau Veritas Job #: C3O3894

Report Date: 2023/12/11

AtkinsRéalis

Client Project #: 694129

Site Location: 1440 Prince of Wales Drive, Ottawa, ON

Your P.O. #: 694129

Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD363		WRD364		
Sampling Date				2023/08/11 09:00		2023/08/11 09:10		
COC Number				948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-07	RDL	BH23-02-09	RDL	QC Batch
Inorganics								
Chromium (VI)	ug/g	8	10	<0.36 (1)	0.36	<0.18	0.18	8858396
Metals								
Hot Water Ext. Boron (B)	ug/g	2	2	<0.050	0.050	<0.050	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	<0.20	0.20	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	<1.0	1.0	1.6	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	150	0.50	88	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.41	0.20	0.34	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	<5.0	5.0	<5.0	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	<0.10	0.10	<0.10	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	58	1.0	24	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	9.5	0.10	7.3	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	26	0.50	14	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	4.2	1.0	3.7	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	<0.50	0.50	0.75	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	28	0.50	14	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	0.50	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	<0.20	0.20	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.18	0.050	0.13	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.65	0.050	4.3	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	58	5.0	42	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	57	5.0	37	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	<0.050	0.050	<0.050	0.050	8859492
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use								
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)								
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition								
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil								
(1) Detection limits were adjusted for high moisture content								



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD345			WRD345		
Sampling Date				2023/08/10 09:30			2023/08/10 09:30		
COC Number				948522-01-01			948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-01	RDL	QC Batch	BH23-01-01 Lab-Dup	RDL	QC Batch
Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	0.050	8856524			
Volatile Organics									
Acetone (2-Propanone)	ug/g	1.8	28	<1.4 (1)	1.4	8856506	<1.4	1.4	8856506
Benzene	ug/g	0.034	0.4	1.0	0.0060	8856506	1.0	0.0060	8856506
Bromodichloromethane	ug/g	5.8	18	<0.040	0.040	8856506	<0.040	0.040	8856506
Bromoform	ug/g	2.5	1.7	<0.040	0.040	8856506	<0.040	0.040	8856506
Bromomethane	ug/g	0.05	0.05	<0.040	0.040	8856506	<0.040	0.040	8856506
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	0.040	8856506	<0.040	0.040	8856506
Chlorobenzene	ug/g	0.28	2.7	<0.040	0.040	8856506	<0.040	0.040	8856506
Chloroform	ug/g	0.26	0.18	<0.040	0.040	8856506	<0.040	0.040	8856506
Dibromochloromethane	ug/g	5.5	13	<0.040	0.040	8856506	<0.040	0.040	8856506
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	0.040	8856506	<0.040	0.040	8856506
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	0.040	8856506	<0.040	0.040	8856506
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	0.040	8856506	<0.040	0.040	8856506
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	0.040	8856506	<0.040	0.040	8856506
1,1-Dichloroethane	ug/g	0.57	21	<0.040	0.040	8856506	<0.040	0.040	8856506
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	0.049	8856506	<0.049	0.049	8856506
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	0.040	8856506	<0.040	0.040	8856506
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	0.040	8856506	<0.040	0.040	8856506
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	0.040	8856506	<0.040	0.040	8856506
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	0.040	8856506	<0.040	0.040	8856506
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	0.030	8856506	<0.030	0.030	8856506
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	0.040	8856506	<0.040	0.040	8856506
Ethylbenzene	ug/g	1.9	19	0.66	0.010	8856506	0.62	0.010	8856506
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	0.040	8856506	<0.040	0.040	8856506
Hexane	ug/g	2.5	88	0.28	0.040	8856506	0.27	0.040	8856506
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.20 (1)	0.20	8856506	<0.20 (1)	0.20	8856506
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Lab-Dup = Laboratory Initiated Duplicate									
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use									
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)									
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition									
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil									
(1) Detection limit was raised due to matrix interference.									



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD345			WRD345		
Sampling Date				2023/08/10 09:30			2023/08/10 09:30		
COC Number				948522-01-01			948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-01	RDL	QC Batch	BH23-01-01 Lab-Dup	RDL	QC Batch
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	0.40	8856506	<0.40	0.40	8856506
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	0.40	8856506	<0.40	0.40	8856506
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	<0.040	0.040	8856506	<0.040	0.040	8856506
Styrene	ug/g	6.8	43	<0.040	0.040	8856506	<0.040	0.040	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	0.040	8856506	<0.040	0.040	8856506
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	0.040	8856506	<0.040	0.040	8856506
Tetrachloroethylene	ug/g	0.05	21	<0.040	0.040	8856506	<0.040	0.040	8856506
Toluene	ug/g	7.8	78	0.18	0.020	8856506	0.17	0.020	8856506
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	0.040	8856506	<0.040	0.040	8856506
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	0.040	8856506	<0.040	0.040	8856506
Trichloroethylene	ug/g	0.05	0.61	<0.010	0.010	8856506	<0.010	0.010	8856506
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	0.040	8856506	<0.040	0.040	8856506
Vinyl Chloride	ug/g	0.02	0.25	<0.019	0.019	8856506	<0.019	0.019	8856506
p+m-Xylene	ug/g	-	-	0.057	0.020	8856506	0.055	0.020	8856506
o-Xylene	ug/g	-	-	0.086	0.020	8856506	0.081	0.020	8856506
Total Xylenes	ug/g	3	30	0.14	0.020	8856506	0.14	0.020	8856506
F1 (C6-C10)	ug/g	25	65	29	10	8856506	28	10	8856506
F1 (C6-C10) - BTEX	ug/g	25	65	27	10	8856506	26	10	8856506
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	-	-	97		8856506	95		8856506
D10-o-Xylene	%	-	-	115		8856506	109		8856506
D4-1,2-Dichloroethane	%	-	-	97		8856506	98		8856506
D8-Toluene	%	-	-	103		8856506	101		8856506
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil									



Bureau Veritas Job #: C303894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD346		WRD347		WRD348		
Sampling Date				2023/08/10 09:30		2023/08/10 09:45		2023/08/10 09:50		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-011	RDL	BH23-01-03	RDL	BH23-01-04	RDL	QC Batch

Calculated Parameters										
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	0.050	<0.050	0.050	<0.050	0.050	8855624
Volatile Organics										
Acetone (2-Propanone)	ug/g	1.8	28	<1.5 (1)	1.5	<0.49	0.49	<0.49	0.49	8856506
Benzene	ug/g	0.034	0.4	0.44	0.0060	0.11	0.0060	1.1	0.0060	8856506
Bromodichloromethane	ug/g	5.8	18	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Bromoform	ug/g	2.5	1.7	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Bromomethane	ug/g	0.05	0.05	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Chlorobenzene	ug/g	0.28	2.7	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Chloroform	ug/g	0.26	0.18	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Dibromochloromethane	ug/g	5.5	13	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,1-Dichloroethane	ug/g	0.57	21	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	0.049	<0.049	0.049	<0.049	0.049	8856506
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	0.030	<0.030	0.030	<0.030	0.030	8856506
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Ethylbenzene	ug/g	1.9	19	0.77	0.010	0.14	0.010	1.9	0.010	8856506
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Hexane	ug/g	2.5	88	0.13	0.040	<0.040	0.040	0.33	0.040	8856506
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.30 (1)	0.30	<0.049	0.049	<0.050 (1)	0.050	8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil

(1) Detection limit was raised due to matrix interference.



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD346		WRD347		WRD348		
Sampling Date				2023/08/10 09:30		2023/08/10 09:45		2023/08/10 09:50		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-011	RDL	BH23-01-03	RDL	BH23-01-04	RDL	QC Batch
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	0.40	<0.40	0.40	<0.40	0.40	8856506
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	0.40	<0.40	0.40	<0.40	0.40	8856506
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Styrene	ug/g	6.8	43	<0.040	0.040	<0.040	0.040	<0.080 (1)	0.080	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Tetrachloroethylene	ug/g	0.05	21	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Toluene	ug/g	7.8	78	0.092	0.020	<0.020	0.020	0.14	0.020	8856506
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Trichloroethylene	ug/g	0.05	0.61	<0.010	0.010	<0.010	0.010	<0.010	0.010	8856506
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Vinyl Chloride	ug/g	0.02	0.25	<0.019	0.019	<0.019	0.019	<0.019	0.019	8856506
p+m-Xylene	ug/g	-	-	0.043	0.020	<0.020	0.020	5.6	0.020	8856506
o-Xylene	ug/g	-	-	0.081	0.020	<0.020	0.020	1.8	0.020	8856506
Total Xylenes	ug/g	3	30	0.12	0.020	<0.020	0.020	7.4	0.020	8856506
F1 (C6-C10)	ug/g	25	65	33	10	<10	10	37	10	8856506
F1 (C6-C10) - BTEX	ug/g	25	65	31	10	<10	10	27	10	8856506
Surrogate Recovery (%)										
4-Bromofluorobenzene	%	-	-	95		98		98		8856506
D10-o-Xylene	%	-	-	116		109		124		8856506
D4-1,2-Dichloroethane	%	-	-	98		103		98		8856506
D8-Toluene	%	-	-	103		97		101		8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil

(1) Detection limit was raised due to matrix interference.



Bureau Veritas Job #: C303894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD349		WRD350		WRD351		
Sampling Date				2023/08/10 10:00		2023/08/10 10:15		2023/08/10 10:30		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-05	RDL	BH23-01-06	RDL	BH23-01-08	RDL	QC Batch

Calculated Parameters										
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	0.050	<0.050	0.050	<0.050	0.050	8855624
Volatile Organics										
Acetone (2-Propanone)	ug/g	1.8	28	<6.3 (1)	6.3	<8.8 (1)	8.8	<0.49	0.49	8856506
Benzene	ug/g	0.034	0.4	4.1	0.0060	5.8	0.0060	1.1	0.0060	8856506
Bromodichloromethane	ug/g	5.8	18	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Bromoform	ug/g	2.5	1.7	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Bromomethane	ug/g	0.05	0.05	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Chlorobenzene	ug/g	0.28	2.7	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Chloroform	ug/g	0.26	0.18	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Dibromochloromethane	ug/g	5.5	13	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,1-Dichloroethane	ug/g	0.57	21	<0.050 (1)	0.050	<0.070 (1)	0.070	<0.040	0.040	8856506
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	0.049	<0.049	0.049	<0.049	0.049	8856506
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	0.030	<0.030	0.030	<0.030	0.030	8856506
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Ethylbenzene	ug/g	1.9	19	13	0.010	20	0.10	1.6	0.010	8856506
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Hexane	ug/g	2.5	88	9.4	0.040	19	0.040	0.45	0.040	8856506
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.060 (1)	0.060	<0.070 (1)	0.070	<0.049	0.049	8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil

(1) Detection limit was raised due to matrix interference.



Bureau Veritas Job #: C303894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD349		WRD350		WRD351		
Sampling Date				2023/08/10 10:00		2023/08/10 10:15		2023/08/10 10:30		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-05	RDL	BH23-01-06	RDL	BH23-01-08	RDL	QC Batch
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	0.40	<0.40	0.40	<0.40	0.40	8856506
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	0.40	<0.40	0.40	<0.40	0.40	8856506
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	<0.060 (1)	0.060	0.055 (1)	0.040	<0.040	0.040	8856506
Styrene	ug/g	6.8	43	<0.80 (1)	0.80	<1.2 (1)	1.2	<0.040	0.040	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Tetrachloroethylene	ug/g	0.05	21	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Toluene	ug/g	7.8	78	24	0.10	43	0.20	0.21	0.020	8856506
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Trichloroethylene	ug/g	0.05	0.61	<0.010	0.010	<0.010	0.010	<0.010	0.010	8856506
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Vinyl Chloride	ug/g	0.02	0.25	<0.019	0.019	<0.019	0.019	<0.019	0.019	8856506
p+m-Xylene	ug/g	-	-	53	0.10	83	0.20	1.1	0.020	8856506
o-Xylene	ug/g	-	-	19	0.020	29	0.20	0.45	0.020	8856506
Total Xylenes	ug/g	3	30	72	0.10	110	0.20	1.5	0.020	8856506
F1 (C6-C10)	ug/g	25	65	370	50	610	100	14	10	8856506
F1 (C6-C10) - BTEX	ug/g	25	65	260	50	430	100	<10	10	8856506
Surrogate Recovery (%)										
4-Bromofluorobenzene	%	-	-	94		93		98		8856506
D10-o-Xylene	%	-	-	117		115		120		8856506
D4-1,2-Dichloroethane	%	-	-	92		90		96		8856506
D8-Toluene	%	-	-	105		105		101		8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil

(1) Detection limit was raised due to matrix interference.



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD352	WRD353	WRD354	WRD355		
Sampling Date				2023/08/10 10:40	2023/08/10 12:30	2023/08/10 12:45	2023/08/11 07:20		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-11	BH23-03-01	BH23-03-03	BH23-03-05	RDL	QC Batch

Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	<0.050	<0.050	<0.050	0.050	8855624
Volatile Organics									
Acetone (2-Propanone)	ug/g	1.8	28	<0.49	<0.49	<0.49	<0.49	0.49	8856506
Benzene	ug/g	0.034	0.4	1.3	<0.0060	<0.0060	<0.0060	0.0060	8856506
Bromodichloromethane	ug/g	5.8	18	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Bromoform	ug/g	2.5	1.7	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Bromomethane	ug/g	0.05	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Chlorobenzene	ug/g	0.28	2.7	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Chloroform	ug/g	0.26	0.18	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Dibromochloromethane	ug/g	5.5	13	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1-Dichloroethane	ug/g	0.57	21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	<0.049	<0.049	<0.049	0.049	8856506
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	<0.040	<0.040	<0.040	0.040	8856506
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	<0.040	<0.040	<0.040	0.040	8856506
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	<0.040	<0.040	<0.040	0.040	8856506
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	<0.030	<0.030	<0.030	0.030	8856506
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Ethylbenzene	ug/g	1.9	19	0.037	<0.010	<0.010	<0.010	0.010	8856506
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Hexane	ug/g	2.5	88	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.049	<0.049	<0.049	<0.049	0.049	8856506
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	<0.40	<0.40	<0.40	0.40	8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD352	WRD353	WRD354	WRD355		
Sampling Date				2023/08/10 10:40	2023/08/10 12:30	2023/08/10 12:45	2023/08/11 07:20		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-11	BH23-03-01	BH23-03-03	BH23-03-05	RDL	QC Batch
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	<0.40	<0.40	<0.40	0.40	8856506
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	0.12	<0.040	<0.040	<0.040	0.040	8856506
Styrene	ug/g	6.8	43	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Tetrachloroethylene	ug/g	0.05	21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Toluene	ug/g	7.8	78	0.028	<0.020	<0.020	<0.020	0.020	8856506
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Trichloroethylene	ug/g	0.05	0.61	<0.010	<0.010	<0.010	<0.010	0.010	8856506
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Vinyl Chloride	ug/g	0.02	0.25	<0.019	<0.019	<0.019	<0.019	0.019	8856506
p+m-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	0.020	8856506
o-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	0.020	8856506
Total Xylenes	ug/g	3	30	<0.020	<0.020	<0.020	<0.020	0.020	8856506
F1 (C6-C10)	ug/g	25	65	<10	<10	<10	<10	10	8856506
F1 (C6-C10) - BTEX	ug/g	25	65	<10	<10	<10	<10	10	8856506
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	-	-	97	98	97	97		8856506
D10-o-Xylene	%	-	-	114	105	108	107		8856506
D4-1,2-Dichloroethane	%	-	-	100	102	102	102		8856506
D8-Toluene	%	-	-	99	98	98	98		8856506
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil									



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD356	WRD357	WRD358	WRD359		
Sampling Date				2023/08/11 07:25	2023/08/11 07:30	2023/08/11 07:40	2023/08/11 07:40		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-06	BH23-03-07	BH23-03-10	BH23-03-100	RDL	QC Batch

Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	<0.050	<0.050	<0.050	0.050	8855624
Volatile Organics									
Acetone (2-Propanone)	ug/g	1.8	28	<0.49	<0.49	<0.49	<0.49	0.49	8856506
Benzene	ug/g	0.034	0.4	<0.0060	<0.0060	<0.0060	<0.0060	0.0060	8856506
Bromodichloromethane	ug/g	5.8	18	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Bromoform	ug/g	2.5	1.7	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Bromomethane	ug/g	0.05	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Chlorobenzene	ug/g	0.28	2.7	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Chloroform	ug/g	0.26	0.18	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Dibromochloromethane	ug/g	5.5	13	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1-Dichloroethane	ug/g	0.57	21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	<0.049	<0.049	<0.049	0.049	8856506
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	<0.040	<0.040	<0.040	0.040	8856506
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	<0.040	<0.040	<0.040	0.040	8856506
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	<0.040	<0.040	<0.040	0.040	8856506
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	<0.030	<0.030	<0.030	0.030	8856506
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Ethylbenzene	ug/g	1.9	19	<0.010	<0.010	<0.010	<0.010	0.010	8856506
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Hexane	ug/g	2.5	88	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.049	<0.049	<0.049	<0.049	0.049	8856506
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	<0.40	<0.40	<0.40	0.40	8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD356	WRD357	WRD358	WRD359		
Sampling Date				2023/08/11 07:25	2023/08/11 07:30	2023/08/11 07:40	2023/08/11 07:40		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-06	BH23-03-07	BH23-03-10	BH23-03-100	RDL	QC Batch
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	<0.40	<0.40	<0.40	0.40	8856506
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Styrene	ug/g	6.8	43	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Tetrachloroethylene	ug/g	0.05	21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Toluene	ug/g	7.8	78	<0.020	<0.020	<0.020	<0.020	0.020	8856506
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Trichloroethylene	ug/g	0.05	0.61	<0.010	<0.010	<0.010	<0.010	0.010	8856506
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Vinyl Chloride	ug/g	0.02	0.25	<0.019	<0.019	<0.019	<0.019	0.019	8856506
p+m-Xylene	ug/g	-	-	<0.020	<0.020	0.025	<0.020	0.020	8856506
o-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	0.020	8856506
Total Xylenes	ug/g	3	30	<0.020	<0.020	0.025	<0.020	0.020	8856506
F1 (C6-C10)	ug/g	25	65	<10	<10	<10	<10	10	8856506
F1 (C6-C10) - BTEX	ug/g	25	65	<10	<10	<10	<10	10	8856506
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	-	-	97	96	97	97		8856506
D10-o-Xylene	%	-	-	107	104	114	102		8856506
D4-1,2-Dichloroethane	%	-	-	102	102	104	102		8856506
D8-Toluene	%	-	-	99	99	98	99		8856506
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil									



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD360	WRD361	WRD362	WRD363		
Sampling Date				2023/08/11 08:20	2023/08/11 08:30	2023/08/11 08:45	2023/08/11 09:00		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-01	BH23-02-02	BH23-02-04	BH23-02-07	RDL	QC Batch

Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	<0.050	<0.050	<0.050	0.050	8855624
Volatile Organics									
Acetone (2-Propanone)	ug/g	1.8	28	<0.49	<0.49	<0.49	<0.49	0.49	8856506
Benzene	ug/g	0.034	0.4	<0.0060	<0.0060	<0.0060	<0.0060	0.0060	8856506
Bromodichloromethane	ug/g	5.8	18	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Bromoform	ug/g	2.5	1.7	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Bromomethane	ug/g	0.05	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Chlorobenzene	ug/g	0.28	2.7	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Chloroform	ug/g	0.26	0.18	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Dibromochloromethane	ug/g	5.5	13	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1-Dichloroethane	ug/g	0.57	21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	<0.049	<0.049	<0.049	0.049	8856506
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	<0.040	<0.040	<0.040	0.040	8856506
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	<0.040	<0.040	<0.040	0.040	8856506
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	<0.040	<0.040	<0.040	0.040	8856506
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	<0.030	<0.030	<0.030	0.030	8856506
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Ethylbenzene	ug/g	1.9	19	<0.010	<0.010	<0.010	<0.010	0.010	8856506
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Hexane	ug/g	2.5	88	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.049	<0.049	<0.049	<0.049	0.049	8856506
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	<0.40	<0.40	<0.40	0.40	8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD360	WRD361	WRD362	WRD363		
Sampling Date				2023/08/11 08:20	2023/08/11 08:30	2023/08/11 08:45	2023/08/11 09:00		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-01	BH23-02-02	BH23-02-04	BH23-02-07	RDL	QC Batch
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	<0.40	<0.40	<0.40	0.40	8856506
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Styrene	ug/g	6.8	43	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Tetrachloroethylene	ug/g	0.05	21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Toluene	ug/g	7.8	78	<0.020	<0.020	<0.020	<0.020	0.020	8856506
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Trichloroethylene	ug/g	0.05	0.61	<0.010	<0.010	<0.010	<0.010	0.010	8856506
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Vinyl Chloride	ug/g	0.02	0.25	<0.019	<0.019	<0.019	<0.019	0.019	8856506
p+m-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	0.020	8856506
o-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	0.020	8856506
Total Xylenes	ug/g	3	30	<0.020	<0.020	<0.020	<0.020	0.020	8856506
F1 (C6-C10)	ug/g	25	65	<10	<10	<10	<10	10	8856506
F1 (C6-C10) - BTEX	ug/g	25	65	<10	<10	<10	<10	10	8856506
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	-	-	97	97	98	98		8856506
D10-o-Xylene	%	-	-	104	105	107	109		8856506
D4-1,2-Dichloroethane	%	-	-	105	103	104	102		8856506
D8-Toluene	%	-	-	97	98	98	99		8856506
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil									



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD364		WRD444		
Sampling Date				2023/08/11 09:10		2023/08/11		
COC Number				948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-09	QC Batch	TRIP BLANK	RDL	QC Batch
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	8856506	<0.050	0.050	8870639
Volatile Organics								
Acetone (2-Propanone)	ug/g	1.8	28	<0.49	8856506	<0.49	0.49	8870689
Benzene	ug/g	0.034	0.4	<0.0060	8856506	<0.0060	0.0060	8870689
Bromodichloromethane	ug/g	5.8	18	<0.040	8856506	<0.040	0.040	8870689
Bromoform	ug/g	2.5	1.7	<0.040	8856506	<0.040	0.040	8870689
Bromomethane	ug/g	0.05	0.05	<0.040	8856506	<0.040	0.040	8870689
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	8856506	<0.040	0.040	8870689
Chlorobenzene	ug/g	0.28	2.7	<0.040	8856506	<0.040	0.040	8870689
Chloroform	ug/g	0.26	0.18	<0.040	8856506	<0.040	0.040	8870689
Dibromochloromethane	ug/g	5.5	13	<0.040	8856506	<0.040	0.040	8870689
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	8856506	<0.040	0.040	8870689
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	8856506	<0.040	0.040	8870689
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	8856506	<0.040	0.040	8870689
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	8856506	<0.040	0.040	8870689
1,1-Dichloroethane	ug/g	0.57	21	<0.040	8856506	<0.040	0.040	8870689
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	8856506	<0.049	0.049	8870689
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	8856506	<0.040	0.040	8870689
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	8856506	<0.040	0.040	8870689
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	8856506	<0.040	0.040	8870689
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	8856506	<0.040	0.040	8870689
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	8856506	<0.030	0.030	8870689
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	8856506	<0.040	0.040	8870689
Ethylbenzene	ug/g	1.9	19	<0.010	8856506	<0.010	0.010	8870689
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	8856506	<0.040	0.040	8870689
Hexane	ug/g	2.5	88	<0.040	8856506	<0.040	0.040	8870689
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.049	8856506	<0.049	0.049	8870689
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	8856506	<0.40	0.40	8870689
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use								
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)								
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition								
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil								



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD364		WRD444		
Sampling Date				2023/08/11 09:10		2023/08/11		
COC Number				948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-09	QC Batch	TRIP BLANK	RDL	QC Batch
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	8856506	<0.40	0.40	8870689
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	<0.040	8856506	<0.040	0.040	8870689
Styrene	ug/g	6.8	43	<0.040	8856506	<0.040	0.040	8870689
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	8856506	<0.040	0.040	8870689
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	8856506	<0.040	0.040	8870689
Tetrachloroethylene	ug/g	0.05	21	<0.040	8856506	<0.040	0.040	8870689
Toluene	ug/g	7.8	78	<0.020	8856506	<0.020	0.020	8870689
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	8856506	<0.040	0.040	8870689
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	8856506	<0.040	0.040	8870689
Trichloroethylene	ug/g	0.05	0.61	<0.010	8856506	<0.010	0.010	8870689
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	8856506	<0.040	0.040	8870689
Vinyl Chloride	ug/g	0.02	0.25	<0.019	8856506	<0.019	0.019	8870689
p+m-Xylene	ug/g	-	-	<0.020	8856506	<0.020	0.020	8870689
o-Xylene	ug/g	-	-	<0.020	8856506	<0.020	0.020	8870689
Total Xylenes	ug/g	3	30	<0.020	8856506	<0.020	0.020	8870689
F1 (C6-C10)	ug/g	25	65	<10	8856506	<10	10	8870689
F1 (C6-C10) - BTEX	ug/g	25	65	<10	8856506	<10	10	8870689
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	-	-	96	8856506	97		8870689
D10-o-Xylene	%	-	-	102	8856506	98		8870689
D4-1,2-Dichloroethane	%	-	-	104	8856506	96		8870689
D8-Toluene	%	-	-	98	8856506	94		8870689
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil								



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID				WRD345	WRD346	WRD347	WRD348	WRD349		
Sampling Date				2023/08/10 09:30	2023/08/10 09:30	2023/08/10 09:45	2023/08/10 09:50	2023/08/10 10:00		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-01	BH23-01-011	BH23-01-03	BH23-01-04	BH23-01-05	RDL	QC Batch

F2-F4 Hydrocarbons

F2 (C10-C16 Hydrocarbons)	ug/g	26	250	<10	<10	<10	51	110	10	8858684
F3 (C16-C34 Hydrocarbons)	ug/g	1700	2500	56	<50	55	<50	<50	50	8858684
F4 (C34-C50 Hydrocarbons)	ug/g	3300	6600	51	<50	<50	<50	<50	50	8858684
Reached Baseline at C50	ug/g	-	-	Yes	Yes	Yes	Yes	Yes		8858684

Surrogate Recovery (%)

o-Terphenyl	%	-	-	90	101	102	104	92		8858684
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil

Bureau Veritas ID				WRD349	WRD350	WRD351	WRD352	WRD353		
Sampling Date				2023/08/10 10:00	2023/08/10 10:15	2023/08/10 10:30	2023/08/10 10:40	2023/08/10 12:30		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-05 Lab-Dup	BH23-01-06	BH23-01-08	BH23-01-11	BH23-03-01	RDL	QC Batch

F2-F4 Hydrocarbons

F2 (C10-C16 Hydrocarbons)	ug/g	26	250	130	810	<10	<10	<10	10	8858684
F3 (C16-C34 Hydrocarbons)	ug/g	1700	2500	<50	120	<50	<50	100	50	8858684
F4 (C34-C50 Hydrocarbons)	ug/g	3300	6600	<50	<50	<50	<50	<50	50	8858684
Reached Baseline at C50	ug/g	-	-	Yes	Yes	Yes	Yes	Yes		8858684

Surrogate Recovery (%)

o-Terphenyl	%	-	-	102	101	98	102	98		8858684
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID				WRD354	WRD355	WRD356	WRD357	WRD358		
Sampling Date				2023/08/10 12:45	2023/08/11 07:20	2023/08/11 07:25	2023/08/11 07:30	2023/08/11 07:40		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-03	BH23-03-05	BH23-03-06	BH23-03-07	BH23-03-10	RDL	QC Batch

F2-F4 Hydrocarbons

F2 (C10-C16 Hydrocarbons)	ug/g	26	250	<10	<10	<10	<10	<10	10	8858684
F3 (C16-C34 Hydrocarbons)	ug/g	1700	2500	<50	<50	<50	<50	<50	50	8858684
F4 (C34-C50 Hydrocarbons)	ug/g	3300	6600	<50	<50	<50	<50	<50	50	8858684
Reached Baseline at C50	ug/g	-	-	Yes	Yes	Yes	Yes	Yes		8858684

Surrogate Recovery (%)

o-Terphenyl	%	-	-	99	99	102	102	101		8858684
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil

Bureau Veritas ID				WRD359	WRD360	WRD361	WRD362	WRD363		
Sampling Date				2023/08/11 07:40	2023/08/11 08:20	2023/08/11 08:30	2023/08/11 08:45	2023/08/11 09:00		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-100	BH23-02-01	BH23-02-02	BH23-02-04	BH23-02-07	RDL	QC Batch

F2-F4 Hydrocarbons

F2 (C10-C16 Hydrocarbons)	ug/g	26	250	<10	<10	<10	<10	<10	10	8858684
F3 (C16-C34 Hydrocarbons)	ug/g	1700	2500	<50	<50	<50	<50	<50	50	8858684
F4 (C34-C50 Hydrocarbons)	ug/g	3300	6600	<50	82	51	<50	<50	50	8858684
Reached Baseline at C50	ug/g	-	-	Yes	Yes	Yes	Yes	Yes		8858684

Surrogate Recovery (%)

o-Terphenyl	%	-	-	102	100	100	101	102		8858684
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID				WRD364		
Sampling Date				2023/08/11 09:10		
COC Number				948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-09	RDL	QC Batch
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/g	26	250	<10	10	8858684
F3 (C16-C34 Hydrocarbons)	ug/g	1700	2500	<50	50	8858684
F4 (C34-C50 Hydrocarbons)	ug/g	3300	6600	<50	50	8858684
Reached Baseline at C50	ug/g	-	-	Yes		8858684
Surrogate Recovery (%)						
o-Terphenyl	%	-	-	94		8858684
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil						



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD345
Sample ID: BH23-01-01
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee K AUR
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8861445	2023/08/18	2023/08/18	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD345 Dup
Sample ID: BH23-01-01
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD346
Sample ID: BH23-01-011
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858208	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee K AUR
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD347
Sample ID: BH23-01-03
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8861168	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee K AUR



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD347
Sample ID: BH23-01-03
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD348
Sample ID: BH23-01-04
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8859653	2023/08/17	2023/08/17	Leily Karimi
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/18	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD348 Dup
Sample ID: BH23-01-04
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl ₂ EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee Kaur

Bureau Veritas ID: WRD349
Sample ID: BH23-01-05
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/21	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee Kaur
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
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Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD349
Sample ID: BH23-01-05
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl ₂ EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD349 Dup
Sample ID: BH23-01-05
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam

Bureau Veritas ID: WRD350
Sample ID: BH23-01-06
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/21	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8859653	2023/08/17	2023/08/17	Leily Karimi
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/18	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD351
Sample ID: BH23-01-08
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859824	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee K AUR
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang



Bureau Veritas Job #: C3O3894
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Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD352
Sample ID: BH23-01-11
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8859653	2023/08/17	2023/08/17	Leily Karimi
Hexavalent Chromium in Soil by IC	IC/SPEC	8858931	2023/08/17	2023/08/18	Surleen Kaur Romana
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/18	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD352 Dup
Sample ID: BH23-01-11
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hexavalent Chromium in Soil by IC	IC/SPEC	8858931	2023/08/17	2023/08/18	Surleen Kaur Romana

Bureau Veritas ID: WRD353
Sample ID: BH23-03-01
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859824	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858353	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee Kaur
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD353 Dup
Sample ID: BH23-03-01
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul



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TEST SUMMARY

Bureau Veritas ID: WRD354
Sample ID: BH23-03-03
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858353	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8859653	2023/08/17	2023/08/17	Leily Karimi
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee KAU
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/18	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD355
Sample ID: BH23-03-05
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858353	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee KAU
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee KAU
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD356
Sample ID: BH23-03-06
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee KAU
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee KAU
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk



Bureau Veritas Job #: C3O3894
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TEST SUMMARY

Bureau Veritas ID: WRD356
Sample ID: BH23-03-06
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD357
Sample ID: BH23-03-07
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee KAU
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee KAU
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD358
Sample ID: BH23-03-10
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858353	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee KAU
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee KAU
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD359
Sample ID: BH23-03-100
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858353	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee KAU



Bureau Veritas Job #: C303894
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TEST SUMMARY

Bureau Veritas ID: WRD359
Sample ID: BH23-03-100
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD360
Sample ID: BH23-02-01
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859824	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee Kaur
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD361
Sample ID: BH23-02-02
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859824	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858353	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee Kaur
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang



Bureau Veritas Job #: C3O3894
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Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD362
Sample ID: BH23-02-04
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858208	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee K AUR
Hexavalent Chromium in Soil by IC	IC/SPEC	8858396	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD363
Sample ID: BH23-02-07
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858208	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee K AUR
Hexavalent Chromium in Soil by IC	IC/SPEC	8858396	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD364
Sample ID: BH23-02-09
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858208	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8859653	2023/08/17	2023/08/17	Leily Karimi
Hexavalent Chromium in Soil by IC	IC/SPEC	8858396	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/18	Automated Statchk



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalise
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD364
Sample ID: BH23-02-09
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD364 Dup
Sample ID: BH23-02-09
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai

Bureau Veritas ID: WRD444
Sample ID: TRIP BLANK
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8870639	N/A	2023/08/24	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8870689	N/A	2023/08/23	Hai Son Tran



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.3°C
Package 2	6.3°C

Report revised [2023/12/11] - 1,2-Dichlorethane results for sample BH23-01-11, corrected.

Revised report[2023/08/24] - Criteria included as per client request.

Revised report[2023/08/30] - MTBE DL updated WRD350 as per client request

Sample WRD346 [BH23-01-011] : VOC/F1 Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample WRD349 [BH23-01-05] : VOC/F1 Analysis: Due to high concentrations of target analytes, sample required dilution. Detection limits were adjusted accordingly. In order to achieve lower reporting limits, results for selected compounds (obtained by a separate analysis using an appropriate low dilution) are included in the report.

Sample WRD350 [BH23-01-06] : VOC/F1 Analysis: Due to high concentrations of target analytes, sample required dilution. Detection limits were adjusted accordingly. In order to achieve lower reporting limits, results for selected compounds (obtained by a separate analysis using an appropriate low dilution) are included in the report.

Sample WRD364 [BH23-02-09] : VOC/F1 Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Results relate only to the items tested.



Bureau Veritas Job #: C3O3894
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Sampler Initials: JT

QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8856506	DW5	Matrix Spike [WRD345-03]		4-Bromofluorobenzene	2023/08/18		99	%	60 - 140
				D10-o-Xylene	2023/08/18		119	%	60 - 130
				D4-1,2-Dichloroethane	2023/08/18		98	%	60 - 140
				D8-Toluene	2023/08/18		107	%	60 - 140
				Acetone (2-Propanone)	2023/08/18		83	%	60 - 140
				Benzene	2023/08/18		82	%	60 - 140
				Bromodichloromethane	2023/08/18		85	%	60 - 140
				Bromoform	2023/08/18		97	%	60 - 140
				Bromomethane	2023/08/18		76	%	60 - 140
				Carbon Tetrachloride	2023/08/18		81	%	60 - 140
				Chlorobenzene	2023/08/18		94	%	60 - 140
				Chloroform	2023/08/18		84	%	60 - 140
				Dibromochloromethane	2023/08/18		96	%	60 - 140
				1,2-Dichlorobenzene	2023/08/18		99	%	60 - 140
				1,3-Dichlorobenzene	2023/08/18		99	%	60 - 140
				1,4-Dichlorobenzene	2023/08/18		103	%	60 - 140
				Dichlorodifluoromethane (FREON 12)	2023/08/18		64	%	60 - 140
				1,1-Dichloroethane	2023/08/18		83	%	60 - 140
				1,2-Dichloroethane	2023/08/18		86	%	60 - 140
				1,1-Dichloroethylene	2023/08/18		78	%	60 - 140
				cis-1,2-Dichloroethylene	2023/08/18		84	%	60 - 140
				trans-1,2-Dichloroethylene	2023/08/18		79	%	60 - 140
				1,2-Dichloropropane	2023/08/18		87	%	60 - 140
				cis-1,3-Dichloropropene	2023/08/18		80	%	60 - 140
				trans-1,3-Dichloropropene	2023/08/18		88	%	60 - 140
				Ethylbenzene	2023/08/18		96	%	60 - 140
				Ethylene Dibromide	2023/08/18		97	%	60 - 140
				Hexane	2023/08/18		82	%	60 - 140
				Methylene Chloride(Dichloromethane)	2023/08/18		80	%	60 - 140
				Methyl Ethyl Ketone (2-Butanone)	2023/08/18		89	%	60 - 140
				Methyl Isobutyl Ketone	2023/08/18		90	%	60 - 140
				Methyl t-butyl ether (MTBE)	2023/08/18		85	%	60 - 140
				Styrene	2023/08/18		99	%	60 - 140
				1,1,1,2-Tetrachloroethane	2023/08/18		96	%	60 - 140
				1,1,2,2-Tetrachloroethane	2023/08/18		99	%	60 - 140
				Tetrachloroethylene	2023/08/18		90	%	60 - 140
				Toluene	2023/08/18		93	%	60 - 140
				1,1,1-Trichloroethane	2023/08/18		82	%	60 - 140
				1,1,2-Trichloroethane	2023/08/18		97	%	60 - 140
				Trichloroethylene	2023/08/18		83	%	60 - 140
				Trichlorofluoromethane (FREON 11)	2023/08/18		80	%	60 - 140
				Vinyl Chloride	2023/08/18		75	%	60 - 140
				p+m-Xylene	2023/08/18		96	%	60 - 140
				o-Xylene	2023/08/18		95	%	60 - 140
				F1 (C6-C10)	2023/08/18		75	%	60 - 140
8856506	DW5	Spiked Blank		4-Bromofluorobenzene	2023/08/18		101	%	60 - 140
				D10-o-Xylene	2023/08/18		94	%	60 - 130
				D4-1,2-Dichloroethane	2023/08/18		101	%	60 - 140
				D8-Toluene	2023/08/18		107	%	60 - 140
				Acetone (2-Propanone)	2023/08/18		87	%	60 - 140
				Benzene	2023/08/18		85	%	60 - 130



Bureau Veritas Job #: C3O3894
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Sampler Initials: JT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				Bromodichloromethane	2023/08/18		88	%	60 - 130
				Bromoform	2023/08/18		99	%	60 - 130
				Bromomethane	2023/08/18		83	%	60 - 140
				Carbon Tetrachloride	2023/08/18		87	%	60 - 130
				Chlorobenzene	2023/08/18		94	%	60 - 130
				Chloroform	2023/08/18		87	%	60 - 130
				Dibromochloromethane	2023/08/18		98	%	60 - 130
				1,2-Dichlorobenzene	2023/08/18		99	%	60 - 130
				1,3-Dichlorobenzene	2023/08/18		99	%	60 - 130
				1,4-Dichlorobenzene	2023/08/18		101	%	60 - 130
				Dichlorodifluoromethane (FREON 12)	2023/08/18		72	%	60 - 140
				1,1-Dichloroethane	2023/08/18		88	%	60 - 130
				1,2-Dichloroethane	2023/08/18		89	%	60 - 130
				1,1-Dichloroethylene	2023/08/18		83	%	60 - 130
				cis-1,2-Dichloroethylene	2023/08/18		87	%	60 - 130
				trans-1,2-Dichloroethylene	2023/08/18		82	%	60 - 130
				1,2-Dichloropropane	2023/08/18		90	%	60 - 130
				cis-1,3-Dichloropropene	2023/08/18		84	%	60 - 130
				trans-1,3-Dichloropropene	2023/08/18		95	%	60 - 130
				Ethylbenzene	2023/08/18		95	%	60 - 130
				Ethylene Dibromide	2023/08/18		99	%	60 - 130
				Hexane	2023/08/18		86	%	60 - 130
				Methylene Chloride(Dichloromethane)	2023/08/18		83	%	60 - 130
				Methyl Ethyl Ketone (2-Butanone)	2023/08/18		93	%	60 - 140
				Methyl Isobutyl Ketone	2023/08/18		90	%	60 - 130
				Methyl t-butyl ether (MTBE)	2023/08/18		87	%	60 - 130
				Styrene	2023/08/18		99	%	60 - 130
				1,1,1,2-Tetrachloroethane	2023/08/18		99	%	60 - 130
				1,1,2,2-Tetrachloroethane	2023/08/18		101	%	60 - 130
				Tetrachloroethylene	2023/08/18		93	%	60 - 130
				Toluene	2023/08/18		95	%	60 - 130
				1,1,1-Trichloroethane	2023/08/18		87	%	60 - 130
				1,1,2-Trichloroethane	2023/08/18		100	%	60 - 130
				Trichloroethylene	2023/08/18		86	%	60 - 130
				Trichlorofluoromethane (FREON 11)	2023/08/18		87	%	60 - 130
				Vinyl Chloride	2023/08/18		81	%	60 - 130
				p+m-Xylene	2023/08/18		94	%	60 - 130
				o-Xylene	2023/08/18		97	%	60 - 130
				F1 (C6-C10)	2023/08/18		84	%	80 - 120
8856506	DW5		Method Blank	4-Bromofluorobenzene	2023/08/18		97	%	60 - 140
				D10-o-Xylene	2023/08/18		101	%	60 - 130
				D4-1,2-Dichloroethane	2023/08/18		102	%	60 - 140
				D8-Toluene	2023/08/18		98	%	60 - 140
				Acetone (2-Propanone)	2023/08/18	<0.49		ug/g	
				Benzene	2023/08/18	<0.0060		ug/g	
				Bromodichloromethane	2023/08/18	<0.040		ug/g	
				Bromoform	2023/08/18	<0.040		ug/g	
				Bromomethane	2023/08/18	<0.040		ug/g	
				Carbon Tetrachloride	2023/08/18	<0.040		ug/g	
				Chlorobenzene	2023/08/18	<0.040		ug/g	
				Chloroform	2023/08/18	<0.040		ug/g	
				Dibromochloromethane	2023/08/18	<0.040		ug/g	



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

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Sampler Initials: JT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				1,2-Dichlorobenzene	2023/08/18	<0.040		ug/g	
				1,3-Dichlorobenzene	2023/08/18	<0.040		ug/g	
				1,4-Dichlorobenzene	2023/08/18	<0.040		ug/g	
				Dichlorodifluoromethane (FREON 12)	2023/08/18	<0.040		ug/g	
				1,1-Dichloroethane	2023/08/18	<0.040		ug/g	
				1,2-Dichloroethane	2023/08/18	<0.049		ug/g	
				1,1-Dichloroethylene	2023/08/18	<0.040		ug/g	
				cis-1,2-Dichloroethylene	2023/08/18	<0.040		ug/g	
				trans-1,2-Dichloroethylene	2023/08/18	<0.040		ug/g	
				1,2-Dichloropropane	2023/08/18	<0.040		ug/g	
				cis-1,3-Dichloropropene	2023/08/18	<0.030		ug/g	
				trans-1,3-Dichloropropene	2023/08/18	<0.040		ug/g	
				Ethylbenzene	2023/08/18	<0.010		ug/g	
				Ethylene Dibromide	2023/08/18	<0.040		ug/g	
				Hexane	2023/08/18	<0.040		ug/g	
				Methylene Chloride(Dichloromethane)	2023/08/18	<0.049		ug/g	
				Methyl Ethyl Ketone (2-Butanone)	2023/08/18	<0.40		ug/g	
				Methyl Isobutyl Ketone	2023/08/18	<0.40		ug/g	
				Methyl t-butyl ether (MTBE)	2023/08/18	<0.040		ug/g	
				Styrene	2023/08/18	<0.040		ug/g	
				1,1,1,2-Tetrachloroethane	2023/08/18	<0.040		ug/g	
				1,1,2,2-Tetrachloroethane	2023/08/18	<0.040		ug/g	
				Tetrachloroethylene	2023/08/18	<0.040		ug/g	
				Toluene	2023/08/18	<0.020		ug/g	
				1,1,1-Trichloroethane	2023/08/18	<0.040		ug/g	
				1,1,2-Trichloroethane	2023/08/18	<0.040		ug/g	
				Trichloroethylene	2023/08/18	<0.010		ug/g	
				Trichlorofluoromethane (FREON 11)	2023/08/18	<0.040		ug/g	
				Vinyl Chloride	2023/08/18	<0.019		ug/g	
				p+m-Xylene	2023/08/18	<0.020		ug/g	
				o-Xylene	2023/08/18	<0.020		ug/g	
				Total Xylenes	2023/08/18	<0.020		ug/g	
				F1 (C6-C10)	2023/08/18	<10		ug/g	
				F1 (C6-C10) - BTEX	2023/08/18	<10		ug/g	
8856506	DW5	RPD [WRD345-03]		Acetone (2-Propanone)	2023/08/18	NC		%	50
				Benzene	2023/08/18	4.4		%	50
				Bromodichloromethane	2023/08/18	NC		%	50
				Bromoform	2023/08/18	NC		%	50
				Bromomethane	2023/08/18	NC		%	50
				Carbon Tetrachloride	2023/08/18	NC		%	50
				Chlorobenzene	2023/08/18	NC		%	50
				Chloroform	2023/08/18	NC		%	50
				Dibromochloromethane	2023/08/18	NC		%	50
				1,2-Dichlorobenzene	2023/08/18	NC		%	50
				1,3-Dichlorobenzene	2023/08/18	NC		%	50
				1,4-Dichlorobenzene	2023/08/18	NC		%	50
				Dichlorodifluoromethane (FREON 12)	2023/08/18	NC		%	50
				1,1-Dichloroethane	2023/08/18	NC		%	50
				1,2-Dichloroethane	2023/08/18	NC		%	50
				1,1-Dichloroethylene	2023/08/18	NC		%	50
				cis-1,2-Dichloroethylene	2023/08/18	NC		%	50
				trans-1,2-Dichloroethylene	2023/08/18	NC		%	50



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Report Date: 2023/12/11

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Sampler Initials: JT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			1,2-Dichloropropane	2023/08/18	NC		%	50
			cis-1,3-Dichloropropene	2023/08/18	NC		%	50
			trans-1,3-Dichloropropene	2023/08/18	NC		%	50
			Ethylbenzene	2023/08/18	5.8		%	50
			Ethylene Dibromide	2023/08/18	NC		%	50
			Hexane	2023/08/18	4.3		%	50
			Methylene Chloride(Dichloromethane)	2023/08/18	NC (1)		%	50
			Methyl Ethyl Ketone (2-Butanone)	2023/08/18	NC		%	50
			Methyl Isobutyl Ketone	2023/08/18	NC		%	50
			Methyl t-butyl ether (MTBE)	2023/08/18	NC		%	50
			Styrene	2023/08/18	NC		%	50
			1,1,1,2-Tetrachloroethane	2023/08/18	NC		%	50
			1,1,2,2-Tetrachloroethane	2023/08/18	NC		%	50
			Tetrachloroethylene	2023/08/18	NC		%	50
			Toluene	2023/08/18	5.1		%	50
			1,1,1-Trichloroethane	2023/08/18	NC		%	50
			1,1,2-Trichloroethane	2023/08/18	NC		%	50
			Trichloroethylene	2023/08/18	NC		%	50
			Trichlorofluoromethane (FREON 11)	2023/08/18	NC		%	50
			Vinyl Chloride	2023/08/18	NC		%	50
			p+m-Xylene	2023/08/18	2.1		%	50
			o-Xylene	2023/08/18	5.6		%	50
			Total Xylenes	2023/08/18	4.2		%	50
			F1 (C6-C10)	2023/08/18	4.2		%	30
			F1 (C6-C10) - BTEX	2023/08/18	4.1		%	30
8857542	MUC	RPD [WRD364-01]	Moisture	2023/08/16	13		%	20
8858208	GYA	Matrix Spike	WAD Cyanide (Free)	2023/08/17		90	%	75 - 125
8858208	GYA	Spiked Blank	WAD Cyanide (Free)	2023/08/17		97	%	80 - 120
8858208	GYA	Method Blank	WAD Cyanide (Free)	2023/08/17	<0.01		ug/g	
8858208	GYA	RPD	WAD Cyanide (Free)	2023/08/17	NC		%	35
8858280	GYA	Matrix Spike	WAD Cyanide (Free)	2023/08/17		79	%	75 - 125
8858280	GYA	Spiked Blank	WAD Cyanide (Free)	2023/08/17		88	%	80 - 120
8858280	GYA	Method Blank	WAD Cyanide (Free)	2023/08/17	<0.01		ug/g	
8858280	GYA	RPD	WAD Cyanide (Free)	2023/08/17	NC		%	35
8858353	GYA	Matrix Spike	WAD Cyanide (Free)	2023/08/18		86	%	75 - 125
8858353	GYA	Spiked Blank	WAD Cyanide (Free)	2023/08/18		93	%	80 - 120
8858353	GYA	Method Blank	WAD Cyanide (Free)	2023/08/18	<0.01		ug/g	
8858353	GYA	RPD	WAD Cyanide (Free)	2023/08/18	NC		%	35
8858396	SB5	Matrix Spike	Chromium (VI)	2023/08/18		85	%	70 - 130
8858396	SB5	Spiked Blank	Chromium (VI)	2023/08/18		91	%	80 - 120
8858396	SB5	Method Blank	Chromium (VI)	2023/08/18	<0.18		ug/g	
8858396	SB5	RPD	Chromium (VI)	2023/08/18	NC		%	35
8858405	SB5	Matrix Spike	Chromium (VI)	2023/08/18		88	%	70 - 130
8858405	SB5	Spiked Blank	Chromium (VI)	2023/08/18		91	%	80 - 120
8858405	SB5	Method Blank	Chromium (VI)	2023/08/18	<0.18		ug/g	
8858405	SB5	RPD	Chromium (VI)	2023/08/18	NC		%	35
8858684	JJE	Matrix Spike [WRD349-02]	o-Terphenyl	2023/08/17		103	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2023/08/17		112	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2023/08/17		107	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2023/08/17		109	%	60 - 130
8858684	JJE	Spiked Blank	o-Terphenyl	2023/08/17		95	%	60 - 130



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8858684	JJE	Method Blank	F2 (C10-C16 Hydrocarbons)	2023/08/17		89	%	80 - 120
			F3 (C16-C34 Hydrocarbons)	2023/08/17		116	%	80 - 120
			F4 (C34-C50 Hydrocarbons)	2023/08/17		110	%	80 - 120
			o-Terphenyl	2023/08/17		95	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2023/08/17	<10		ug/g	
8858684	JJE	RPD [WRD349-02]	F3 (C16-C34 Hydrocarbons)	2023/08/17	<50		ug/g	
			F4 (C34-C50 Hydrocarbons)	2023/08/17	<50		ug/g	
			F2 (C10-C16 Hydrocarbons)	2023/08/18	16		%	30
			F3 (C16-C34 Hydrocarbons)	2023/08/18	NC		%	30
			F4 (C34-C50 Hydrocarbons)	2023/08/18	NC		%	30
8858849	GTK	Spiked Blank	Available (CaCl ₂) pH	2023/08/17		100	%	97 - 103
8858849	GTK	RPD [WRD348-01]	Available (CaCl ₂) pH	2023/08/17	2.5		%	N/A
8858931	SUR	Matrix Spike [WRD352-01]	Chromium (VI)	2023/08/18		67 (2)	%	70 - 130
8858931	SUR	Spiked Blank	Chromium (VI)	2023/08/18		92	%	80 - 120
8858931	SUR	Method Blank	Chromium (VI)	2023/08/18	<0.18		ug/g	
8858931	SUR	RPD [WRD352-01]	Chromium (VI)	2023/08/18	NC		%	35
8859492	IHP	Matrix Spike [WRD353-01]	Acid Extractable Antimony (Sb)	2023/08/17		88	%	75 - 125
8859492	IHP	Spiked Blank	Acid Extractable Arsenic (As)	2023/08/17		98	%	75 - 125
			Acid Extractable Barium (Ba)	2023/08/17		NC	%	75 - 125
			Acid Extractable Beryllium (Be)	2023/08/17		101	%	75 - 125
			Acid Extractable Boron (B)	2023/08/17		99	%	75 - 125
			Acid Extractable Cadmium (Cd)	2023/08/17		101	%	75 - 125
			Acid Extractable Chromium (Cr)	2023/08/17		NC	%	75 - 125
			Acid Extractable Cobalt (Co)	2023/08/17		106	%	75 - 125
			Acid Extractable Copper (Cu)	2023/08/17		NC	%	75 - 125
			Acid Extractable Lead (Pb)	2023/08/17		NC	%	75 - 125
			Acid Extractable Molybdenum (Mo)	2023/08/17		104	%	75 - 125
			Acid Extractable Nickel (Ni)	2023/08/17		NC	%	75 - 125
			Acid Extractable Selenium (Se)	2023/08/17		100	%	75 - 125
			Acid Extractable Silver (Ag)	2023/08/17		102	%	75 - 125
			Acid Extractable Thallium (Tl)	2023/08/17		104	%	75 - 125
			Acid Extractable Uranium (U)	2023/08/17		105	%	75 - 125
			Acid Extractable Vanadium (V)	2023/08/17		NC	%	75 - 125
			Acid Extractable Zinc (Zn)	2023/08/17		NC	%	75 - 125
			Acid Extractable Mercury (Hg)	2023/08/17		102	%	75 - 125
			Acid Extractable Antimony (Sb)	2023/08/17		99	%	80 - 120
			Acid Extractable Arsenic (As)	2023/08/17		100	%	80 - 120
			Acid Extractable Barium (Ba)	2023/08/17		103	%	80 - 120
			Acid Extractable Beryllium (Be)	2023/08/17		96	%	80 - 120
			Acid Extractable Boron (B)	2023/08/17		96	%	80 - 120
			Acid Extractable Cadmium (Cd)	2023/08/17		96	%	80 - 120
			Acid Extractable Chromium (Cr)	2023/08/17		101	%	80 - 120
			Acid Extractable Cobalt (Co)	2023/08/17		98	%	80 - 120
			Acid Extractable Copper (Cu)	2023/08/17		101	%	80 - 120
			Acid Extractable Lead (Pb)	2023/08/17		101	%	80 - 120
			Acid Extractable Molybdenum (Mo)	2023/08/17		100	%	80 - 120
			Acid Extractable Nickel (Ni)	2023/08/17		97	%	80 - 120
			Acid Extractable Selenium (Se)	2023/08/17		100	%	80 - 120
			Acid Extractable Silver (Ag)	2023/08/17		99	%	80 - 120
			Acid Extractable Thallium (Tl)	2023/08/17		100	%	80 - 120



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8859492	IHP	Method Blank	Acid Extractable Uranium (U)	2023/08/17		100	%	80 - 120
			Acid Extractable Vanadium (V)	2023/08/17		101	%	80 - 120
			Acid Extractable Zinc (Zn)	2023/08/17		98	%	80 - 120
			Acid Extractable Mercury (Hg)	2023/08/17		99	%	80 - 120
			Acid Extractable Antimony (Sb)	2023/08/17	<0.20		ug/g	
			Acid Extractable Arsenic (As)	2023/08/17	<1.0		ug/g	
			Acid Extractable Barium (Ba)	2023/08/17	<0.50		ug/g	
			Acid Extractable Beryllium (Be)	2023/08/17	<0.20		ug/g	
			Acid Extractable Boron (B)	2023/08/17	<5.0		ug/g	
			Acid Extractable Cadmium (Cd)	2023/08/17	<0.10		ug/g	
			Acid Extractable Chromium (Cr)	2023/08/17	<1.0		ug/g	
			Acid Extractable Cobalt (Co)	2023/08/17	<0.10		ug/g	
			Acid Extractable Copper (Cu)	2023/08/17	<0.50		ug/g	
			Acid Extractable Lead (Pb)	2023/08/17	<1.0		ug/g	
			Acid Extractable Molybdenum (Mo)	2023/08/17	<0.50		ug/g	
			Acid Extractable Nickel (Ni)	2023/08/17	<0.50		ug/g	
			Acid Extractable Selenium (Se)	2023/08/17	<0.50		ug/g	
			Acid Extractable Silver (Ag)	2023/08/17	<0.20		ug/g	
			Acid Extractable Thallium (Tl)	2023/08/17	<0.050		ug/g	
			Acid Extractable Uranium (U)	2023/08/17	<0.050		ug/g	
			Acid Extractable Vanadium (V)	2023/08/17	<5.0		ug/g	
			Acid Extractable Zinc (Zn)	2023/08/17	<5.0		ug/g	
			Acid Extractable Mercury (Hg)	2023/08/17	<0.050		ug/g	
8859492	IHP	RPD [WRD353-01]	Acid Extractable Antimony (Sb)	2023/08/17	NC		%	30
			Acid Extractable Arsenic (As)	2023/08/17	10		%	30
			Acid Extractable Barium (Ba)	2023/08/17	1.9		%	30
			Acid Extractable Beryllium (Be)	2023/08/17	0.94		%	30
			Acid Extractable Boron (B)	2023/08/17	0.0064		%	30
			Acid Extractable Cadmium (Cd)	2023/08/17	5.2		%	30
			Acid Extractable Chromium (Cr)	2023/08/17	2.7		%	30
			Acid Extractable Cobalt (Co)	2023/08/17	1.3		%	30
			Acid Extractable Copper (Cu)	2023/08/17	1.9		%	30
			Acid Extractable Lead (Pb)	2023/08/17	7.6		%	30
			Acid Extractable Molybdenum (Mo)	2023/08/17	6.8		%	30
			Acid Extractable Nickel (Ni)	2023/08/17	0.41		%	30
			Acid Extractable Selenium (Se)	2023/08/17	NC		%	30
			Acid Extractable Silver (Ag)	2023/08/17	13		%	30
			Acid Extractable Thallium (Tl)	2023/08/17	13		%	30
			Acid Extractable Uranium (U)	2023/08/17	5.3		%	30
			Acid Extractable Vanadium (V)	2023/08/17	0.42		%	30
			Acid Extractable Zinc (Zn)	2023/08/17	3.2		%	30
			Acid Extractable Mercury (Hg)	2023/08/17	10		%	30
8859653	LKI	Spiked Blank	Conductivity	2023/08/17		103	%	90 - 110
8859653	LKI	Method Blank	Conductivity	2023/08/17	<0.002		mS/cm	
8859653	LKI	RPD	Conductivity	2023/08/17	1.6		%	10
8859732	MEN	Matrix Spike	Hot Water Ext. Boron (B)	2023/08/17		102	%	75 - 125
8859732	MEN	Spiked Blank	Hot Water Ext. Boron (B)	2023/08/17		102	%	75 - 125
8859732	MEN	Method Blank	Hot Water Ext. Boron (B)	2023/08/17	<0.050		ug/g	
8859732	MEN	RPD	Hot Water Ext. Boron (B)	2023/08/17	3.5		%	40
8859824	MEN	Matrix Spike	Hot Water Ext. Boron (B)	2023/08/17		101	%	75 - 125
8859824	MEN	Spiked Blank	Hot Water Ext. Boron (B)	2023/08/17		105	%	75 - 125
8859824	MEN	Method Blank	Hot Water Ext. Boron (B)	2023/08/17	<0.050		ug/g	



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	8859824	MEN	RPD	Hot Water Ext. Boron (B)	2023/08/17	21		%	40
	8861105	GTK	Spiked Blank	Conductivity	2023/08/18		102	%	90 - 110
	8861105	GTK	Method Blank	Conductivity	2023/08/18	<0.002		mS/cm	
	8861105	GTK	RPD	Conductivity	2023/08/18	0.86		%	10
	8861168	GYA	Matrix Spike	WAD Cyanide (Free)	2023/08/18		85	%	75 - 125
	8861168	GYA	Spiked Blank	WAD Cyanide (Free)	2023/08/18		92	%	80 - 120
	8861168	GYA	Method Blank	WAD Cyanide (Free)	2023/08/18	<0.01		ug/g	
	8861168	GYA	RPD	WAD Cyanide (Free)	2023/08/18	NC		%	35
	8861445	IHP	Matrix Spike	Acid Extractable Antimony (Sb)	2023/08/18		89	%	75 - 125
				Acid Extractable Arsenic (As)	2023/08/18		90	%	75 - 125
				Acid Extractable Barium (Ba)	2023/08/18		NC	%	75 - 125
				Acid Extractable Beryllium (Be)	2023/08/18		93	%	75 - 125
				Acid Extractable Boron (B)	2023/08/18		89	%	75 - 125
				Acid Extractable Cadmium (Cd)	2023/08/18		96	%	75 - 125
				Acid Extractable Chromium (Cr)	2023/08/18		97	%	75 - 125
				Acid Extractable Cobalt (Co)	2023/08/18		96	%	75 - 125
				Acid Extractable Copper (Cu)	2023/08/18		94	%	75 - 125
				Acid Extractable Lead (Pb)	2023/08/18		98	%	75 - 125
				Acid Extractable Molybdenum (Mo)	2023/08/18		101	%	75 - 125
				Acid Extractable Nickel (Ni)	2023/08/18		93	%	75 - 125
				Acid Extractable Selenium (Se)	2023/08/18		95	%	75 - 125
				Acid Extractable Silver (Ag)	2023/08/18		101	%	75 - 125
				Acid Extractable Thallium (Tl)	2023/08/18		100	%	75 - 125
				Acid Extractable Uranium (U)	2023/08/18		101	%	75 - 125
				Acid Extractable Vanadium (V)	2023/08/18		102	%	75 - 125
				Acid Extractable Zinc (Zn)	2023/08/18		NC	%	75 - 125
				Acid Extractable Mercury (Hg)	2023/08/18		96	%	75 - 125
	8861445	IHP	Spiked Blank	Acid Extractable Antimony (Sb)	2023/08/18		97	%	80 - 120
				Acid Extractable Arsenic (As)	2023/08/18		99	%	80 - 120
				Acid Extractable Barium (Ba)	2023/08/18		92	%	80 - 120
				Acid Extractable Beryllium (Be)	2023/08/18		97	%	80 - 120
				Acid Extractable Boron (B)	2023/08/18		97	%	80 - 120
				Acid Extractable Cadmium (Cd)	2023/08/18		100	%	80 - 120
				Acid Extractable Chromium (Cr)	2023/08/18		98	%	80 - 120
				Acid Extractable Cobalt (Co)	2023/08/18		100	%	80 - 120
				Acid Extractable Copper (Cu)	2023/08/18		101	%	80 - 120
				Acid Extractable Lead (Pb)	2023/08/18		106	%	80 - 120
				Acid Extractable Molybdenum (Mo)	2023/08/18		100	%	80 - 120
				Acid Extractable Nickel (Ni)	2023/08/18		100	%	80 - 120
				Acid Extractable Selenium (Se)	2023/08/18		103	%	80 - 120
				Acid Extractable Silver (Ag)	2023/08/18		104	%	80 - 120
				Acid Extractable Thallium (Tl)	2023/08/18		106	%	80 - 120
				Acid Extractable Uranium (U)	2023/08/18		107	%	80 - 120
				Acid Extractable Vanadium (V)	2023/08/18		99	%	80 - 120
				Acid Extractable Zinc (Zn)	2023/08/18		98	%	80 - 120
				Acid Extractable Mercury (Hg)	2023/08/18		105	%	80 - 120
	8861445	IHP	Method Blank	Acid Extractable Antimony (Sb)	2023/08/18	<0.20		ug/g	
				Acid Extractable Arsenic (As)	2023/08/18	<1.0		ug/g	
				Acid Extractable Barium (Ba)	2023/08/18	<0.50		ug/g	
				Acid Extractable Beryllium (Be)	2023/08/18	<0.20		ug/g	
				Acid Extractable Boron (B)	2023/08/18	<5.0		ug/g	
				Acid Extractable Cadmium (Cd)	2023/08/18	<0.10		ug/g	



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8861445	IHP	RPD		Acid Extractable Chromium (Cr)	2023/08/18	<1.0		ug/g	
				Acid Extractable Cobalt (Co)	2023/08/18	<0.10		ug/g	
				Acid Extractable Copper (Cu)	2023/08/18	<0.50		ug/g	
				Acid Extractable Lead (Pb)	2023/08/18	<1.0		ug/g	
				Acid Extractable Molybdenum (Mo)	2023/08/18	<0.50		ug/g	
				Acid Extractable Nickel (Ni)	2023/08/18	<0.50		ug/g	
				Acid Extractable Selenium (Se)	2023/08/18	<0.50		ug/g	
				Acid Extractable Silver (Ag)	2023/08/18	<0.20		ug/g	
				Acid Extractable Thallium (Tl)	2023/08/18	<0.050		ug/g	
				Acid Extractable Uranium (U)	2023/08/18	<0.050		ug/g	
				Acid Extractable Vanadium (V)	2023/08/18	<5.0		ug/g	
				Acid Extractable Zinc (Zn)	2023/08/18	<5.0		ug/g	
				Acid Extractable Mercury (Hg)	2023/08/18	<0.050		ug/g	
				Acid Extractable Antimony (Sb)	2023/08/18	NC		%	30
				Acid Extractable Arsenic (As)	2023/08/18	20		%	30
				Acid Extractable Barium (Ba)	2023/08/18	0.44		%	30
				Acid Extractable Beryllium (Be)	2023/08/18	2.7		%	30
				Acid Extractable Boron (B)	2023/08/18	2.7		%	30
				Acid Extractable Cadmium (Cd)	2023/08/18	NC		%	30
				Acid Extractable Chromium (Cr)	2023/08/18	0.63		%	30
				Acid Extractable Cobalt (Co)	2023/08/18	5.5		%	30
				Acid Extractable Copper (Cu)	2023/08/18	2.5		%	30
				Acid Extractable Lead (Pb)	2023/08/18	1.7		%	30
				Acid Extractable Molybdenum (Mo)	2023/08/18	NC		%	30
				Acid Extractable Nickel (Ni)	2023/08/18	0.16		%	30
				Acid Extractable Selenium (Se)	2023/08/18	NC		%	30
				Acid Extractable Silver (Ag)	2023/08/18	NC		%	30
				Acid Extractable Thallium (Tl)	2023/08/18	7.0		%	30
				Acid Extractable Uranium (U)	2023/08/18	1.9		%	30
				Acid Extractable Vanadium (V)	2023/08/18	2.2		%	30
				Acid Extractable Zinc (Zn)	2023/08/18	7.4		%	30
				Acid Extractable Mercury (Hg)	2023/08/18	NC		%	30
8861502	GTK	Spiked Blank		Available (CaCl2) pH	2023/08/18		101	%	97 - 103
8861502	GTK	RPD		Available (CaCl2) pH	2023/08/18	1.2		%	N/A
8870689	HST	Matrix Spike		4-Bromofluorobenzene	2023/08/23		100	%	60 - 140
				D10-o-Xylene	2023/08/23		103	%	60 - 130
				D4-1,2-Dichloroethane	2023/08/23		93	%	60 - 140
				D8-Toluene	2023/08/23		107	%	60 - 140
				Acetone (2-Propanone)	2023/08/23		95	%	60 - 140
				Benzene	2023/08/23		90	%	60 - 140
				Bromodichloromethane	2023/08/23		88	%	60 - 140
				Bromoform	2023/08/23		83	%	60 - 140
				Bromomethane	2023/08/23		81	%	60 - 140
				Carbon Tetrachloride	2023/08/23		95	%	60 - 140
				Chlorobenzene	2023/08/23		93	%	60 - 140
				Chloroform	2023/08/23		92	%	60 - 140
				Dibromochloromethane	2023/08/23		88	%	60 - 140
				1,2-Dichlorobenzene	2023/08/23		95	%	60 - 140
				1,3-Dichlorobenzene	2023/08/23		98	%	60 - 140
				1,4-Dichlorobenzene	2023/08/23		99	%	60 - 140
				Dichlorodifluoromethane (FREON 12)	2023/08/23		72	%	60 - 140
				1,1-Dichloroethane	2023/08/23		93	%	60 - 140



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8870689	HST	Spiked Blank		1,2-Dichloroethane	2023/08/23		88	%	60 - 140
				1,1-Dichloroethylene	2023/08/23		96	%	60 - 140
				cis-1,2-Dichloroethylene	2023/08/23		91	%	60 - 140
				trans-1,2-Dichloroethylene	2023/08/23		96	%	60 - 140
				1,2-Dichloropropane	2023/08/23		91	%	60 - 140
				cis-1,3-Dichloropropene	2023/08/23		80	%	60 - 140
				trans-1,3-Dichloropropene	2023/08/23		83	%	60 - 140
				Ethylbenzene	2023/08/23		97	%	60 - 140
				Ethylene Dibromide	2023/08/23		87	%	60 - 140
				Hexane	2023/08/23		99	%	60 - 140
				Methylene Chloride(Dichloromethane)	2023/08/23		86	%	60 - 140
				Methyl Ethyl Ketone (2-Butanone)	2023/08/23		88	%	60 - 140
				Methyl Isobutyl Ketone	2023/08/23		86	%	60 - 140
				Methyl t-butyl ether (MTBE)	2023/08/23		88	%	60 - 140
				Styrene	2023/08/23		98	%	60 - 140
				1,1,1,2-Tetrachloroethane	2023/08/23		92	%	60 - 140
				1,1,2,2-Tetrachloroethane	2023/08/23		84	%	60 - 140
				Tetrachloroethylene	2023/08/23		98	%	60 - 140
				Toluene	2023/08/23		99	%	60 - 140
				1,1,1-Trichloroethane	2023/08/23		94	%	60 - 140
				1,1,2-Trichloroethane	2023/08/23		88	%	60 - 140
				Trichloroethylene	2023/08/23		95	%	60 - 140
				Trichlorofluoromethane (FREON 11)	2023/08/23		89	%	60 - 140
				Vinyl Chloride	2023/08/23		86	%	60 - 140
				p+m-Xylene	2023/08/23		99	%	60 - 140
				o-Xylene	2023/08/23		99	%	60 - 140
				F1 (C6-C10)	2023/08/23		80	%	60 - 140
				4-Bromofluorobenzene	2023/08/23		100	%	60 - 140
				D10-o-Xylene	2023/08/23		108	%	60 - 130
				D4-1,2-Dichloroethane	2023/08/23		94	%	60 - 140
				D8-Toluene	2023/08/23		107	%	60 - 140
				Acetone (2-Propanone)	2023/08/23		94	%	60 - 140
				Benzene	2023/08/23		91	%	60 - 130
				Bromodichloromethane	2023/08/23		89	%	60 - 130
				Bromoform	2023/08/23		85	%	60 - 130
				Bromomethane	2023/08/23		85	%	60 - 140
				Carbon Tetrachloride	2023/08/23		97	%	60 - 130
				Chlorobenzene	2023/08/23		94	%	60 - 130
				Chloroform	2023/08/23		93	%	60 - 130
				Dibromochloromethane	2023/08/23		89	%	60 - 130
				1,2-Dichlorobenzene	2023/08/23		95	%	60 - 130
				1,3-Dichlorobenzene	2023/08/23		98	%	60 - 130
				1,4-Dichlorobenzene	2023/08/23		99	%	60 - 130
				Dichlorodifluoromethane (FREON 12)	2023/08/23		73	%	60 - 140
				1,1-Dichloroethane	2023/08/23		94	%	60 - 130
				1,2-Dichloroethane	2023/08/23		90	%	60 - 130
				1,1-Dichloroethylene	2023/08/23		97	%	60 - 130
				cis-1,2-Dichloroethylene	2023/08/23		92	%	60 - 130
				trans-1,2-Dichloroethylene	2023/08/23		97	%	60 - 130
				1,2-Dichloropropane	2023/08/23		91	%	60 - 130
				cis-1,3-Dichloropropene	2023/08/23		86	%	60 - 130
				trans-1,3-Dichloropropene	2023/08/23		89	%	60 - 130



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8870689	HST	Method Blank	Ethylbenzene	2023/08/23		99	%	60 - 130
			Ethylene Dibromide	2023/08/23		88	%	60 - 130
			Hexane	2023/08/23		102	%	60 - 130
			Methylene Chloride(Dichloromethane)	2023/08/23		87	%	60 - 130
			Methyl Ethyl Ketone (2-Butanone)	2023/08/23		88	%	60 - 140
			Methyl Isobutyl Ketone	2023/08/23		87	%	60 - 130
			Methyl t-butyl ether (MTBE)	2023/08/23		89	%	60 - 130
			Styrene	2023/08/23		99	%	60 - 130
			1,1,1,2-Tetrachloroethane	2023/08/23		94	%	60 - 130
			1,1,2,2-Tetrachloroethane	2023/08/23		85	%	60 - 130
			Tetrachloroethylene	2023/08/23		100	%	60 - 130
			Toluene	2023/08/23		99	%	60 - 130
			1,1,1-Trichloroethane	2023/08/23		96	%	60 - 130
			1,1,2-Trichloroethane	2023/08/23		89	%	60 - 130
			Trichloroethylene	2023/08/23		96	%	60 - 130
			Trichlorofluoromethane (FREON 11)	2023/08/23		91	%	60 - 130
			Vinyl Chloride	2023/08/23		87	%	60 - 130
			p+m-Xylene	2023/08/23		99	%	60 - 130
			o-Xylene	2023/08/23		99	%	60 - 130
			F1 (C6-C10)	2023/08/23		87	%	80 - 120
			4-Bromofluorobenzene	2023/08/23		96	%	60 - 140
			D10-o-Xylene	2023/08/23		87	%	60 - 130
			D4-1,2-Dichloroethane	2023/08/23		96	%	60 - 140
			D8-Toluene	2023/08/23		94	%	60 - 140
			Acetone (2-Propanone)	2023/08/23	<0.49		ug/g	
			Benzene	2023/08/23	<0.0060		ug/g	
			Bromodichloromethane	2023/08/23	<0.040		ug/g	
			Bromoform	2023/08/23	<0.040		ug/g	
			Bromomethane	2023/08/23	<0.040		ug/g	
			Carbon Tetrachloride	2023/08/23	<0.040		ug/g	
			Chlorobenzene	2023/08/23	<0.040		ug/g	
			Chloroform	2023/08/23	<0.040		ug/g	
			Dibromochloromethane	2023/08/23	<0.040		ug/g	
			1,2-Dichlorobenzene	2023/08/23	<0.040		ug/g	
			1,3-Dichlorobenzene	2023/08/23	<0.040		ug/g	
			1,4-Dichlorobenzene	2023/08/23	<0.040		ug/g	
			Dichlorodifluoromethane (FREON 12)	2023/08/23	<0.040		ug/g	
			1,1-Dichloroethane	2023/08/23	<0.040		ug/g	
			1,2-Dichloroethane	2023/08/23	<0.049		ug/g	
			1,1-Dichloroethylene	2023/08/23	<0.040		ug/g	
			cis-1,2-Dichloroethylene	2023/08/23	<0.040		ug/g	
			trans-1,2-Dichloroethylene	2023/08/23	<0.040		ug/g	
			1,2-Dichloropropane	2023/08/23	<0.040		ug/g	
			cis-1,3-Dichloropropene	2023/08/23	<0.030		ug/g	
			trans-1,3-Dichloropropene	2023/08/23	<0.040		ug/g	
			Ethylbenzene	2023/08/23	<0.010		ug/g	
			Ethylene Dibromide	2023/08/23	<0.040		ug/g	
			Hexane	2023/08/23	<0.040		ug/g	
			Methylene Chloride(Dichloromethane)	2023/08/23	<0.049		ug/g	
			Methyl Ethyl Ketone (2-Butanone)	2023/08/23	<0.40		ug/g	
			Methyl Isobutyl Ketone	2023/08/23	<0.40		ug/g	
			Methyl t-butyl ether (MTBE)	2023/08/23	<0.040		ug/g	



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8870689	HST	RPD	Styrene	2023/08/23	<0.040		ug/g	
			1,1,1,2-Tetrachloroethane	2023/08/23	<0.040		ug/g	
			1,1,2,2-Tetrachloroethane	2023/08/23	<0.040		ug/g	
			Tetrachloroethylene	2023/08/23	<0.040		ug/g	
			Toluene	2023/08/23	<0.020		ug/g	
			1,1,1-Trichloroethane	2023/08/23	<0.040		ug/g	
			1,1,2-Trichloroethane	2023/08/23	<0.040		ug/g	
			Trichloroethylene	2023/08/23	<0.010		ug/g	
			Trichlorofluoromethane (FREON 11)	2023/08/23	<0.040		ug/g	
			Vinyl Chloride	2023/08/23	<0.019		ug/g	
			p+m-Xylene	2023/08/23	<0.020		ug/g	
			o-Xylene	2023/08/23	<0.020		ug/g	
			Total Xylenes	2023/08/23	<0.020		ug/g	
			F1 (C6-C10)	2023/08/23	<10		ug/g	
			F1 (C6-C10) - BTEX	2023/08/23	<10		ug/g	
			Acetone (2-Propanone)	2023/08/23	NC		%	50
			Benzene	2023/08/23	0.46		%	50
			Bromodichloromethane	2023/08/23	NC		%	50
			Bromoform	2023/08/23	NC		%	50
			Bromomethane	2023/08/23	NC		%	50
			Carbon Tetrachloride	2023/08/23	NC		%	50
			Chlorobenzene	2023/08/23	NC		%	50
			Chloroform	2023/08/23	NC		%	50
			Dibromochloromethane	2023/08/23	NC		%	50
			1,2-Dichlorobenzene	2023/08/23	NC		%	50
			1,3-Dichlorobenzene	2023/08/23	NC		%	50
			1,4-Dichlorobenzene	2023/08/23	NC		%	50
			Dichlorodifluoromethane (FREON 12)	2023/08/23	NC		%	50
			1,1-Dichloroethane	2023/08/23	NC		%	50
			1,2-Dichloroethane	2023/08/23	NC		%	50
			1,1-Dichloroethylene	2023/08/23	NC		%	50
			cis-1,2-Dichloroethylene	2023/08/23	NC		%	50
			trans-1,2-Dichloroethylene	2023/08/23	NC		%	50
			1,2-Dichloropropane	2023/08/23	NC		%	50
			cis-1,3-Dichloropropene	2023/08/23	NC		%	50
			trans-1,3-Dichloropropene	2023/08/23	NC		%	50
			Ethylbenzene	2023/08/23	2.0		%	50
			Ethylene Dibromide	2023/08/23	NC		%	50
			Hexane	2023/08/23	NC		%	50
			Methylene Chloride(Dichloromethane)	2023/08/23	NC		%	50
			Methyl Ethyl Ketone (2-Butanone)	2023/08/23	NC		%	50
			Methyl Isobutyl Ketone	2023/08/23	NC		%	50
			Methyl t-butyl ether (MTBE)	2023/08/23	NC		%	50
			Styrene	2023/08/23	NC		%	50
			1,1,1,2-Tetrachloroethane	2023/08/23	NC		%	50
			1,1,2,2-Tetrachloroethane	2023/08/23	NC		%	50
			Tetrachloroethylene	2023/08/23	NC		%	50
			Toluene	2023/08/23	1.8		%	50
			1,1,1-Trichloroethane	2023/08/23	NC		%	50
			1,1,2-Trichloroethane	2023/08/23	NC		%	50
			Trichloroethylene	2023/08/23	NC		%	50
			Trichlorofluoromethane (FREON 11)	2023/08/23	NC		%	50



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Vinyl Chloride	2023/08/23	NC		%	50
			p+m-Xylene	2023/08/23	1.1		%	50
			o-Xylene	2023/08/23	2.3		%	50
			Total Xylenes	2023/08/23	1.7		%	50
			F1 (C6-C10)	2023/08/23	NC		%	30
			F1 (C6-C10) - BTEX	2023/08/23	NC		%	30

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times$ RDL).

(1) Detection limit was raised due to matrix interference.

(2) The matrix spike recovery was below the lower control limit. This may be due in part to the reducing environment of the sample. The sample was re-analyzed with the same results



Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Bureau Veritas
6740 Campbell Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-free 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Received by *Dee*

11-Aug-23 12:13

Deepti Shaji

C303894

SPJ

ENV-1645

COC #:



C#948522-01-01

Only:

Bottle Order #:



Project Manager:

Deepti Shaji

INVOICE TO:
Company Name: #21644 SNC-Lavalin Inc
Attention: Accounts Payable
Address: 455 René-Lévesque Blvd. West
Montreal QC H2Z 1Z3
Tel: (514) 393-1000 Fax: (514) 866-0795
Email: Payables@snc-lavalin.com

REPORT TO:
Company Name: #13786 SNC-Lavalin Inc
Attention: Akriti Atawala
Address: 235 Lesmill Road
Toronto ON M3B 2V1
Tel: (416) 635-5882 Ext: 5839 Fax: (416) 635-5353
Email: akriti.atawala@snc-lavalin.com, ON_LabData@snc-lavalin.com

PROJECT INFORMATION:
Quotation #: C21794
P.O. #: 294129
Project: 694129
Project Name: 440 Rene Lavalin, Ottawa
Site #: *See Report*
Sampled By: *See Report*

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)		Other Regulations		Special Instructions
☐ Table 1	☐ Res/Pack	☐ Medium/Fine	☐ CCME	
☐ Table 2	☐ Inst/Comm	☐ Coarse	☐ Reg 558	
☒ Table 3	☒ Agri/Other	☐ For RSC	☐ MISA	
☐ Table 4			☐ PWQO	
			☐ Other	

Excess soil regulation Table 3
Include Criteria on Certificate of Analysis (Y/N)?

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)									
Field Filtered (please circle):	Metals / Hg / Cr / V	O Reg 153 VOCs by HS & F1-F4	O Reg 153 PCBs	O Reg 153 Metals & Inorganics Pkg	O Reg 558 TCLP Inorganics Package	O Reg 558 TCLP Benzotripyrene	O Reg 558 TCLP VOCs by HS		

Turnaround Time (TAT) Required:	
Please provide advance notice for rush projects	
Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details	
Job Specific Rush TAT (if applies to entire submission): Date Required: _____ Time Required: _____ Rush Confirmation Number: _____	

Sample Number	Sample Location/Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle):	Metals / Hg / Cr / V	O Reg 153 VOCs by HS & F1-F4	O Reg 153 PCBs	O Reg 153 Metals & Inorganics Pkg	O Reg 558 TCLP Inorganics Package	O Reg 558 TCLP Benzotripyrene	O Reg 558 TCLP VOCs by HS	# of Bottles	Comments
1	BH23-01-01	Aug 10/23	9:30	Soil			X		X				3	odor / grey
2	BH23-01-01		9:35										3	
3	BH23-01-03		9:45										3	
4	BH23-01-04		9:50										3	
5	BH23-01-05		10:00										3	odor
6	BH23-01-06		10:15										3	Strong odor -
7	BH23-01-08		10:30										3	
8	BH23-01-11		10:40										3	
9	BH23-03-01		10:50										3	
10	BH23-03-03		10:45										3	

RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# Jars used and not submitted	ICE	Laboratory Use Only			
<i>See Report</i>		23/08/11	11:38	<i>Samuel Durand</i>		2023/08/11	12:13		Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
				<i>Harman</i>		2023/08/12	11:50			2, 2, 3	Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COCS-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

81575
81919



Bureau Veritas
6740 Campbell Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#21644 SNC-Lavalin Inc.	Company Name:	#13786 SNC-Lavalin Inc.	Quotation #:	C21794	Bureau Veritas Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	Akruti Atawala	P.O. #:	694129		
Address:	455 René-Lévesque Blvd. West	Address:	235 Lesmill Road	Project:	694129		
	Montreal QC H2Z 1Z3		Toronto ON M3B 2V1	Project Name:	1408 Phase 2 Work to Ottawa	COC #:	Project Manager:
Tel:	(514) 393-1000	Tel:	(416) 635-5882 Ext: 5839	Site #:			
Email:	Payables@snclavalin.com	Email:	akruti.atawala@snclavalin.com, ON_LabData@snclavalin.com	Sampled By:	Jay Rishi		Deepthi Shaji

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY						ANALYSIS REQUESTED (PLEASE BE SPECIFIC):						Turnaround Time (TAT) Required:			
Regulation 153 (2011)						Other Regulations						Special Instructions		Regular (Standard) TAT:	
☐ Table 1	☐ Res/Park	☐ Medium/Fine	☐ CCME	☐ Sanitary Sewer Bylaw		Field Filtered (please circle): Metals / Hg / Cr / VI						☒ (will be applied if Rush TAT is not specified)			
☐ Table 2	☐ Ins/Coar	☐ Coarse	☐ Reg 558	☐ Storm Sewer Bylaw								☐ Standard TAT = 5-7 Working days for most tests.			
☒ Table 3	☐ Agri/Other	☐ For RSC	☐ MISA	☐ Municipality		☐ Reg 153 VOOC by HS & F & F4	☐ Reg 153 Metals & Inorganics Pkg	☐ Reg 158 TCLP Inorganics Package	☐ Reg 558 TCLP Barium/Chlorine	☐ Reg 558 TCLP VOOC by HS	Job Specific Rush TAT (if applies to entire submission):				
Include Criteria on Certificate of Analysis (Y/N)?												Date Required: _____ Time Required: _____			
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix								# of Batches	Comments		
1	BH23-03-05	Aug 11/13	7:20	Soil		X	X					3			
2	BH23-03-06		7:25												
3	BH23-02-07		7:30												
4	BH23-03-10		7:40												
5	BH23-03-10a		7:40												
6	BH23-02-01		8:20												
7	BH23-02-02		8:30												
8	BH23-02-04		8:45												
9	BH23-02-07		9:00												
10	BH23-02-09		9:10												

RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# Jars used and not submitted	Laboratory Use Only	Custody Seal		
[Signature]		23/08/11	11:30	[Signature]		2023/08/11	12:11	1	Time Sensitive	Temperature (°C) on Recv	Present	Yes
				[Signature]		2023/08/12	11:07			4, 0, 15	Intact	No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

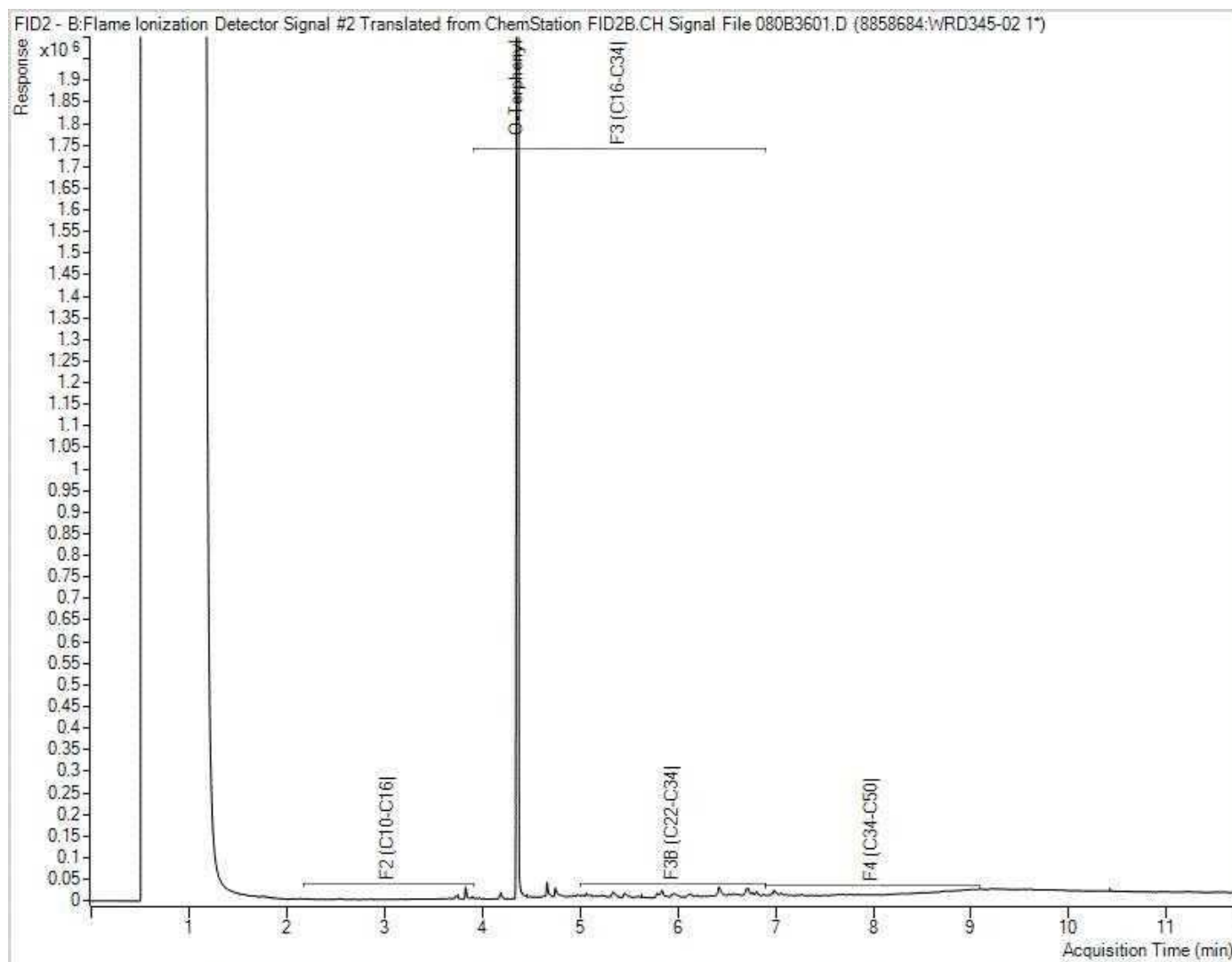
** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

White: Bureau Veritas Yellow: Client

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

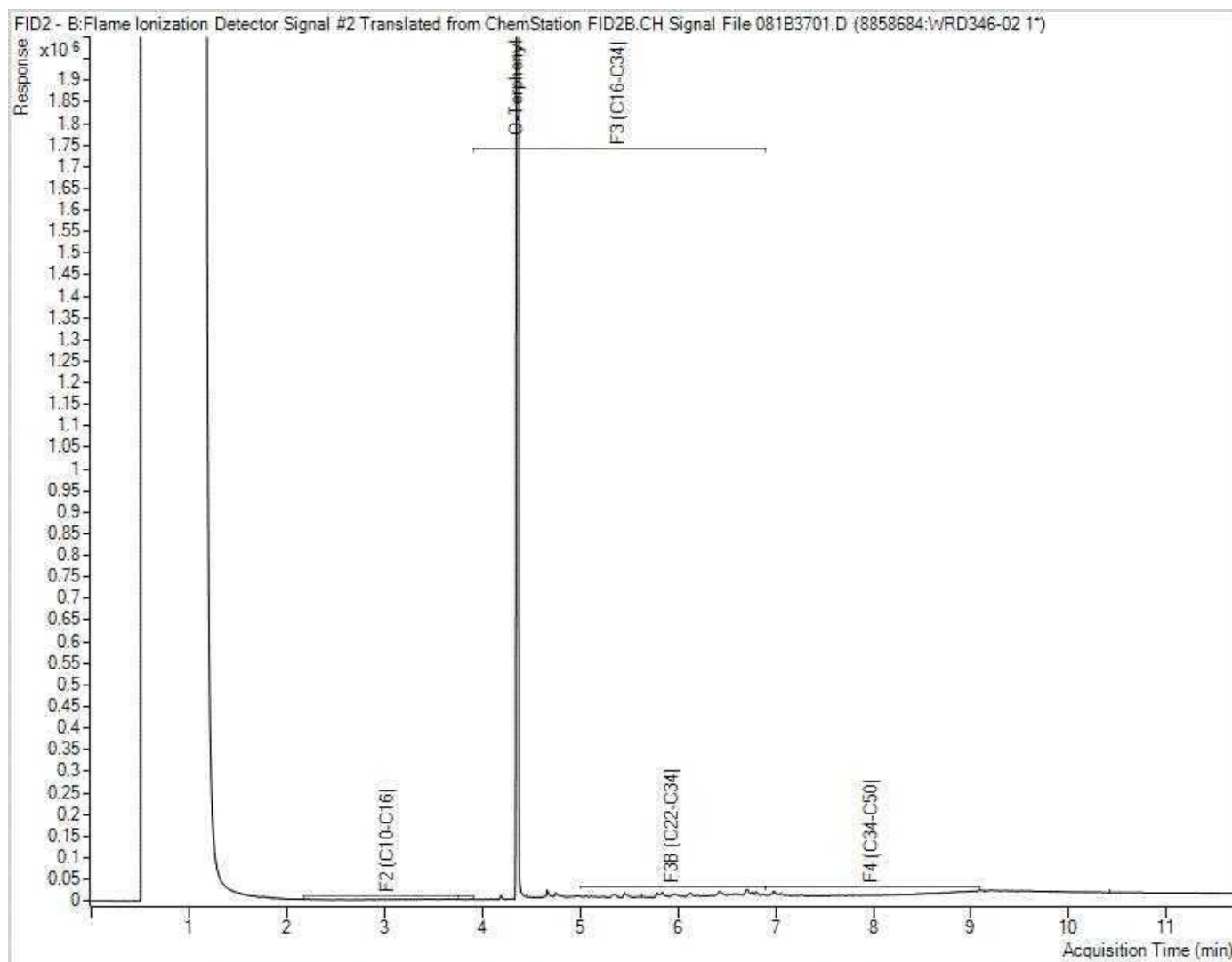
8/5/5
8/9/9

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



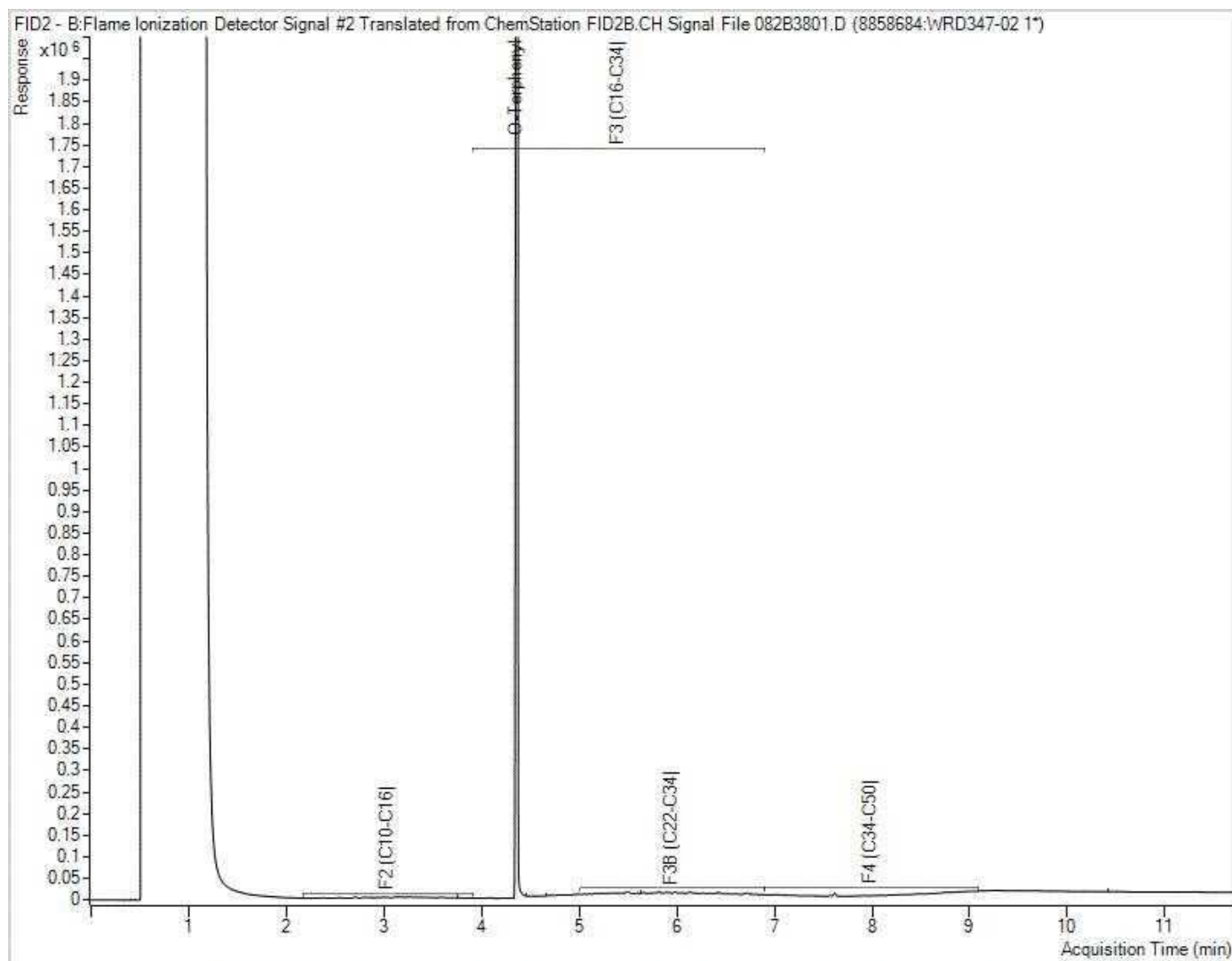
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



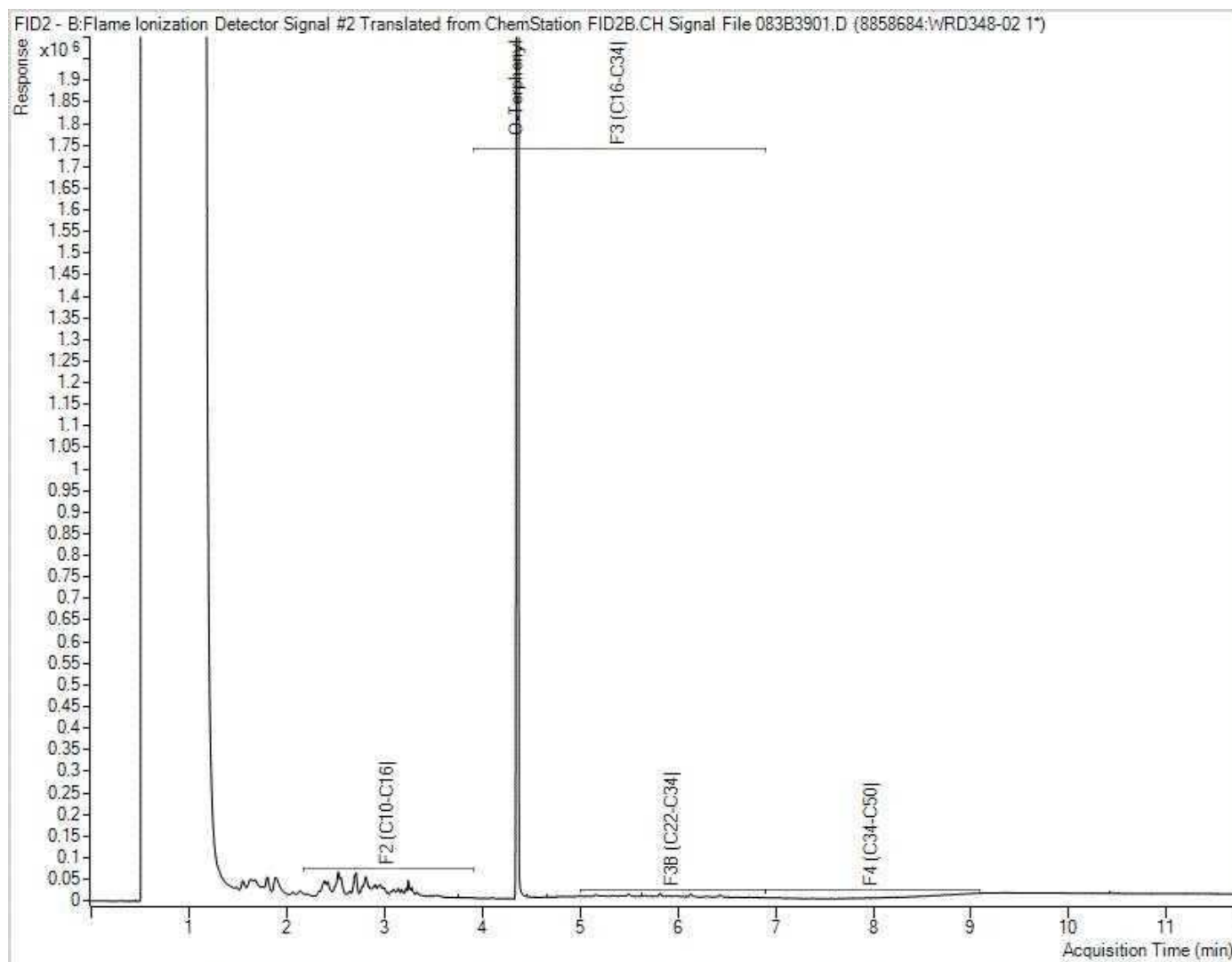
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



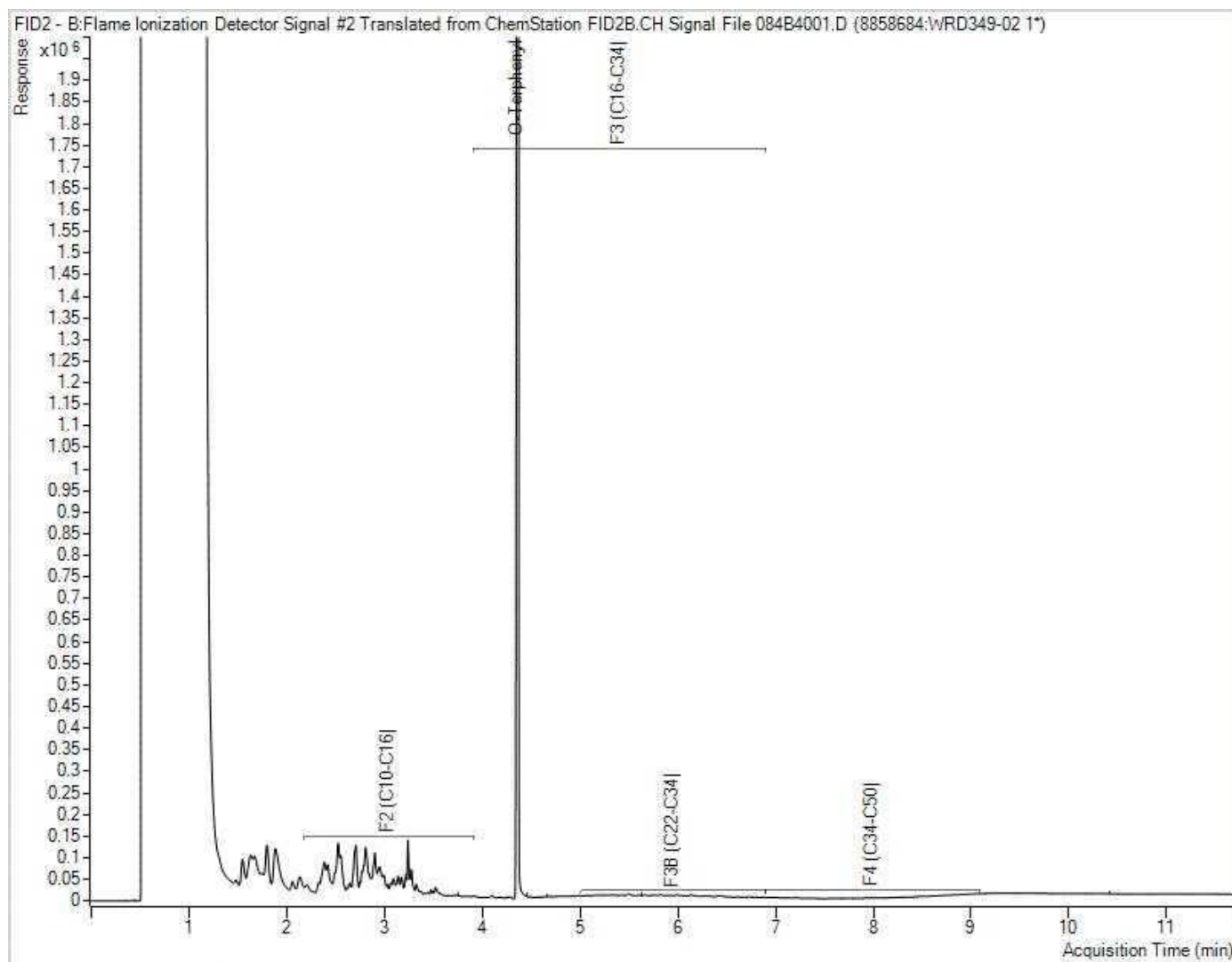
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

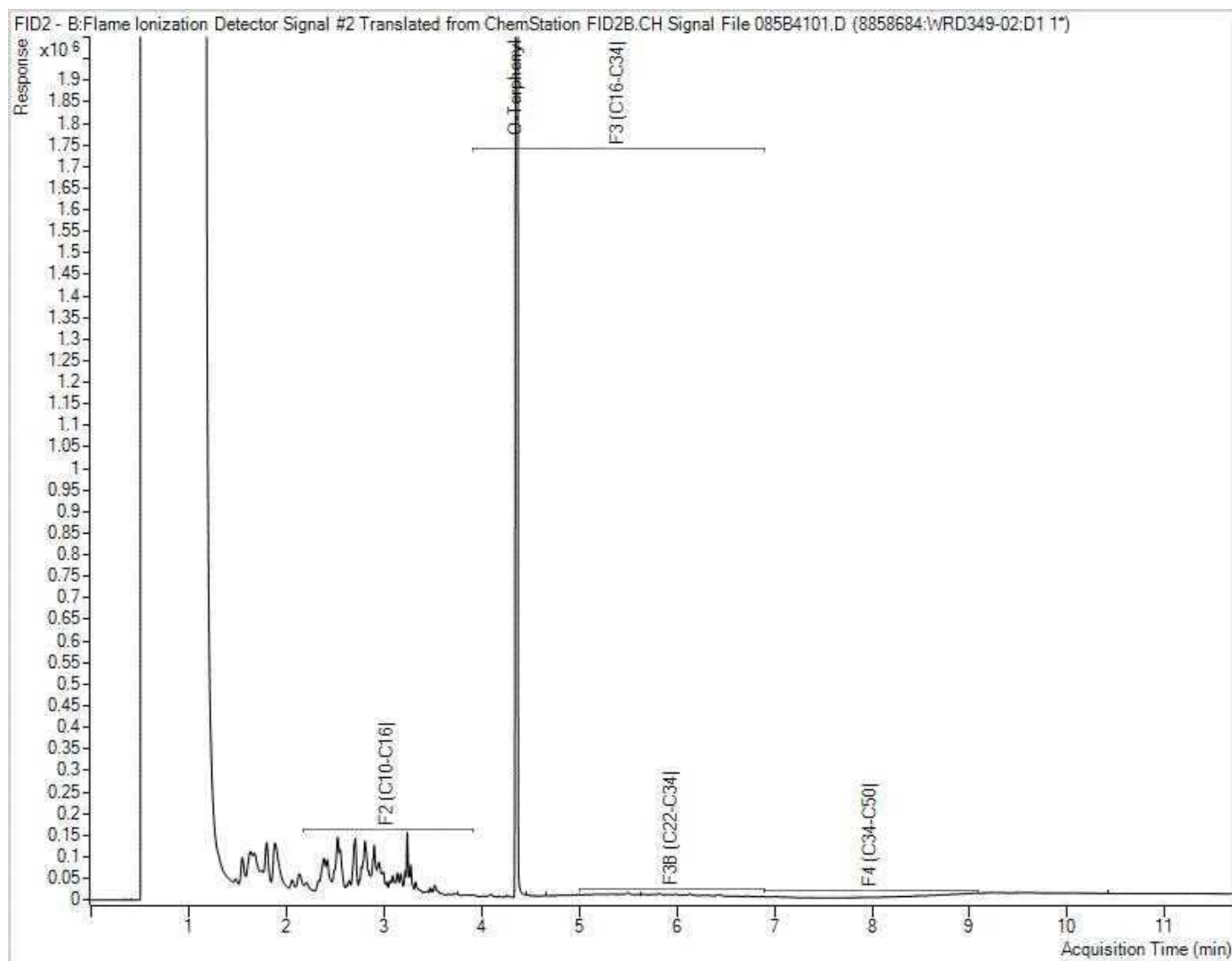


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C3O3894
Report Date: 2023/12/11
Bureau Veritas Sample: WRD349 Lab-Dup

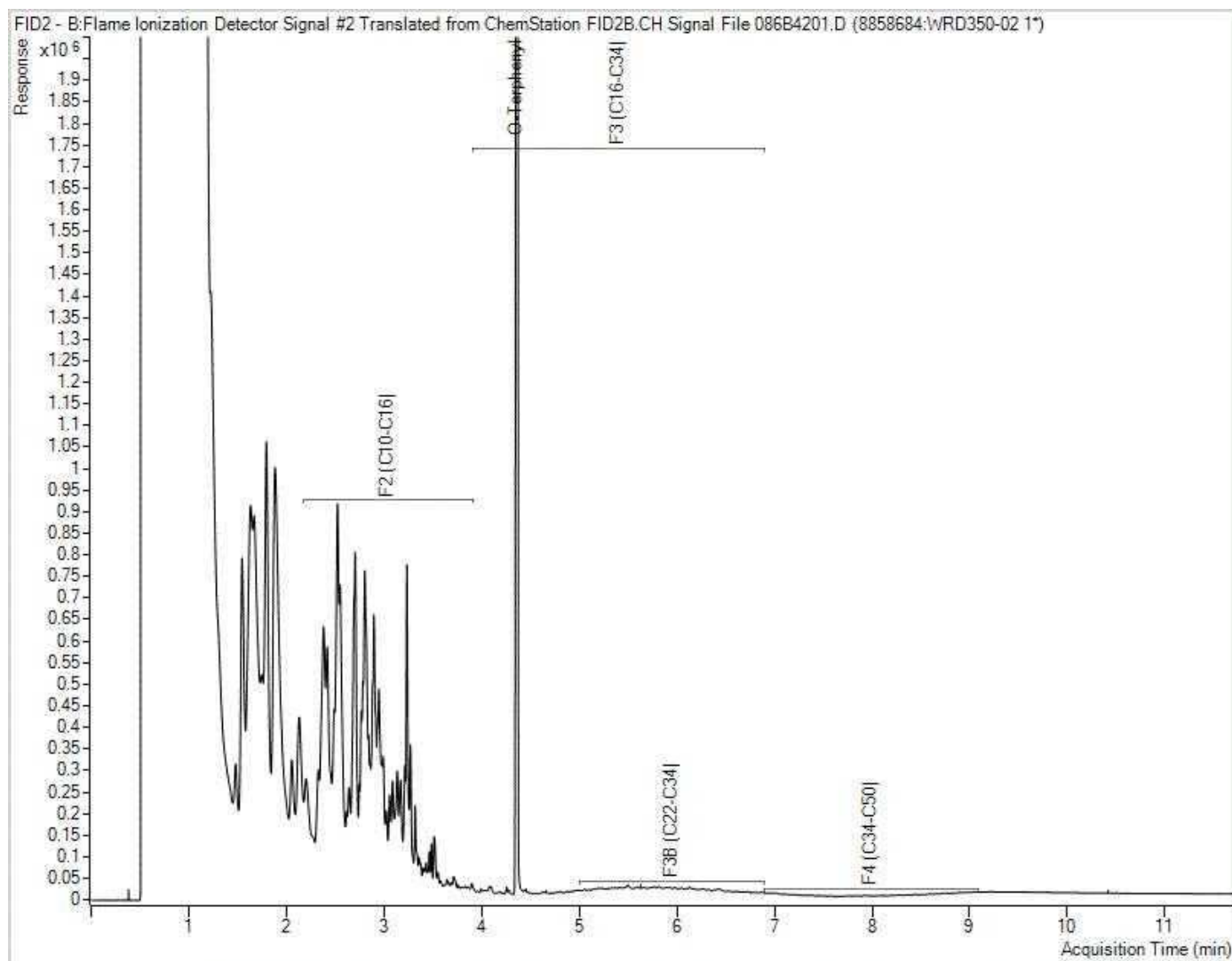
AtkinsRéalis
Client Project #: 694129
Project name: 1440 Prince of Wales Drive, Ottawa, ON
Client ID: BH23-01-05

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



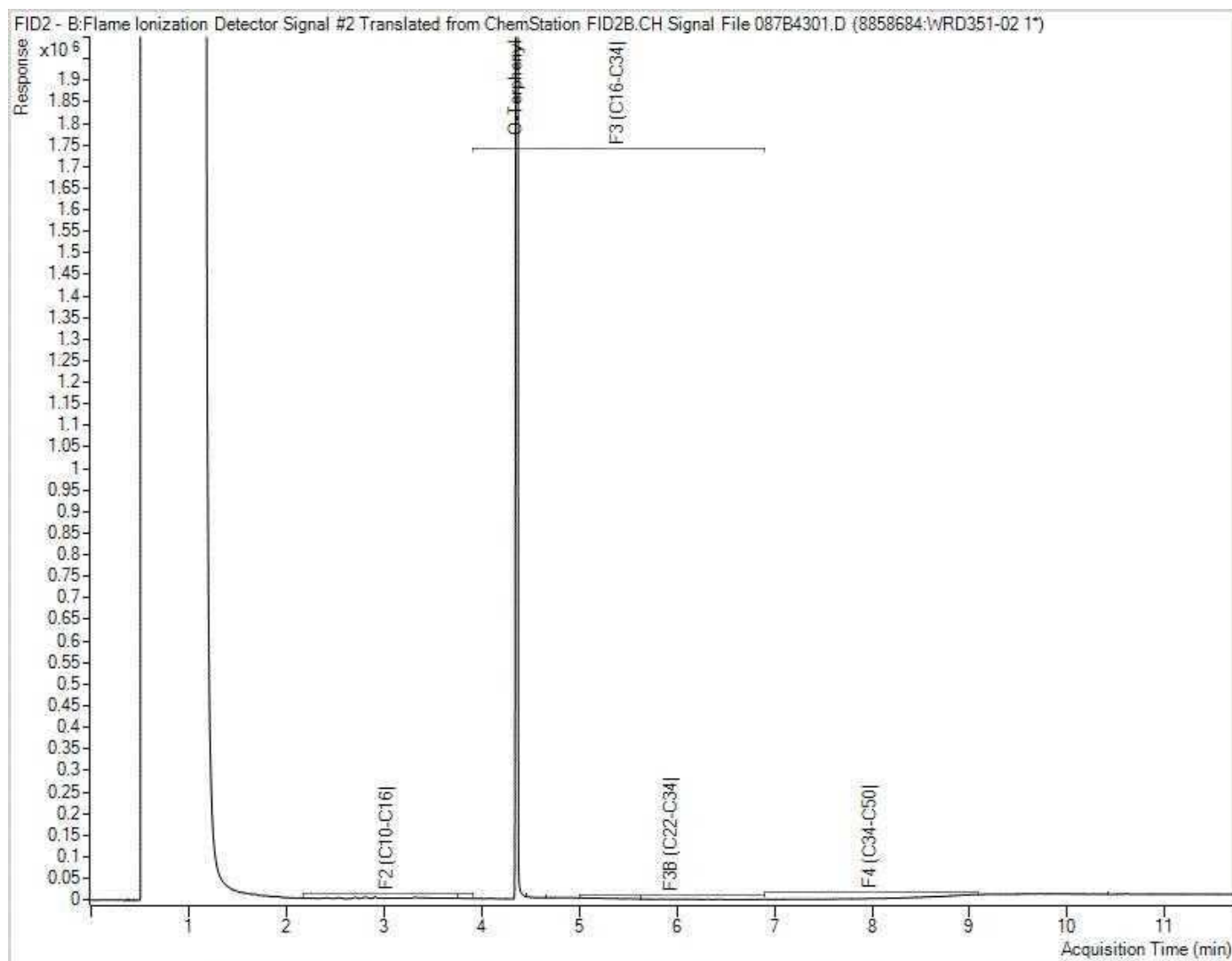
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



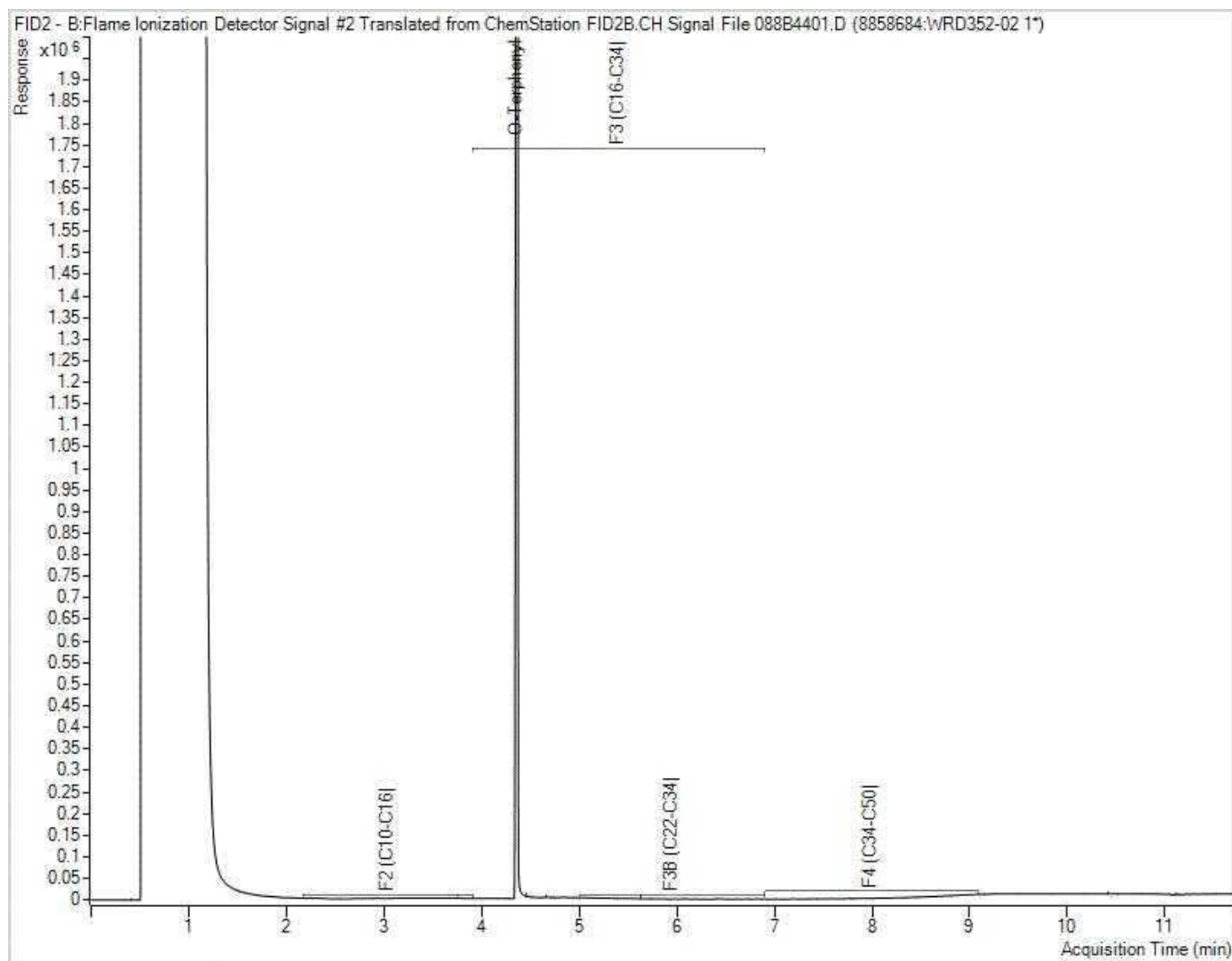
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Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



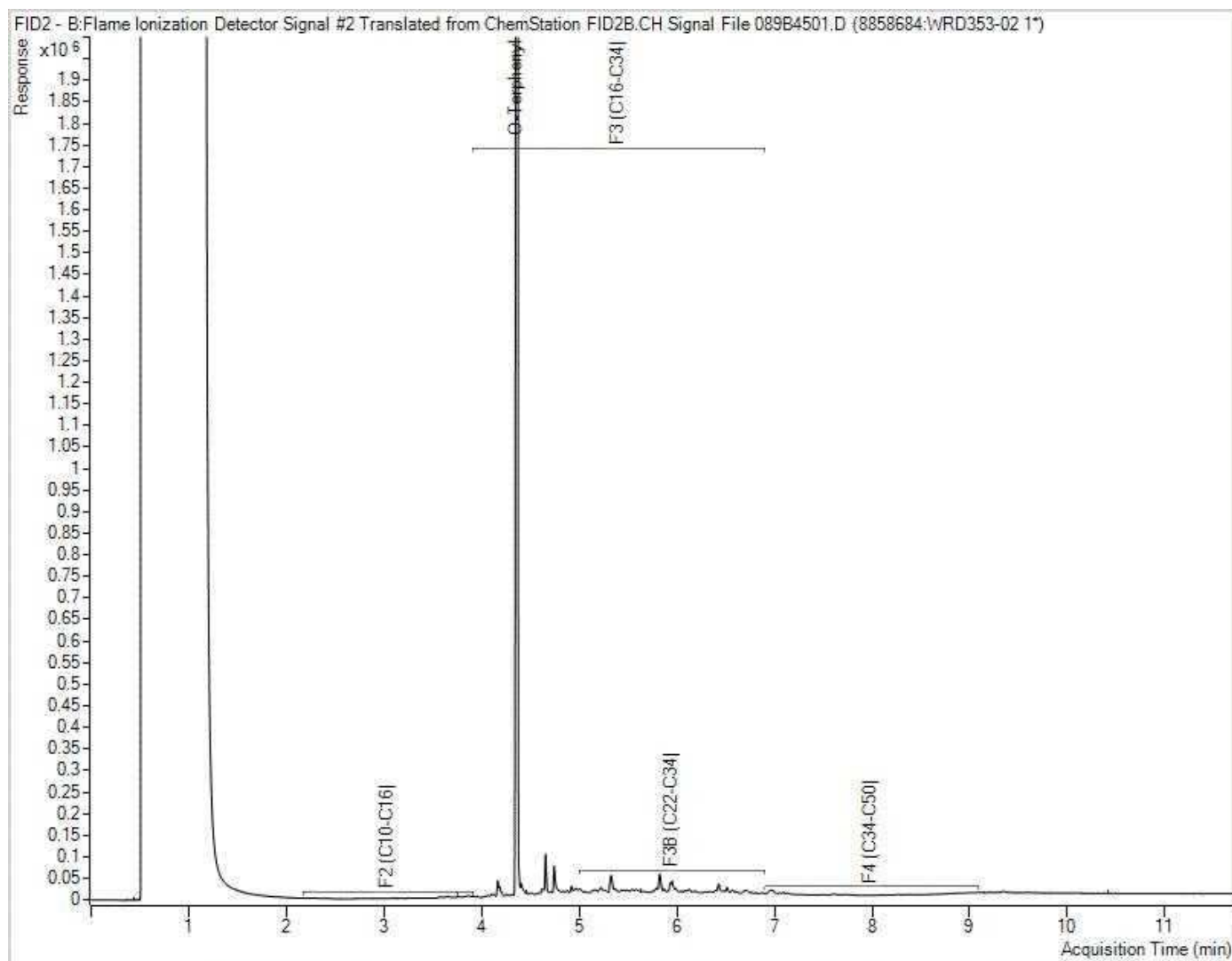
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



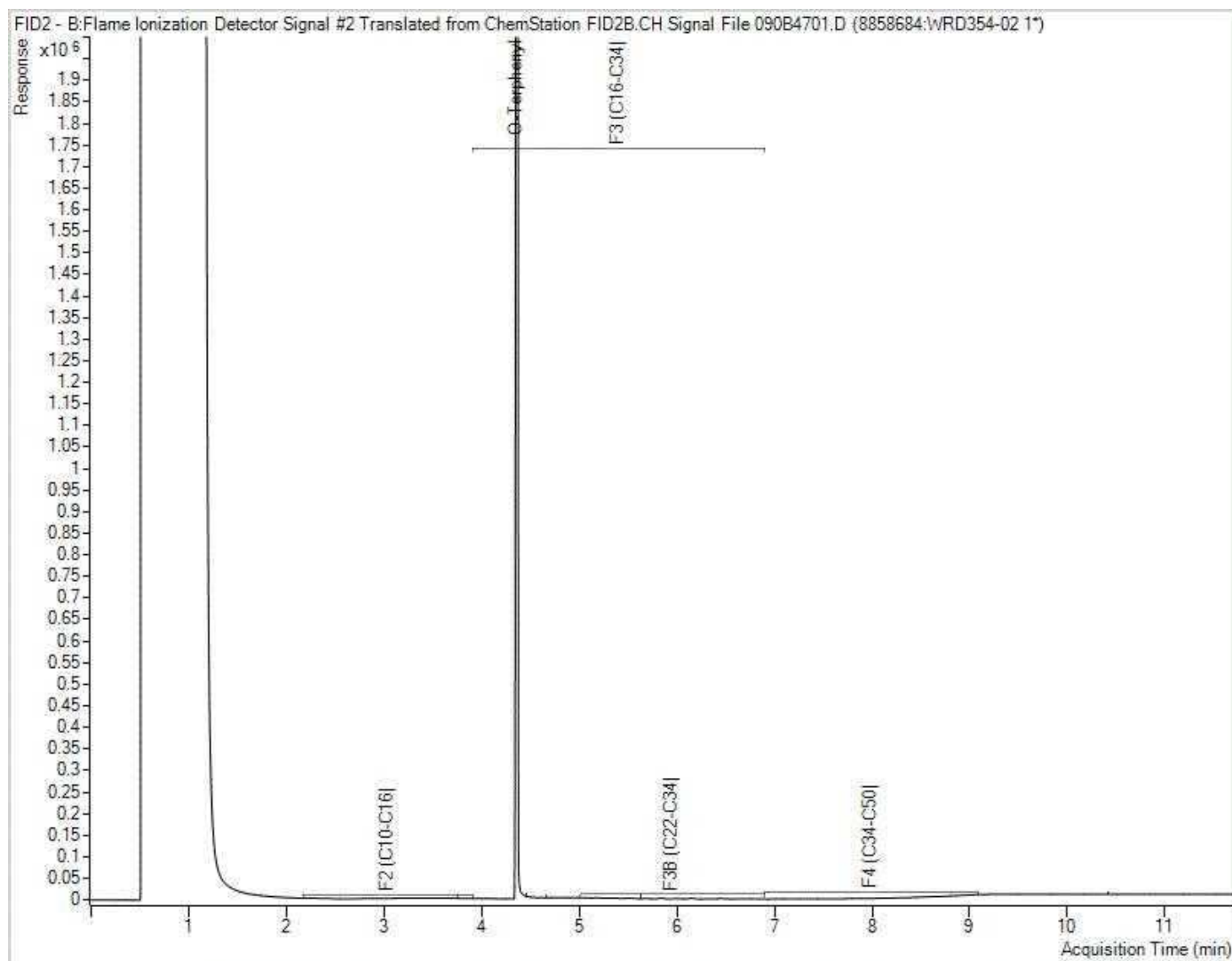
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



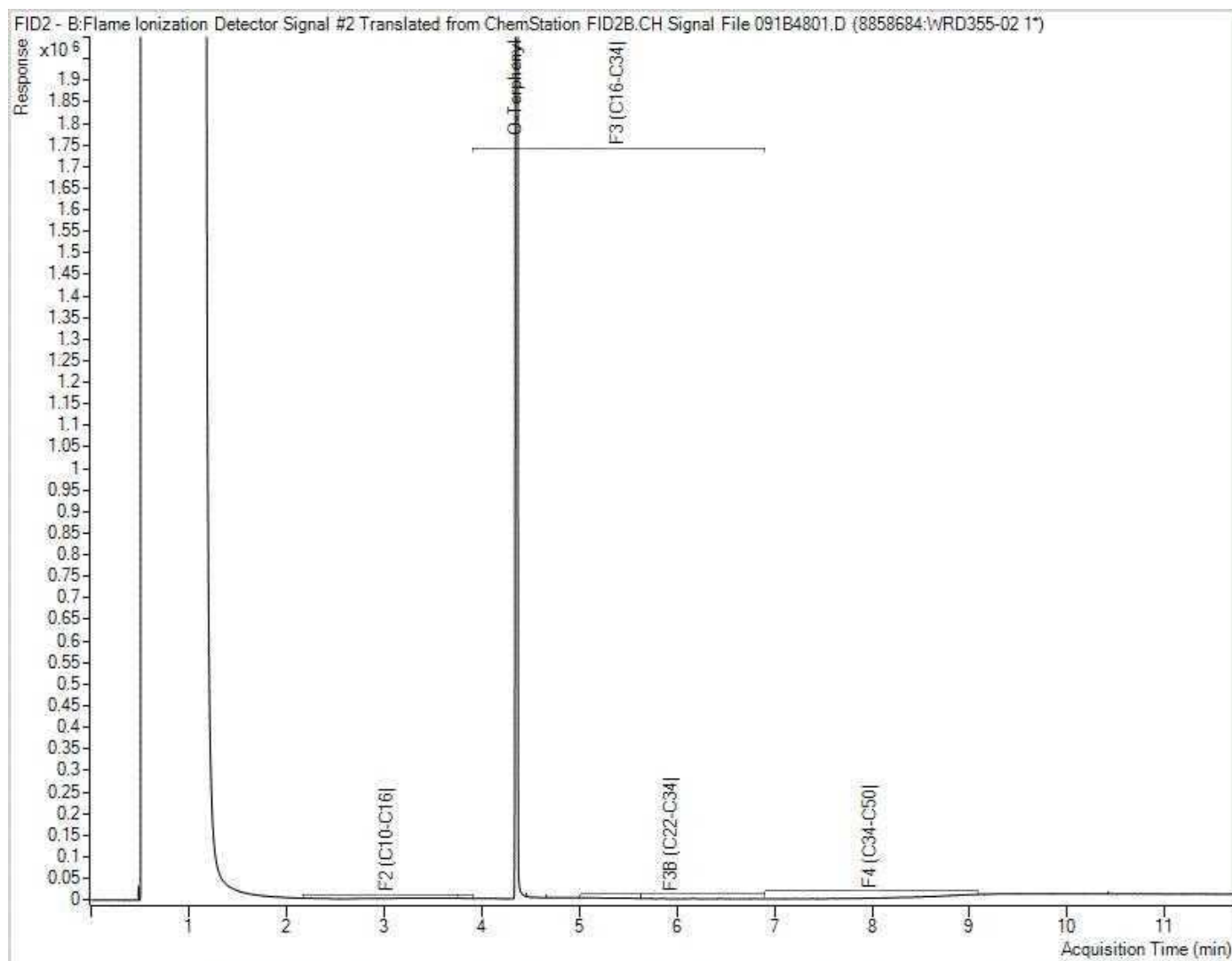
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



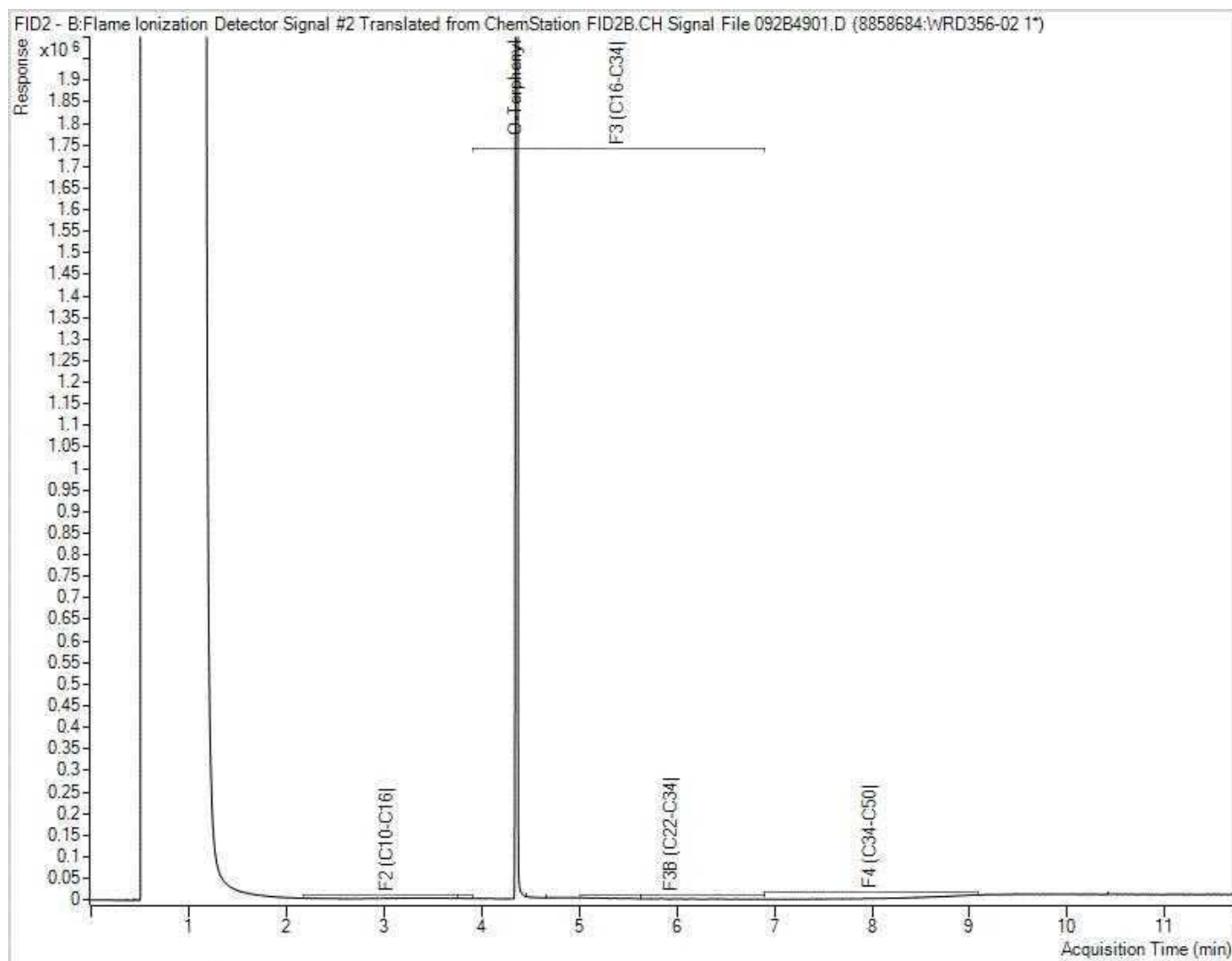
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Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



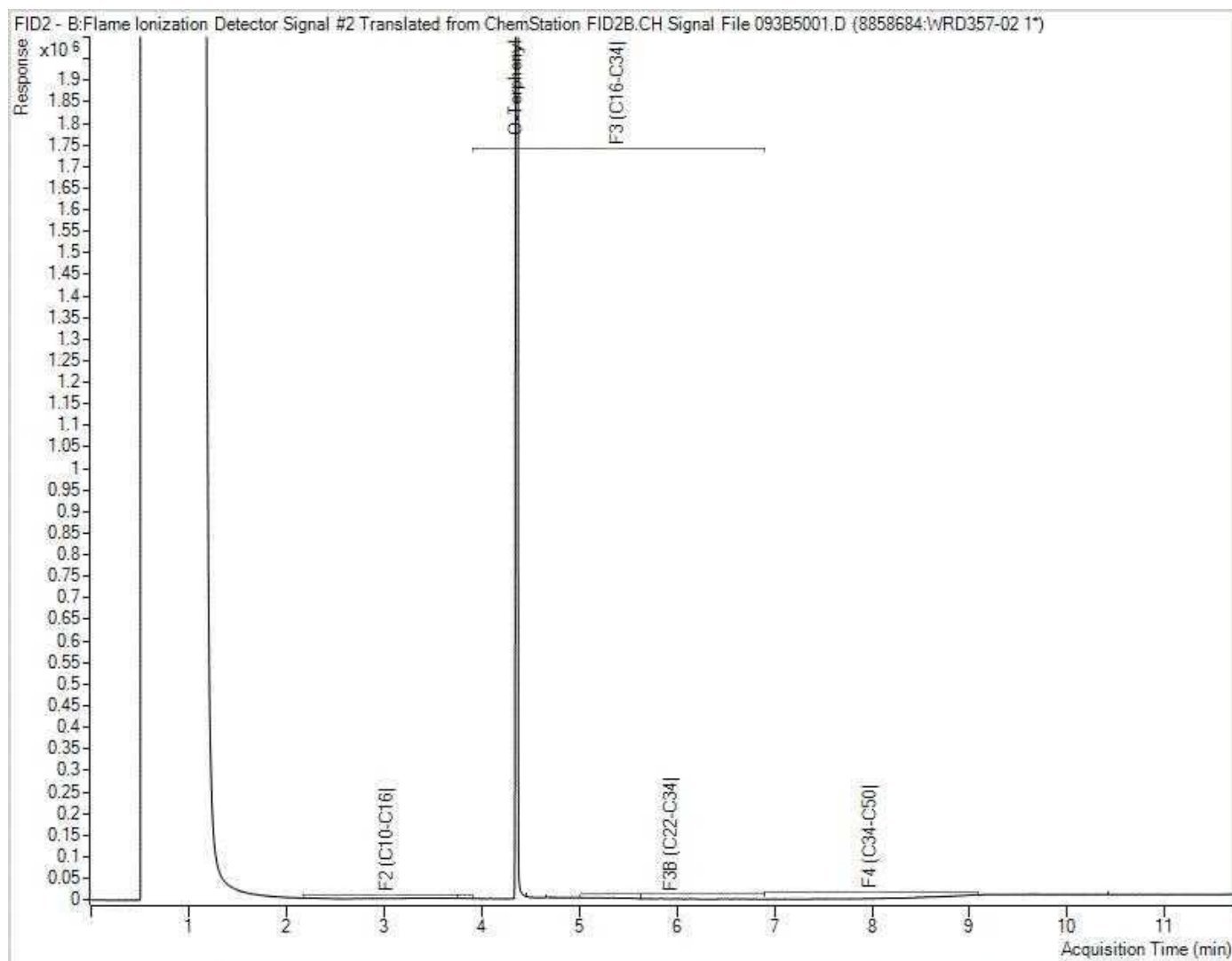
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



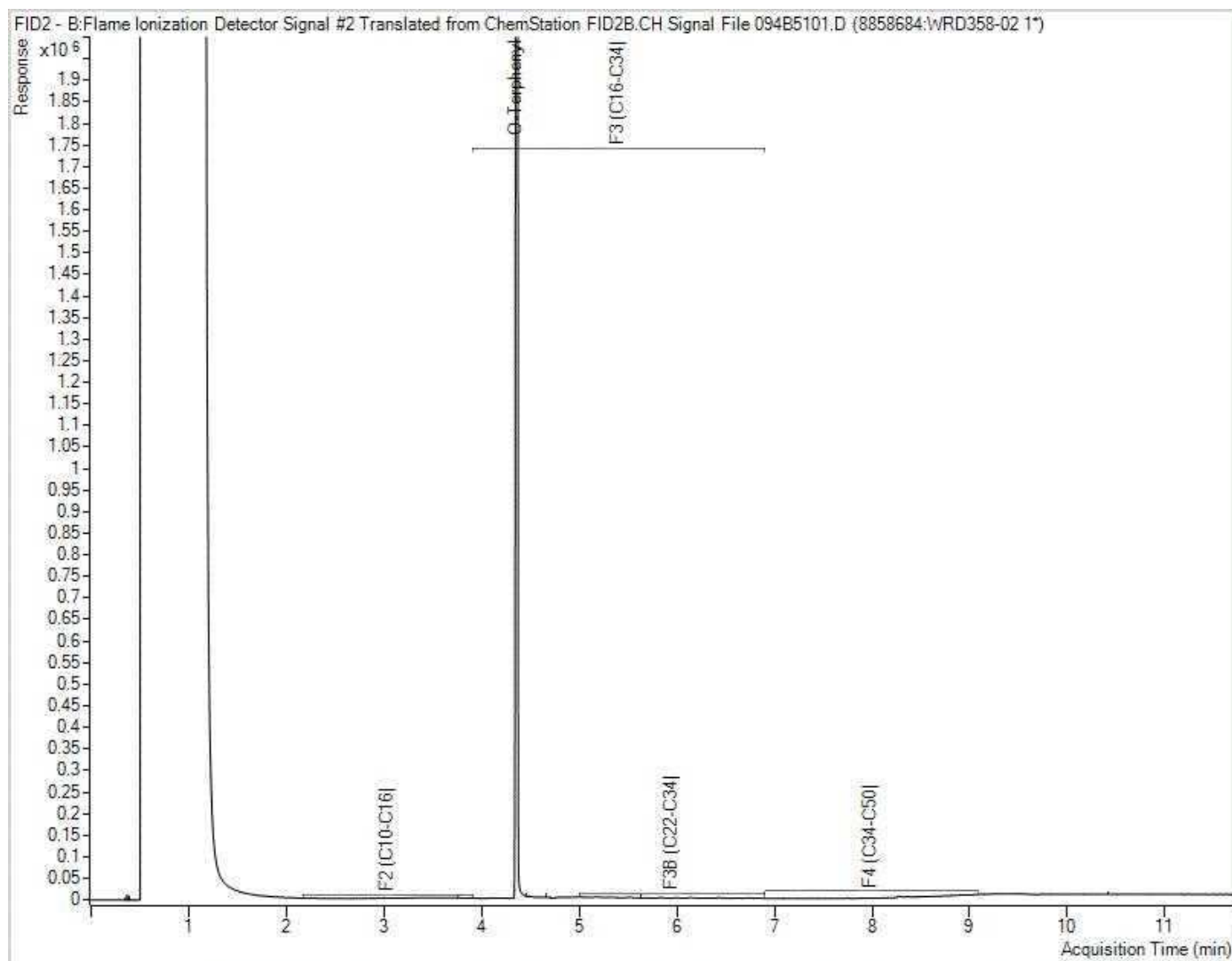
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Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



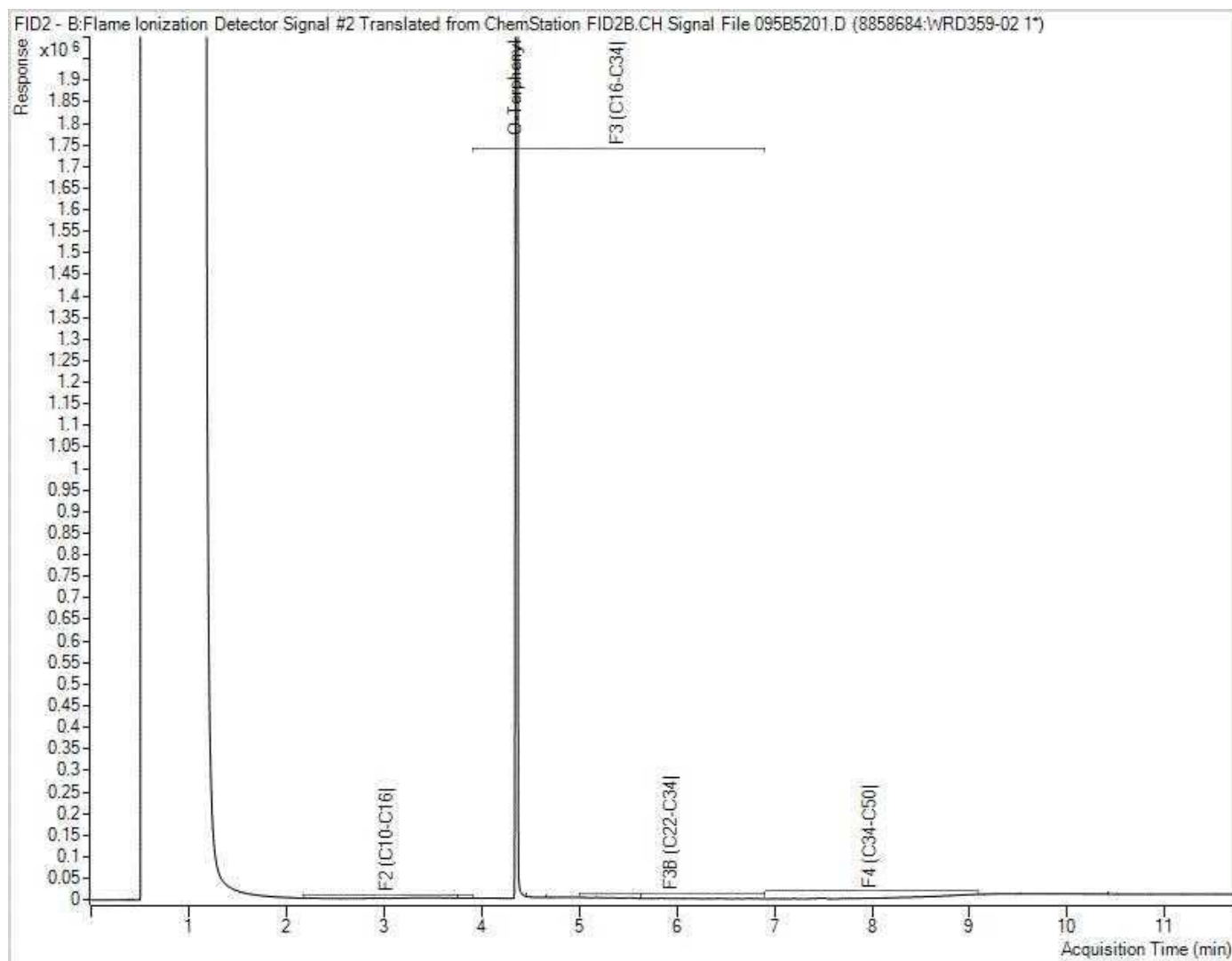
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



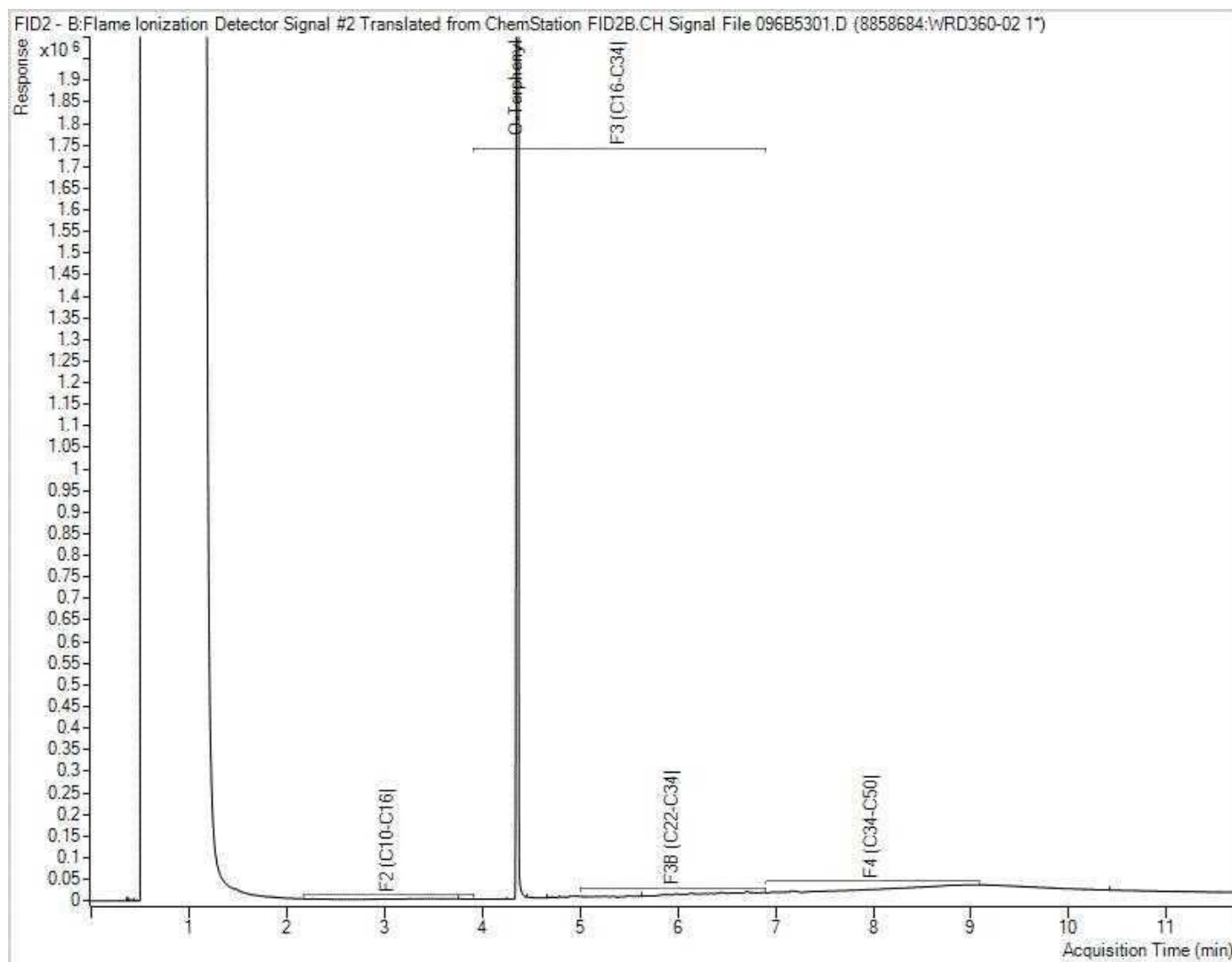
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



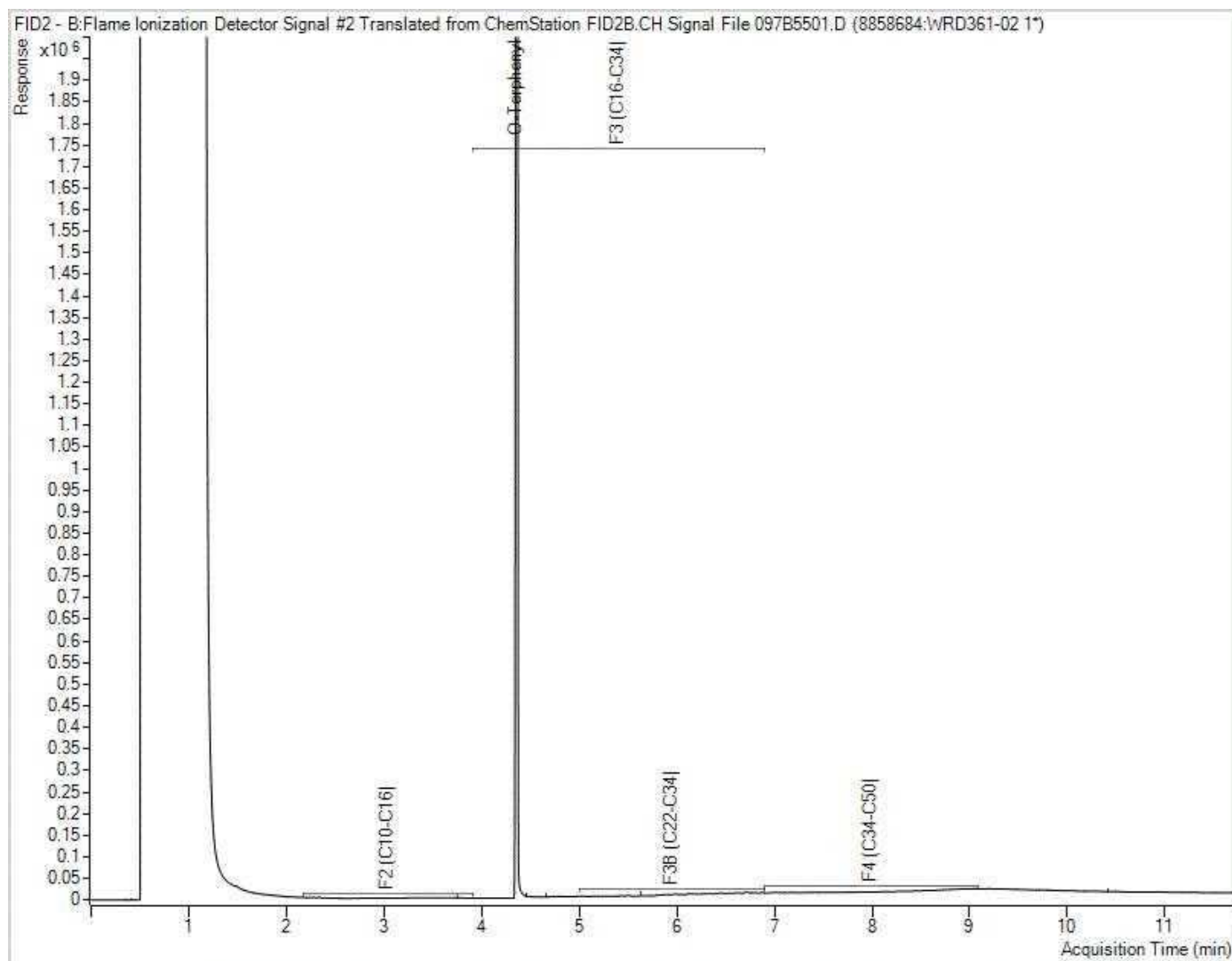
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



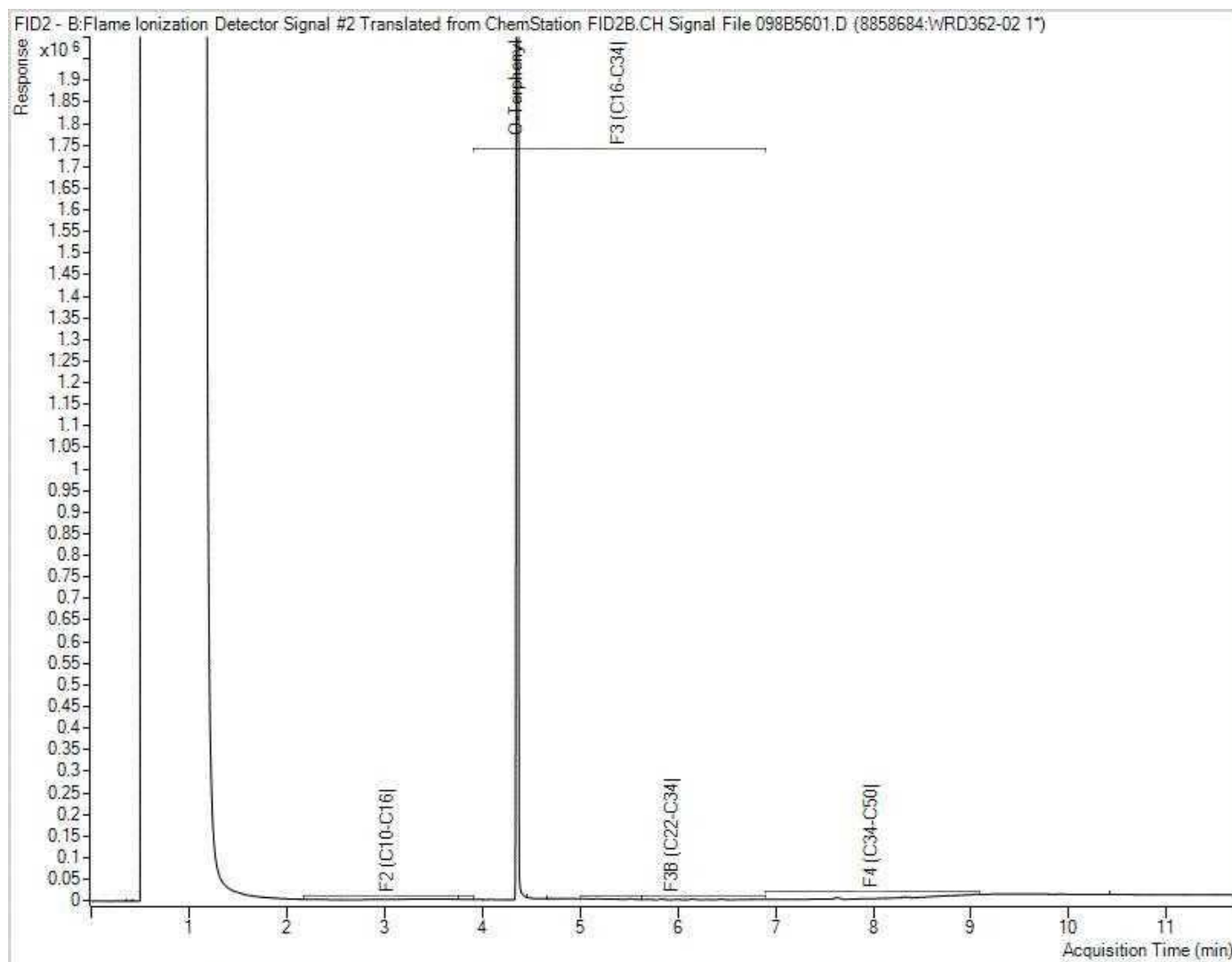
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



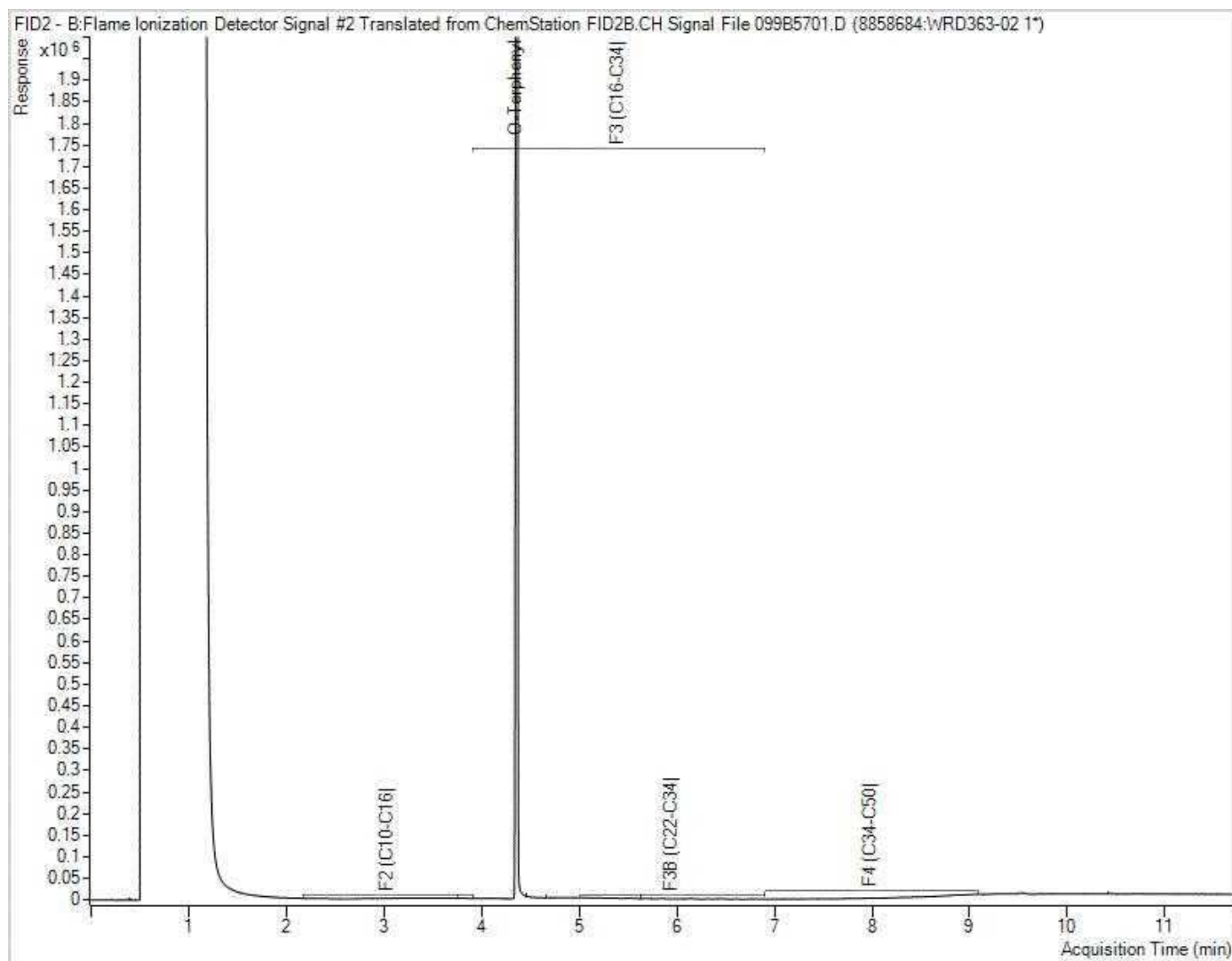
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



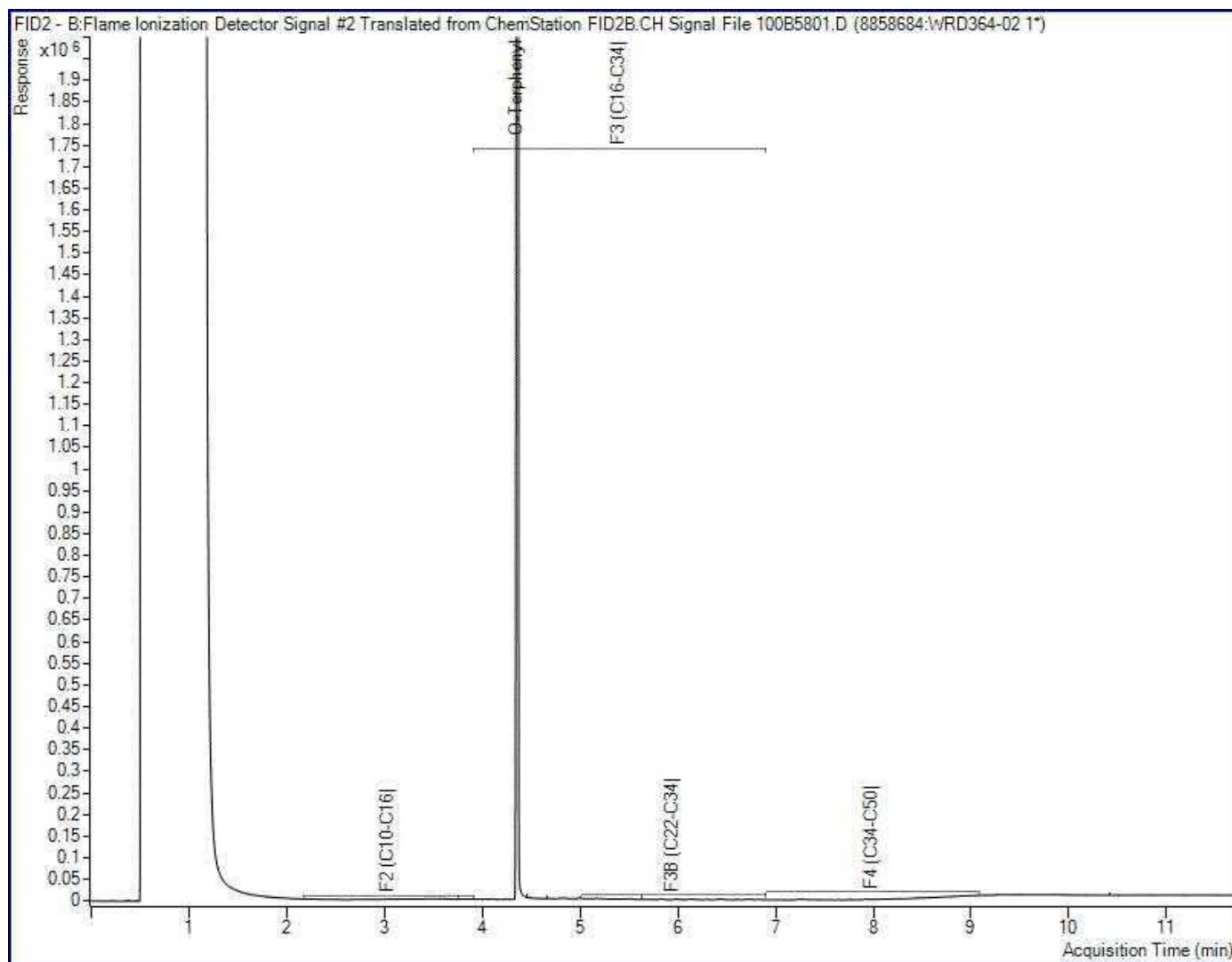
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.



Your P.O. #: 694129
 Your Project #: 694129
 Site Location: 1440 Prince of Wales Drive, Ottawa, ON
 Your C.O.C. #: 948522-03-01

Attention: Akruti Atawala

SNC-Lavalin Inc
 Toronto - Shell
 235 Lesmill Road
 Toronto, ON
 CANADA M3B 2V1

Report Date: 2023/08/22
 Report #: R7775649
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C303887

Received: 2023/08/11, 12:13

Sample Matrix: Soil
 # Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide (WAD) in Leachates (1)	1	N/A	2023/08/16	CAM SOP-00457	OMOE 3015 m
Fluoride by ISE in Leachates (1)	1	2023/08/16	2023/08/16	CAM SOP-00449	SM 23 4500-F- C m
Total Metals in TCLP Leachate by ICPMS (1)	1	2023/08/16	2023/08/17	CAM SOP-00447	EPA 6020B m
Nitrate& Nitrite as Nitrogen in Leachate (1)	1	N/A	2023/08/16	CAM SOP-00440	SM 23 4500-NO3I/NO2B
PAH Compounds in Leachate by GC/MS (SIM) (1)	1	2023/08/19	2023/08/19	CAM SOP-00318	EPA 8270E
TCLP - % Solids (1)	1	2023/08/15	2023/08/16	CAM SOP-00401	EPA 1311 Update I m
TCLP - Extraction Fluid (1)	1	N/A	2023/08/16	CAM SOP-00401	EPA 1311 Update I m
TCLP - Initial and final pH (1)	1	N/A	2023/08/16	CAM SOP-00401	EPA 1311 Update I m
TCLP Zero Headspace Extraction (1)	1	2023/08/15	2023/08/16	CAM SOP-00430	EPA 1311 m
VOCs in ZHE Leachates (1)	1	2023/08/16	2023/08/16	CAM SOP-00228	EPA 8260D

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8



Attention: Akruiti Atawala

SNC-Lavalin Inc
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your C.O.C. #: 948522-03-01

Report Date: 2023/08/22
Report #: R7775649
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C303887

Received: 2023/08/11, 12:13

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Deepthi Shaji, Project Manager

Email: Deepthi.Shaji@bureauveritas.com

Phone# (905)817-5700 Ext:7065843

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This report has been generated and distributed using a secure automated process.

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Bureau Veritas Job #: C3O3887
Report Date: 2023/08/22

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JR

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		WRD316		
Sampling Date		2023/08/11 11:00		
COC Number		948522-03-01		
	UNITS	BH23-01-TCLP	RDL	QC Batch
Charge/Prep Analysis				
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	8853339
Inorganics				
Final pH	pH	5.58		8856003
Leachable Fluoride (F-)	mg/L	0.34	0.10	8856331
Initial pH	pH	8.96		8856003
TCLP - % Solids	%	100	0.2	8853018
TCLP Extraction Fluid	N/A	FLUID 1		8855994
Leachable WAD Cyanide (Free)	mg/L	<0.010	0.010	8856347
Leachable Nitrite (N)	mg/L	<0.10	0.10	8856339
Leachable Nitrate (N)	mg/L	<1.0	1.0	8856339
Leachable Nitrate + Nitrite (N)	mg/L	<1.0	1.0	8856339
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable				



Bureau Veritas Job #: C3O3887
Report Date: 2023/08/22

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JR

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID		WRD316		
Sampling Date		2023/08/11 11:00		
COC Number		948522-03-01		
	UNITS	BH23-01-TCLP	RDL	QC Batch
Metals				
Leachable Arsenic (As)	mg/L	<0.2	0.2	8855919
Leachable Barium (Ba)	mg/L	0.4	0.2	8855919
Leachable Boron (B)	mg/L	0.2	0.1	8855919
Leachable Cadmium (Cd)	mg/L	<0.05	0.05	8855919
Leachable Chromium (Cr)	mg/L	<0.1	0.1	8855919
Leachable Lead (Pb)	mg/L	<0.1	0.1	8855919
Leachable Mercury (Hg)	mg/L	<0.001	0.001	8855919
Leachable Selenium (Se)	mg/L	<0.1	0.1	8855919
Leachable Silver (Ag)	mg/L	<0.01	0.01	8855919
Leachable Uranium (U)	mg/L	<0.01	0.01	8855919
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



Bureau Veritas Job #: C3O3887
Report Date: 2023/08/22

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JR

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		WRD316		
Sampling Date		2023/08/11 11:00		
COC Number		948522-03-01		
	UNITS	BH23-01-TCLP	RDL	QC Batch
Polyaromatic Hydrocarbons				
Leachable Benzo(a)pyrene	ug/L	<0.10	0.10	8863909
Leachable Perylene	ug/L	<0.20	0.20	8863909
Surrogate Recovery (%)				
Leachable D10-Anthracene	%	128		8863909
Leachable D14-Terphenyl (FS)	%	120		8863909
Leachable D8-Acenaphthylene	%	116		8863909
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



Bureau Veritas Job #: C3O3887
Report Date: 2023/08/22

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JR

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID		WRD316		
Sampling Date		2023/08/11 11:00		
COC Number		948522-03-01		
	UNITS	BH23-01-TCLP	RDL	QC Batch
Volatile Organics				
Leachable Benzene	mg/L	<0.020	0.020	8855923
Leachable Carbon Tetrachloride	mg/L	<0.020	0.020	8855923
Leachable Chlorobenzene	mg/L	<0.020	0.020	8855923
Leachable Chloroform	mg/L	<0.020	0.020	8855923
Leachable 1,2-Dichlorobenzene	mg/L	<0.050	0.050	8855923
Leachable 1,4-Dichlorobenzene	mg/L	<0.050	0.050	8855923
Leachable 1,2-Dichloroethane	mg/L	<0.050	0.050	8855923
Leachable 1,1-Dichloroethylene	mg/L	<0.020	0.020	8855923
Leachable Methylene Chloride(Dichloromethane)	mg/L	<0.20	0.20	8855923
Leachable Methyl Ethyl Ketone (2-Butanone)	mg/L	<1.0	1.0	8855923
Leachable Tetrachloroethylene	mg/L	<0.020	0.020	8855923
Leachable Trichloroethylene	mg/L	<0.020	0.020	8855923
Leachable Vinyl Chloride	mg/L	<0.020	0.020	8855923
Surrogate Recovery (%)				
Leachable 4-Bromofluorobenzene	%	96		8855923
Leachable D4-1,2-Dichloroethane	%	114		8855923
Leachable D8-Toluene	%	96		8855923
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



Bureau Veritas Job #: C3O3887
Report Date: 2023/08/22

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JR

TEST SUMMARY

Bureau Veritas ID: WRD316
Sample ID: BH23-01-TCLP
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Cyanide (WAD) in Leachates	SKAL/CN	8856347	N/A	2023/08/16	Prgya Panchal
Fluoride by ISE in Leachates	ISE	8856331	2023/08/16	2023/08/16	Nachiketa Gohil
Total Metals in TCLP Leachate by ICPMS	ICP1/MS	8855919	2023/08/16	2023/08/17	Prempal Bhatti
Nitrate& Nitrite as Nitrogen in Leachate	LACH	8856339	N/A	2023/08/16	Chandra Nandlal
PAH Compounds in Leachate by GC/MS (SIM)	GC/MS	8863909	2023/08/19	2023/08/19	Jonghan Yoon
TCLP - % Solids	BAL	8853018	2023/08/15	2023/08/16	Dave Adriel Gunawan
TCLP - Extraction Fluid		8855994	N/A	2023/08/16	Dave Adriel Gunawan
TCLP - Initial and final pH	PH	8856003	N/A	2023/08/16	Jian (Ken) Wang
TCLP Zero Headspace Extraction		8853339	2023/08/15	2023/08/16	Arshdeep Singh
VOCs in ZHE Leachates	GC/MS	8855923	2023/08/16	2023/08/16	Gabriella Morrone



Bureau Veritas Job #: C3O3887
Report Date: 2023/08/22

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JR

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.3°C
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Results relate only to the items tested.



Bureau Veritas Job #: C3O3887
Report Date: 2023/08/22

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JR

QUALITY ASSURANCE REPORT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8855919	PBA	Matrix Spike	Leachable Arsenic (As)	2023/08/17		99	%	80 - 120
			Leachable Barium (Ba)	2023/08/17		NC	%	80 - 120
			Leachable Boron (B)	2023/08/17		94	%	80 - 120
			Leachable Cadmium (Cd)	2023/08/17		101	%	80 - 120
			Leachable Chromium (Cr)	2023/08/17		99	%	80 - 120
			Leachable Lead (Pb)	2023/08/17		NC	%	80 - 120
			Leachable Mercury (Hg)	2023/08/17		91	%	80 - 120
			Leachable Selenium (Se)	2023/08/17		99	%	80 - 120
			Leachable Silver (Ag)	2023/08/17		101	%	80 - 120
			Leachable Uranium (U)	2023/08/17		100	%	80 - 120
8855919	PBA	Leachate Blank	Leachable Arsenic (As)	2023/08/17	<0.2		mg/L	
			Leachable Barium (Ba)	2023/08/17	<0.2		mg/L	
			Leachable Boron (B)	2023/08/17	<0.1		mg/L	
			Leachable Cadmium (Cd)	2023/08/17	<0.05		mg/L	
			Leachable Chromium (Cr)	2023/08/17	<0.1		mg/L	
			Leachable Lead (Pb)	2023/08/17	<0.1		mg/L	
			Leachable Mercury (Hg)	2023/08/17	<0.001		mg/L	
			Leachable Selenium (Se)	2023/08/17	<0.1		mg/L	
			Leachable Silver (Ag)	2023/08/17	<0.01		mg/L	
			Leachable Uranium (U)	2023/08/17	<0.01		mg/L	
8855919	PBA	Spiked Blank	Leachable Arsenic (As)	2023/08/17		99	%	80 - 120
			Leachable Barium (Ba)	2023/08/17		97	%	80 - 120
			Leachable Boron (B)	2023/08/17		98	%	80 - 120
			Leachable Cadmium (Cd)	2023/08/17		99	%	80 - 120
			Leachable Chromium (Cr)	2023/08/17		98	%	80 - 120
			Leachable Lead (Pb)	2023/08/17		100	%	80 - 120
			Leachable Mercury (Hg)	2023/08/17		95	%	80 - 120
			Leachable Selenium (Se)	2023/08/17		104	%	80 - 120
			Leachable Silver (Ag)	2023/08/17		101	%	80 - 120
			Leachable Uranium (U)	2023/08/17		100	%	80 - 120
8855919	PBA	Method Blank	Leachable Arsenic (As)	2023/08/17	<0.2		mg/L	
			Leachable Barium (Ba)	2023/08/17	<0.2		mg/L	
			Leachable Boron (B)	2023/08/17	<0.1		mg/L	
			Leachable Cadmium (Cd)	2023/08/17	<0.05		mg/L	
			Leachable Chromium (Cr)	2023/08/17	<0.1		mg/L	
			Leachable Lead (Pb)	2023/08/17	<0.1		mg/L	
			Leachable Mercury (Hg)	2023/08/17	<0.001		mg/L	
			Leachable Selenium (Se)	2023/08/17	<0.1		mg/L	
			Leachable Silver (Ag)	2023/08/17	<0.01		mg/L	
			Leachable Uranium (U)	2023/08/17	<0.01		mg/L	
8855919	PBA	RPD	Leachable Arsenic (As)	2023/08/17	NC		%	35
			Leachable Barium (Ba)	2023/08/17	0.49		%	35
			Leachable Boron (B)	2023/08/17	0.50		%	35
			Leachable Cadmium (Cd)	2023/08/17	NC		%	35
			Leachable Chromium (Cr)	2023/08/17	NC		%	35
			Leachable Lead (Pb)	2023/08/17	0.19		%	35
			Leachable Mercury (Hg)	2023/08/17	NC		%	35
			Leachable Selenium (Se)	2023/08/17	NC		%	35
			Leachable Silver (Ag)	2023/08/17	NC		%	35
			Leachable Uranium (U)	2023/08/17	NC		%	35
8855923	GMN	Matrix Spike	Leachable 4-Bromofluorobenzene	2023/08/16		97	%	70 - 130
			Leachable D4-1,2-Dichloroethane	2023/08/16		114	%	70 - 130



Bureau Veritas Job #: C3O3887
Report Date: 2023/08/22

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JR

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8855923	GMN	Spiked Blank		Leachable D8-Toluene	2023/08/16		104	%	70 - 130
				Leachable Benzene	2023/08/16		99	%	70 - 130
				Leachable Carbon Tetrachloride	2023/08/16		101	%	70 - 130
				Leachable Chlorobenzene	2023/08/16		98	%	70 - 130
				Leachable Chloroform	2023/08/16		103	%	70 - 130
				Leachable 1,2-Dichlorobenzene	2023/08/16		100	%	70 - 130
				Leachable 1,4-Dichlorobenzene	2023/08/16		95	%	70 - 130
				Leachable 1,2-Dichloroethane	2023/08/16		112	%	70 - 130
				Leachable 1,1-Dichloroethylene	2023/08/16		100	%	70 - 130
				Leachable Methylene Chloride(Dichloromethan	2023/08/16		107	%	70 - 130
				Leachable Methyl Ethyl Ketone (2-Butanone)	2023/08/16		135	%	60 - 140
				Leachable Tetrachloroethylene	2023/08/16		93	%	70 - 130
				Leachable Trichloroethylene	2023/08/16		94	%	70 - 130
				Leachable Vinyl Chloride	2023/08/16		102	%	70 - 130
				Leachable 4-Bromofluorobenzene	2023/08/16		97	%	70 - 130
				Leachable D4-1,2-Dichloroethane	2023/08/16		108	%	70 - 130
				Leachable D8-Toluene	2023/08/16		103	%	70 - 130
				Leachable Benzene	2023/08/16		100	%	70 - 130
				Leachable Carbon Tetrachloride	2023/08/16		103	%	70 - 130
				Leachable Chlorobenzene	2023/08/16		99	%	70 - 130
				Leachable Chloroform	2023/08/16		103	%	70 - 130
				Leachable 1,2-Dichlorobenzene	2023/08/16		100	%	70 - 130
				Leachable 1,4-Dichlorobenzene	2023/08/16		97	%	70 - 130
				Leachable 1,2-Dichloroethane	2023/08/16		107	%	70 - 130
				Leachable 1,1-Dichloroethylene	2023/08/16		103	%	70 - 130
				Leachable Methylene Chloride(Dichloromethan	2023/08/16		104	%	70 - 130
				Leachable Methyl Ethyl Ketone (2-Butanone)	2023/08/16		122	%	60 - 140
				Leachable Tetrachloroethylene	2023/08/16		98	%	70 - 130
				Leachable Trichloroethylene	2023/08/16		97	%	70 - 130
				Leachable Vinyl Chloride	2023/08/16		103	%	70 - 130
8855923	GMN	Method Blank		Leachable 4-Bromofluorobenzene	2023/08/16		96	%	70 - 130
				Leachable D4-1,2-Dichloroethane	2023/08/16		116	%	70 - 130
				Leachable D8-Toluene	2023/08/16		94	%	70 - 130
				Leachable Benzene	2023/08/16	<0.020		mg/L	
				Leachable Carbon Tetrachloride	2023/08/16	<0.020		mg/L	
				Leachable Chlorobenzene	2023/08/16	<0.020		mg/L	
				Leachable Chloroform	2023/08/16	<0.020		mg/L	
				Leachable 1,2-Dichlorobenzene	2023/08/16	<0.050		mg/L	
				Leachable 1,4-Dichlorobenzene	2023/08/16	<0.050		mg/L	
				Leachable 1,2-Dichloroethane	2023/08/16	<0.050		mg/L	
				Leachable 1,1-Dichloroethylene	2023/08/16	<0.020		mg/L	
				Leachable Methylene Chloride(Dichloromethan	2023/08/16	<0.20		mg/L	
				Leachable Methyl Ethyl Ketone (2-Butanone)	2023/08/16	<1.0		mg/L	
				Leachable Tetrachloroethylene	2023/08/16	<0.020		mg/L	
				Leachable Trichloroethylene	2023/08/16	<0.020		mg/L	
8855923	GMN	RPD		Leachable Vinyl Chloride	2023/08/16	<0.020		mg/L	
				Leachable Benzene	2023/08/16	NC		%	30
				Leachable Carbon Tetrachloride	2023/08/16	NC		%	30
				Leachable Chlorobenzene	2023/08/16	NC		%	30
				Leachable Chloroform	2023/08/16	NC		%	30
				Leachable 1,2-Dichlorobenzene	2023/08/16	NC		%	30
				Leachable 1,4-Dichlorobenzene	2023/08/16	NC		%	30



Bureau Veritas Job #: C3O3887
Report Date: 2023/08/22

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JR

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Leachable 1,2-Dichloroethane	2023/08/16	NC		%	30
			Leachable 1,1-Dichloroethylene	2023/08/16	NC		%	30
			Leachable Methylene Chloride(Dichloromethan	2023/08/16	NC		%	30
			Leachable Methyl Ethyl Ketone (2-Butanone)	2023/08/16	NC		%	30
			Leachable Tetrachloroethylene	2023/08/16	NC		%	30
			Leachable Trichloroethylene	2023/08/16	NC		%	30
			Leachable Vinyl Chloride	2023/08/16	NC		%	30
8856331	NGI	Matrix Spike	Leachable Fluoride (F-)	2023/08/16		93	%	80 - 120
8856331	NGI	Leachate Blank	Leachable Fluoride (F-)	2023/08/16	<0.10		mg/L	
8856331	NGI	Spiked Blank	Leachable Fluoride (F-)	2023/08/16		101	%	80 - 120
8856331	NGI	Method Blank	Leachable Fluoride (F-)	2023/08/16	<0.10		mg/L	
8856331	NGI	RPD	Leachable Fluoride (F-)	2023/08/16	2.3		%	25
8856339	C_N	Matrix Spike	Leachable Nitrite (N)	2023/08/16		108	%	80 - 120
			Leachable Nitrate (N)	2023/08/16		83	%	80 - 120
			Leachable Nitrate + Nitrite (N)	2023/08/16		88	%	80 - 120
8856339	C_N	Leachate Blank	Leachable Nitrite (N)	2023/08/16	<0.10		mg/L	
			Leachable Nitrate (N)	2023/08/16	<1.0		mg/L	
			Leachable Nitrate + Nitrite (N)	2023/08/16	<1.0		mg/L	
8856339	C_N	Spiked Blank	Leachable Nitrite (N)	2023/08/16		106	%	80 - 120
			Leachable Nitrate (N)	2023/08/16		92	%	80 - 120
			Leachable Nitrate + Nitrite (N)	2023/08/16		95	%	80 - 120
8856339	C_N	Method Blank	Leachable Nitrite (N)	2023/08/16	<0.10		mg/L	
			Leachable Nitrate (N)	2023/08/16	<1.0		mg/L	
			Leachable Nitrate + Nitrite (N)	2023/08/16	<1.0		mg/L	
8856339	C_N	RPD	Leachable Nitrite (N)	2023/08/16	NC		%	20
			Leachable Nitrate (N)	2023/08/16	NC		%	20
			Leachable Nitrate + Nitrite (N)	2023/08/16	NC		%	20
8856347	GYA	Matrix Spike	Leachable WAD Cyanide (Free)	2023/08/16		69 (1)	%	80 - 120
8856347	GYA	Leachate Blank	Leachable WAD Cyanide (Free)	2023/08/16	<0.010		mg/L	
8856347	GYA	Spiked Blank	Leachable WAD Cyanide (Free)	2023/08/16		95	%	80 - 120
8856347	GYA	Method Blank	Leachable WAD Cyanide (Free)	2023/08/16	<0.0020		mg/L	
8856347	GYA	RPD	Leachable WAD Cyanide (Free)	2023/08/16	NC		%	20
8863909	JYO	Matrix Spike	Leachable D10-Anthracene	2023/08/19		128	%	50 - 130
			Leachable D14-Terphenyl (FS)	2023/08/19		123	%	50 - 130
			Leachable D8-Acenaphthylene	2023/08/19		115	%	50 - 130
			Leachable Benzo(a)pyrene	2023/08/19		114	%	50 - 130
			Leachable Perylene	2023/08/19		124	%	50 - 130
8863909	JYO	Spiked Blank	Leachable D10-Anthracene	2023/08/19		125	%	50 - 130
			Leachable D14-Terphenyl (FS)	2023/08/19		119	%	50 - 130
			Leachable D8-Acenaphthylene	2023/08/19		115	%	50 - 130
			Leachable Benzo(a)pyrene	2023/08/19		111	%	50 - 130
			Leachable Perylene	2023/08/19		120	%	50 - 130
8863909	JYO	Method Blank	Leachable D10-Anthracene	2023/08/19		125	%	50 - 130
			Leachable D14-Terphenyl (FS)	2023/08/19		119	%	50 - 130
			Leachable D8-Acenaphthylene	2023/08/19		110	%	50 - 130
			Leachable Benzo(a)pyrene	2023/08/19	<0.10		ug/L	
			Leachable Perylene	2023/08/19	<0.20		ug/L	



Bureau Veritas Job #: C3O3887
Report Date: 2023/08/22

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JR

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC		QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
Batch	Init							
8863909	JYO	RPD	Leachable Benzo(a)pyrene	2023/08/19	NC		%	40
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement. Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference. Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination. Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy. Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination. Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency. NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration) NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$). (1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.								



Bureau Veritas Job #: C3O3887
Report Date: 2023/08/22

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JR

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink that reads "Cristina Carriere".

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.



Your P.O. #: 694129
 Your Project #: 694129
 Site Location: 1440 Prince of Wales Drive, Ottawa, ON
 Your C.O.C. #: 948522-01-01

Attention: Akruti Atawala

SNC-Lavalin Inc
 Toronto - Shell
 235 Lesmill Road
 Toronto, ON
 CANADA M3B 2V1

Report Date: 2023/08/30
 Report #: R7789857
 Version: 4 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C303894

Received: 2023/08/11, 12:13

Sample Matrix: Soil
 # Samples Received: 21

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Hot Water Extractable Boron (1)	20	2023/08/17	2023/08/17	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum (1)	18	N/A	2023/08/18		EPA 8260C m
1,3-Dichloropropene Sum (1)	2	N/A	2023/08/21		EPA 8260C m
1,3-Dichloropropene Sum (1)	1	N/A	2023/08/24		EPA 8260C m
Free (WAD) Cyanide (1)	13	2023/08/17	2023/08/17	CAM SOP-00457	OMOE E3015 m
Free (WAD) Cyanide (1)	7	2023/08/17	2023/08/18	CAM SOP-00457	OMOE E3015 m
Conductivity (1)	5	2023/08/17	2023/08/17	CAM SOP-00414	OMOE E3530 v1 m
Conductivity (1)	15	2023/08/18	2023/08/18	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1, 2)	20	2023/08/17	2023/08/18	CAM SOP-00436	EPA 3060A/7199 m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	20	2023/08/17	2023/08/18	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS (1)	19	2023/08/17	2023/08/17	CAM SOP-00447	EPA 6020B m
Acid Extractable Metals by ICPMS (1)	1	2023/08/18	2023/08/18	CAM SOP-00447	EPA 6020B m
Moisture (1)	20	N/A	2023/08/16	CAM SOP-00445	Carter 2nd ed 51.2 m
pH CaCl2 EXTRACT (1)	12	2023/08/17	2023/08/17	CAM SOP-00413	EPA 9045 D m
pH CaCl2 EXTRACT (1)	8	2023/08/18	2023/08/18	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR) (1)	5	N/A	2023/08/18	CAM SOP-00102	EPA 6010C
Sodium Adsorption Ratio (SAR) (1)	15	N/A	2023/08/21	CAM SOP-00102	EPA 6010C
Volatile Organic Compounds and F1 PHCs (1)	20	N/A	2023/08/18	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds and F1 PHCs (1)	1	N/A	2023/08/23	CAM SOP-00230	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report.



Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your C.O.C. #: 948522-01-01

Attention: Akruati Atawala

SNC-Lavalin Inc
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Report Date: 2023/08/30
Report #: R7789857
Version: 4 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C303894

Received: 2023/08/11, 12:13

Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) Soils are reported on a dry weight basis unless otherwise specified.

(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Deepthi Shaji, Project Manager

Email: Deepthi.Shaji@bureauveritas.com

Phone# (905)817-5700 Ext:7065843

=====

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID				WRD345		WRD346		WRD347		
Sampling Date				2023/08/10 09:30		2023/08/10 09:30		2023/08/10 09:45		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-01	QC Batch	BH23-01-011	QC Batch	BH23-01-03	RDL	QC Batch

Calculated Parameters										
Sodium Adsorption Ratio	N/A	12	12	31	8855581	32	8855581	21		8855581
Inorganics										
Conductivity	mS/cm	1.4	1.4	2.3	8861105	2.5	8861105	2.6	0.002	8861105
Moisture	%	-	-	36	8857542	29	8857542	27	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	9.44	8858849	9.51	8858849	7.73		8858849
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	8858280	<0.01	8858208	<0.01	0.01	8861168
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil										

Bureau Veritas ID				WRD348			WRD348		WRD349		
Sampling Date				2023/08/10 09:50			2023/08/10 09:50		2023/08/10 10:00		
COC Number				948522-01-01			948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-04	RDL	QC Batch	BH23-01-04 Lab-Dup	QC Batch	BH23-01-05	RDL	QC Batch

Calculated Parameters											
Sodium Adsorption Ratio	N/A	12	12	7.0		8855581			5.6		8855581
Inorganics											
Conductivity	mS/cm	1.4	1.4	2.0	0.002	8859653			2.3	0.002	8861105
Moisture	%	-	-	28	1.0	8857542			28	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	7.18		8858849	7.37	8858849	7.64		8858849
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	0.01	8858280			<0.01	0.01	8858280
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil											



Bureau Veritas Job #: C303894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID				WRD350		WRD351		WRD352		
Sampling Date				2023/08/10 10:15		2023/08/10 10:30		2023/08/10 10:40		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-06	QC Batch	BH23-01-08	QC Batch	BH23-01-11	RDL	QC Batch

Calculated Parameters										
Sodium Adsorption Ratio	N/A	12	12	4.0	8855581	7.5	8855581	1.1		8855581
Inorganics										
Conductivity	mS/cm	1.4	1.4	2.0	8859653	2.2	8861105	0.69	0.002	8859653
Moisture	%	-	-	27	8857542	20	8857542	20	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	7.36	8861502	7.66	8861502	7.59		8858849
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	8858280	<0.01	8858280	<0.01	0.01	8858280
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil										

Bureau Veritas ID				WRD353		WRD354		WRD355		
Sampling Date				2023/08/10 12:30		2023/08/10 12:45		2023/08/11 07:20		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-01	QC Batch	BH23-03-03	QC Batch	BH23-03-05	RDL	QC Batch

Calculated Parameters										
Sodium Adsorption Ratio	N/A	12	12	17	8855581	6.6	8855581	3.4		8855581
Inorganics										
Conductivity	mS/cm	1.4	1.4	0.98	8861105	1.8	8859653	2.2	0.002	8861105
Moisture	%	-	-	22	8857542	27	8857542	29	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	7.63	8858849	7.22	8858849	7.14		8858849
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	8858353	<0.01	8858353	<0.01	0.01	8858353
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil										



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID				WRD356	WRD357		WRD358	WRD359		
Sampling Date				2023/08/11 07:25	2023/08/11 07:30		2023/08/11 07:40	2023/08/11 07:40		
COC Number				948522-01-01	948522-01-01		948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-06	BH23-03-07	QC Batch	BH23-03-10	BH23-03-100	RDL	QC Batch

Calculated Parameters										
Sodium Adsorption Ratio	N/A	12	12	4.2	4.1	8855581	2.2	2.0		8855581
Inorganics										
Conductivity	mS/cm	1.4	1.4	2.0	2.0	8861105	1.2	1.1	0.002	8861105
Moisture	%	-	-	30	28	8857542	28	26	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	7.25	7.28	8861502	7.63	7.50		8861502
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	<0.01	8858280	<0.01	<0.01	0.01	8858353
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use										
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)										
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition										
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil										

Bureau Veritas ID				WRD360		WRD361		WRD362		
Sampling Date				2023/08/11 08:20		2023/08/11 08:30		2023/08/11 08:45		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-01	QC Batch	BH23-02-02	QC Batch	BH23-02-04	RDL	QC Batch

Calculated Parameters										
Sodium Adsorption Ratio	N/A	12	12	16	8855581	10	8855581	3.0		8855581
Inorganics										
Conductivity	mS/cm	1.4	1.4	0.84	8861105	0.57	8861105	1.6	0.002	8861105
Moisture	%	-	-	24	8857542	24	8857542	28	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	7.75	8861502	7.72	8861502	7.06		8858849
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	8858280	<0.01	8858353	<0.01	0.01	8858208
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use										
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)										
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition										
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil										



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID				WRD363		WRD364			WRD364		
Sampling Date				2023/08/11 09:00		2023/08/11 09:10			2023/08/11 09:10		
COC Number				948522-01-01		948522-01-01			948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-07	QC Batch	BH23-02-09	RDL	QC Batch	BH23-02-09 Lab-Dup	RDL	QC Batch

Calculated Parameters											
Sodium Adsorption Ratio	N/A	12	12	0.97	8855581	0.56		8855581			
Inorganics											
Conductivity	mS/cm	1.4	1.4	0.86	8861105	0.61	0.002	8859653			
Moisture	%	-	-	36	8857542	20	1.0	8857542	18	1.0	8857542
Available (CaCl ₂) pH	pH	-	-	7.04	8858849	7.53		8858849			
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	8858208	<0.01	0.01	8858208			

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD345		WRD346	WRD347		
Sampling Date				2023/08/10 09:30		2023/08/10 09:30	2023/08/10 09:45		
COC Number				948522-01-01		948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-01	QC Batch	BH23-01-011	BH23-01-03	RDL	QC Batch

Inorganics									
Chromium (VI)	ug/g	8	10	<0.18	8858405	<0.18	<0.18	0.18	8858405
Metals									
Hot Water Ext. Boron (B)	ug/g	2	2	0.59	8859732	0.47	0.21	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	<0.20	8861445	0.24	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	1.5	8861445	1.5	1.7	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	200	8861445	230	310	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.75	8861445	0.79	0.91	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	5.7	8861445	6.0	6.4	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	0.12	8861445	0.18	0.15	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	99	8861445	100	140	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	17	8861445	17	25	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	29	8861445	37	59	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	17	8861445	18	11	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	0.68	8861445	0.55	<0.50	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	46	8861445	51	72	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	8861445	<0.50	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	<0.20	8861445	<0.20	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.36	8861445	0.35	0.44	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.95	8861445	0.98	0.97	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	83	8861445	87	110	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	110	8861445	110	130	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	<0.050	8861445	<0.050	<0.050	0.050	8859492

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD348	WRD349	WRD350		
Sampling Date				2023/08/10 09:50	2023/08/10 10:00	2023/08/10 10:15		
COC Number				948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-04	BH23-01-05	BH23-01-06	RDL	QC Batch
Inorganics								
Chromium (VI)	ug/g	8	10	<0.18	0.25	<0.18	0.18	8858405
Metals								
Hot Water Ext. Boron (B)	ug/g	2	2	0.21	0.19	0.19	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	<0.20	<0.20	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	1.5	1.1	<1.0	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	310	300	200	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.87	0.82	0.47	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	6.4	5.9	<5.0	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	0.13	0.13	<0.10	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	140	110	70	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	27	20	13	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	53	49	33	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	8.9	8.0	5.9	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	<0.50	<0.50	<0.50	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	73	56	37	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	<0.50	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	<0.20	<0.20	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.43	0.39	0.24	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.90	0.92	0.74	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	120	100	71	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	130	110	71	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	<0.050	<0.050	<0.050	0.050	8859492
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use								
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)								
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition								
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil								



Bureau Veritas Job #: C3O3894

Report Date: 2023/08/30

SNC-Lavalin Inc

Client Project #: 694129

Site Location: 1440 Prince of Wales Drive, Ottawa, ON

Your P.O. #: 694129

Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD351		WRD352		
Sampling Date				2023/08/10 10:30		2023/08/10 10:40		
COC Number				948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-08	QC Batch	BH23-01-11	RDL	QC Batch
Inorganics								
Chromium (VI)	ug/g	8	10	<0.18	8858405	<0.18	0.18	8858931
Metals								
Hot Water Ext. Boron (B)	ug/g	2	2	0.080	8859824	0.082	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	<0.20	8859492	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	1.7	8859492	<1.0	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	95	8859492	79	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.33	8859492	0.30	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	<5.0	8859492	<5.0	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	<0.10	8859492	<0.10	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	25	8859492	22	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	7.3	8859492	6.7	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	16	8859492	17	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	3.8	8859492	3.5	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	<0.50	8859492	0.73	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	15	8859492	12	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	8859492	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	<0.20	8859492	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.14	8859492	0.15	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.49	8859492	0.98	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	39	8859492	43	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	40	8859492	31	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	<0.050	8859492	<0.050	0.050	8859492
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use								
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)								
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition								
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil								



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD352			WRD353		
Sampling Date				2023/08/10 10:40			2023/08/10 12:30		
COC Number				948522-01-01			948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-11 Lab-Dup	RDL	QC Batch	BH23-03-01	RDL	QC Batch
Inorganics									
Chromium (VI)	ug/g	8	10	<0.18	0.18	8858931	<0.18	0.18	8858405
Metals									
Hot Water Ext. Boron (B)	ug/g	2	2				0.69	0.050	8859824
Acid Extractable Antimony (Sb)	ug/g	40	50				0.56	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18				1.5	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670				180	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10				0.54	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120				5.7	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9				0.22	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160				74	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100				14	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300				26	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120				180	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40				0.75	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340				36	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5				<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50				0.40	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3				0.24	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33				0.62	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86				63	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340				140	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20				0.080	0.050	8859492
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil									



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD353			WRD354	WRD355		
Sampling Date				2023/08/10 12:30			2023/08/10 12:45	2023/08/11 07:20		
COC Number				948522-01-01			948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-01 Lab-Dup	RDL	QC Batch	BH23-03-03	BH23-03-05	RDL	QC Batch

Inorganics										
Chromium (VI)	ug/g	8	10				0.37	0.30	0.18	8858405
Metals										
Hot Water Ext. Boron (B)	ug/g	2	2				0.81	1.1	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	0.95	0.20	8859492	<0.20	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	1.3	1.0	8859492	1.2	1.4	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	190	0.50	8859492	310	310	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.54	0.20	8859492	0.94	0.86	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	5.7	5.0	8859492	7.4	8.4	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	0.21	0.10	8859492	0.11	0.10	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	72	1.0	8859492	140	110	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	14	0.10	8859492	29	23	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	27	0.50	8859492	55	51	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	170	1.0	8859492	14	8.3	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	0.81	0.50	8859492	<0.50	<0.50	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	36	0.50	8859492	76	61	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	0.50	8859492	<0.50	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	0.35	0.20	8859492	<0.20	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.21	0.050	8859492	0.40	0.43	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.66	0.050	8859492	0.98	0.87	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	62	5.0	8859492	110	100	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	130	5.0	8859492	120	110	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	0.072	0.050	8859492	<0.050	<0.050	0.050	8859492

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C303894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD356	WRD357	WRD358	WRD359		
Sampling Date				2023/08/11 07:25	2023/08/11 07:30	2023/08/11 07:40	2023/08/11 07:40		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-06	BH23-03-07	BH23-03-10	BH23-03-100	RDL	QC Batch

Inorganics									
Chromium (VI)	ug/g	8	10	0.23	<0.18	<0.18	<0.18	0.18	8858405
Metals									
Hot Water Ext. Boron (B)	ug/g	2	2	0.80	0.85	0.51	0.34	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	<0.20	<0.20	<0.20	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	1.4	<1.0	1.3	1.6	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	280	250	120	110	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.72	0.59	0.36	0.34	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	6.3	5.4	<5.0	<5.0	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	<0.10	<0.10	<0.10	<0.10	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	93	85	31	28	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	21	16	8.1	7.7	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	43	41	17	16	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	6.8	5.6	3.7	3.9	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	<0.50	<0.50	0.84	0.98	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	54	45	18	16	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	<0.50	<0.50	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	<0.20	<0.20	<0.20	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.35	0.30	0.15	0.15	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.77	0.83	1.5	3.3	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	94	84	46	42	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	100	88	44	40	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	<0.050	<0.050	<0.050	<0.050	0.050	8859492

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD360	WRD361		WRD362		
Sampling Date				2023/08/11 08:20	2023/08/11 08:30		2023/08/11 08:45		
COC Number				948522-01-01	948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-01	BH23-02-02	QC Batch	BH23-02-04	RDL	QC Batch
Inorganics									
Chromium (VI)	ug/g	8	10	<0.18	<0.18	8858405	0.36	0.18	8858396
Metals									
Hot Water Ext. Boron (B)	ug/g	2	2	0.19	0.16	8859824	0.14	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	0.24	0.22	8859492	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	1.8	1.8	8859492	1.6	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	230	210	8859492	310	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.76	0.68	8859492	0.90	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	5.4	5.1	8859492	6.2	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	0.26	0.25	8859492	0.11	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	100	88	8859492	140	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	19	18	8859492	24	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	48	37	8859492	53	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	44	40	8859492	9.9	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	1.0	0.58	8859492	<0.50	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	53	47	8859492	71	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	<0.50	8859492	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	<0.20	<0.20	8859492	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.30	0.31	8859492	0.41	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.73	0.79	8859492	0.98	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	85	77	8859492	110	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	130	120	8859492	120	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	0.055	0.079	8859492	<0.050	0.050	8859492
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use									
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)									
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition									
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil									



Bureau Veritas Job #: C3O3894

Report Date: 2023/08/30

SNC-Lavalin Inc

Client Project #: 694129

Site Location: 1440 Prince of Wales Drive, Ottawa, ON

Your P.O. #: 694129

Sampler Initials: JT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID				WRD363		WRD364		
Sampling Date				2023/08/11 09:00		2023/08/11 09:10		
COC Number				948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-07	RDL	BH23-02-09	RDL	QC Batch
Inorganics								
Chromium (VI)	ug/g	8	10	<0.36 (1)	0.36	<0.18	0.18	8858396
Metals								
Hot Water Ext. Boron (B)	ug/g	2	2	<0.050	0.050	<0.050	0.050	8859732
Acid Extractable Antimony (Sb)	ug/g	40	50	<0.20	0.20	<0.20	0.20	8859492
Acid Extractable Arsenic (As)	ug/g	18	18	<1.0	1.0	1.6	1.0	8859492
Acid Extractable Barium (Ba)	ug/g	670	670	150	0.50	88	0.50	8859492
Acid Extractable Beryllium (Be)	ug/g	8	10	0.41	0.20	0.34	0.20	8859492
Acid Extractable Boron (B)	ug/g	120	120	<5.0	5.0	<5.0	5.0	8859492
Acid Extractable Cadmium (Cd)	ug/g	1.9	1.9	<0.10	0.10	<0.10	0.10	8859492
Acid Extractable Chromium (Cr)	ug/g	160	160	58	1.0	24	1.0	8859492
Acid Extractable Cobalt (Co)	ug/g	80	100	9.5	0.10	7.3	0.10	8859492
Acid Extractable Copper (Cu)	ug/g	230	300	26	0.50	14	0.50	8859492
Acid Extractable Lead (Pb)	ug/g	120	120	4.2	1.0	3.7	1.0	8859492
Acid Extractable Molybdenum (Mo)	ug/g	40	40	<0.50	0.50	0.75	0.50	8859492
Acid Extractable Nickel (Ni)	ug/g	270	340	28	0.50	14	0.50	8859492
Acid Extractable Selenium (Se)	ug/g	5.5	5.5	<0.50	0.50	<0.50	0.50	8859492
Acid Extractable Silver (Ag)	ug/g	40	50	<0.20	0.20	<0.20	0.20	8859492
Acid Extractable Thallium (Tl)	ug/g	3.3	3.3	0.18	0.050	0.13	0.050	8859492
Acid Extractable Uranium (U)	ug/g	33	33	0.65	0.050	4.3	0.050	8859492
Acid Extractable Vanadium (V)	ug/g	86	86	58	5.0	42	5.0	8859492
Acid Extractable Zinc (Zn)	ug/g	340	340	57	5.0	37	5.0	8859492
Acid Extractable Mercury (Hg)	ug/g	0.27	20	<0.050	0.050	<0.050	0.050	8859492
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use								
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)								
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition								
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil								
(1) Detection limits were adjusted for high moisture content								



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD345			WRD345		
Sampling Date				2023/08/10 09:30			2023/08/10 09:30		
COC Number				948522-01-01			948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-01	RDL	QC Batch	BH23-01-01 Lab-Dup	RDL	QC Batch

Calculated Parameters

1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	0.050	8856524			
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Volatile Organics

Acetone (2-Propanone)	ug/g	1.8	28	<1.4 (1)	1.4	8856506	<1.4	1.4	8856506
Benzene	ug/g	0.034	0.4	1.0	0.0060	8856506	1.0	0.0060	8856506
Bromodichloromethane	ug/g	5.8	18	<0.040	0.040	8856506	<0.040	0.040	8856506
Bromoform	ug/g	2.5	1.7	<0.040	0.040	8856506	<0.040	0.040	8856506
Bromomethane	ug/g	0.05	0.05	<0.040	0.040	8856506	<0.040	0.040	8856506
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	0.040	8856506	<0.040	0.040	8856506
Chlorobenzene	ug/g	0.28	2.7	<0.040	0.040	8856506	<0.040	0.040	8856506
Chloroform	ug/g	0.26	0.18	<0.040	0.040	8856506	<0.040	0.040	8856506
Dibromochloromethane	ug/g	5.5	13	<0.040	0.040	8856506	<0.040	0.040	8856506
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	0.040	8856506	<0.040	0.040	8856506
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	0.040	8856506	<0.040	0.040	8856506
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	0.040	8856506	<0.040	0.040	8856506
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	0.040	8856506	<0.040	0.040	8856506
1,1-Dichloroethane	ug/g	0.57	21	<0.040	0.040	8856506	<0.040	0.040	8856506
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	0.049	8856506	<0.049	0.049	8856506
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	0.040	8856506	<0.040	0.040	8856506
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	0.040	8856506	<0.040	0.040	8856506
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	0.040	8856506	<0.040	0.040	8856506
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	0.040	8856506	<0.040	0.040	8856506
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	0.030	8856506	<0.030	0.030	8856506
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	0.040	8856506	<0.040	0.040	8856506
Ethylbenzene	ug/g	1.9	19	0.66	0.010	8856506	0.62	0.010	8856506
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	0.040	8856506	<0.040	0.040	8856506
Hexane	ug/g	2.5	88	0.28	0.040	8856506	0.27	0.040	8856506
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.20 (1)	0.20	8856506	<0.20 (1)	0.20	8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil

(1) Detection limit was raised due to matrix interference.



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD345			WRD345		
Sampling Date				2023/08/10 09:30			2023/08/10 09:30		
COC Number				948522-01-01			948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-01	RDL	QC Batch	BH23-01-01 Lab-Dup	RDL	QC Batch
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	0.40	8856506	<0.40	0.40	8856506
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	0.40	8856506	<0.40	0.40	8856506
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	<0.040	0.040	8856506	<0.040	0.040	8856506
Styrene	ug/g	6.8	43	<0.040	0.040	8856506	<0.040	0.040	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	0.040	8856506	<0.040	0.040	8856506
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	0.040	8856506	<0.040	0.040	8856506
Tetrachloroethylene	ug/g	0.05	21	<0.040	0.040	8856506	<0.040	0.040	8856506
Toluene	ug/g	7.8	78	0.18	0.020	8856506	0.17	0.020	8856506
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	0.040	8856506	<0.040	0.040	8856506
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	0.040	8856506	<0.040	0.040	8856506
Trichloroethylene	ug/g	0.05	0.61	<0.010	0.010	8856506	<0.010	0.010	8856506
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	0.040	8856506	<0.040	0.040	8856506
Vinyl Chloride	ug/g	0.02	0.25	<0.019	0.019	8856506	<0.019	0.019	8856506
p+m-Xylene	ug/g	-	-	0.057	0.020	8856506	0.055	0.020	8856506
o-Xylene	ug/g	-	-	0.086	0.020	8856506	0.081	0.020	8856506
Total Xylenes	ug/g	3	30	0.14	0.020	8856506	0.14	0.020	8856506
F1 (C6-C10)	ug/g	25	65	29	10	8856506	28	10	8856506
F1 (C6-C10) - BTEX	ug/g	25	65	27	10	8856506	26	10	8856506
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	-	-	97		8856506	95		8856506
D10-o-Xylene	%	-	-	115		8856506	109		8856506
D4-1,2-Dichloroethane	%	-	-	97		8856506	98		8856506
D8-Toluene	%	-	-	103		8856506	101		8856506
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil									



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD346		WRD347		WRD348		
Sampling Date				2023/08/10 09:30		2023/08/10 09:45		2023/08/10 09:50		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-011	RDL	BH23-01-03	RDL	BH23-01-04	RDL	QC Batch

Calculated Parameters										
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	0.050	<0.050	0.050	<0.050	0.050	8855624
Volatile Organics										
Acetone (2-Propanone)	ug/g	1.8	28	<1.5 (1)	1.5	<0.49	0.49	<0.49	0.49	8856506
Benzene	ug/g	0.034	0.4	0.44	0.0060	0.11	0.0060	1.1	0.0060	8856506
Bromodichloromethane	ug/g	5.8	18	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Bromoform	ug/g	2.5	1.7	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Bromomethane	ug/g	0.05	0.05	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Chlorobenzene	ug/g	0.28	2.7	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Chloroform	ug/g	0.26	0.18	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Dibromochloromethane	ug/g	5.5	13	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,1-Dichloroethane	ug/g	0.57	21	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	0.049	<0.049	0.049	<0.049	0.049	8856506
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	0.030	<0.030	0.030	<0.030	0.030	8856506
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Ethylbenzene	ug/g	1.9	19	0.77	0.010	0.14	0.010	1.9	0.010	8856506
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Hexane	ug/g	2.5	88	0.13	0.040	<0.040	0.040	0.33	0.040	8856506
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.30 (1)	0.30	<0.049	0.049	<0.050 (1)	0.050	8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil

(1) Detection limit was raised due to matrix interference.



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD346		WRD347		WRD348		
Sampling Date				2023/08/10 09:30		2023/08/10 09:45		2023/08/10 09:50		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-011	RDL	BH23-01-03	RDL	BH23-01-04	RDL	QC Batch
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	0.40	<0.40	0.40	<0.40	0.40	8856506
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	0.40	<0.40	0.40	<0.40	0.40	8856506
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Styrene	ug/g	6.8	43	<0.040	0.040	<0.040	0.040	<0.080 (1)	0.080	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Tetrachloroethylene	ug/g	0.05	21	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Toluene	ug/g	7.8	78	0.092	0.020	<0.020	0.020	0.14	0.020	8856506
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Trichloroethylene	ug/g	0.05	0.61	<0.010	0.010	<0.010	0.010	<0.010	0.010	8856506
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Vinyl Chloride	ug/g	0.02	0.25	<0.019	0.019	<0.019	0.019	<0.019	0.019	8856506
p+m-Xylene	ug/g	-	-	0.043	0.020	<0.020	0.020	5.6	0.020	8856506
o-Xylene	ug/g	-	-	0.081	0.020	<0.020	0.020	1.8	0.020	8856506
Total Xylenes	ug/g	3	30	0.12	0.020	<0.020	0.020	7.4	0.020	8856506
F1 (C6-C10)	ug/g	25	65	33	10	<10	10	37	10	8856506
F1 (C6-C10) - BTEX	ug/g	25	65	31	10	<10	10	27	10	8856506
Surrogate Recovery (%)										
4-Bromofluorobenzene	%	-	-	95		98		98		8856506
D10-o-Xylene	%	-	-	116		109		124		8856506
D4-1,2-Dichloroethane	%	-	-	98		103		98		8856506
D8-Toluene	%	-	-	103		97		101		8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil

(1) Detection limit was raised due to matrix interference.



Bureau Veritas Job #: C303894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD349		WRD350		WRD351		
Sampling Date				2023/08/10 10:00		2023/08/10 10:15		2023/08/10 10:30		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-05	RDL	BH23-01-06	RDL	BH23-01-08	RDL	QC Batch

Calculated Parameters										
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	0.050	<0.050	0.050	<0.050	0.050	8855624
Volatile Organics										
Acetone (2-Propanone)	ug/g	1.8	28	<6.3 (1)	6.3	<8.8 (1)	8.8	<0.49	0.49	8856506
Benzene	ug/g	0.034	0.4	4.1	0.0060	5.8	0.0060	1.1	0.0060	8856506
Bromodichloromethane	ug/g	5.8	18	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Bromoform	ug/g	2.5	1.7	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Bromomethane	ug/g	0.05	0.05	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Chlorobenzene	ug/g	0.28	2.7	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Chloroform	ug/g	0.26	0.18	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Dibromochloromethane	ug/g	5.5	13	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,1-Dichloroethane	ug/g	0.57	21	<0.050 (1)	0.050	<0.070 (1)	0.070	<0.040	0.040	8856506
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	0.049	<0.049	0.049	<0.049	0.049	8856506
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	0.030	<0.030	0.030	<0.030	0.030	8856506
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Ethylbenzene	ug/g	1.9	19	13	0.010	20	0.10	1.6	0.010	8856506
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Hexane	ug/g	2.5	88	9.4	0.040	19	0.040	0.45	0.040	8856506
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.060 (1)	0.060	<0.070 (1)	0.070	<0.049	0.049	8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil

(1) Detection limit was raised due to matrix interference.



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD349		WRD350		WRD351		
Sampling Date				2023/08/10 10:00		2023/08/10 10:15		2023/08/10 10:30		
COC Number				948522-01-01		948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-05	RDL	BH23-01-06	RDL	BH23-01-08	RDL	QC Batch
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	0.40	<0.40	0.40	<0.40	0.40	8856506
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	0.40	<0.40	0.40	<0.40	0.40	8856506
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	<0.060 (1)	0.060	0.055 (1)	0.040	<0.040	0.040	8856506
Styrene	ug/g	6.8	43	<0.80 (1)	0.80	<1.2 (1)	1.2	<0.040	0.040	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Tetrachloroethylene	ug/g	0.05	21	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Toluene	ug/g	7.8	78	24	0.10	43	0.20	0.21	0.020	8856506
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Trichloroethylene	ug/g	0.05	0.61	<0.010	0.010	<0.010	0.010	<0.010	0.010	8856506
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	0.040	<0.040	0.040	<0.040	0.040	8856506
Vinyl Chloride	ug/g	0.02	0.25	<0.019	0.019	<0.019	0.019	<0.019	0.019	8856506
p+m-Xylene	ug/g	-	-	53	0.10	83	0.20	1.1	0.020	8856506
o-Xylene	ug/g	-	-	19	0.020	29	0.20	0.45	0.020	8856506
Total Xylenes	ug/g	3	30	72	0.10	110	0.20	1.5	0.020	8856506
F1 (C6-C10)	ug/g	25	65	370	50	610	100	14	10	8856506
F1 (C6-C10) - BTEX	ug/g	25	65	260	50	430	100	<10	10	8856506
Surrogate Recovery (%)										
4-Bromofluorobenzene	%	-	-	94		93		98		8856506
D10-o-Xylene	%	-	-	117		115		120		8856506
D4-1,2-Dichloroethane	%	-	-	92		90		96		8856506
D8-Toluene	%	-	-	105		105		101		8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil

(1) Detection limit was raised due to matrix interference.



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD352	WRD353	WRD354	WRD355		
Sampling Date				2023/08/10 10:40	2023/08/10 12:30	2023/08/10 12:45	2023/08/11 07:20		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-11	BH23-03-01	BH23-03-03	BH23-03-05	RDL	QC Batch

Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	<0.050	<0.050	<0.050	0.050	8855624
Volatile Organics									
Acetone (2-Propanone)	ug/g	1.8	28	<0.49	<0.49	<0.49	<0.49	0.49	8856506
Benzene	ug/g	0.034	0.4	1.3	<0.0060	<0.0060	<0.0060	0.0060	8856506
Bromodichloromethane	ug/g	5.8	18	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Bromoform	ug/g	2.5	1.7	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Bromomethane	ug/g	0.05	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Chlorobenzene	ug/g	0.28	2.7	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Chloroform	ug/g	0.26	0.18	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Dibromochloromethane	ug/g	5.5	13	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1-Dichloroethane	ug/g	0.57	21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichloroethane	ug/g	0.05	0.05	0.057	<0.049	<0.049	<0.049	0.049	8856506
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	<0.040	<0.040	<0.040	0.040	8856506
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	<0.040	<0.040	<0.040	0.040	8856506
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	<0.040	<0.040	<0.040	0.040	8856506
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	<0.030	<0.030	<0.030	0.030	8856506
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Ethylbenzene	ug/g	1.9	19	0.037	<0.010	<0.010	<0.010	0.010	8856506
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Hexane	ug/g	2.5	88	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.049	<0.049	<0.049	<0.049	0.049	8856506
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	<0.40	<0.40	<0.40	0.40	8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C3O3894

Report Date: 2023/08/30

SNC-Lavalin Inc

Client Project #: 694129

Site Location: 1440 Prince of Wales Drive, Ottawa, ON

Your P.O. #: 694129

Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD352	WRD353	WRD354	WRD355		
Sampling Date				2023/08/10 10:40	2023/08/10 12:30	2023/08/10 12:45	2023/08/11 07:20		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-11	BH23-03-01	BH23-03-03	BH23-03-05	RDL	QC Batch
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	<0.40	<0.40	<0.40	0.40	8856506
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	0.12	<0.040	<0.040	<0.040	0.040	8856506
Styrene	ug/g	6.8	43	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Tetrachloroethylene	ug/g	0.05	21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Toluene	ug/g	7.8	78	0.028	<0.020	<0.020	<0.020	0.020	8856506
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Trichloroethylene	ug/g	0.05	0.61	<0.010	<0.010	<0.010	<0.010	0.010	8856506
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Vinyl Chloride	ug/g	0.02	0.25	<0.019	<0.019	<0.019	<0.019	0.019	8856506
p+m-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	0.020	8856506
o-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	0.020	8856506
Total Xylenes	ug/g	3	30	<0.020	<0.020	<0.020	<0.020	0.020	8856506
F1 (C6-C10)	ug/g	25	65	<10	<10	<10	<10	10	8856506
F1 (C6-C10) - BTEX	ug/g	25	65	<10	<10	<10	<10	10	8856506
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	-	-	97	98	97	97		8856506
D10-o-Xylene	%	-	-	114	105	108	107		8856506
D4-1,2-Dichloroethane	%	-	-	100	102	102	102		8856506
D8-Toluene	%	-	-	99	98	98	98		8856506
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use									
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)									
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition									
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil									



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD356	WRD357	WRD358	WRD359		
Sampling Date				2023/08/11 07:25	2023/08/11 07:30	2023/08/11 07:40	2023/08/11 07:40		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-06	BH23-03-07	BH23-03-10	BH23-03-100	RDL	QC Batch

Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	<0.050	<0.050	<0.050	0.050	8855624
Volatile Organics									
Acetone (2-Propanone)	ug/g	1.8	28	<0.49	<0.49	<0.49	<0.49	0.49	8856506
Benzene	ug/g	0.034	0.4	<0.0060	<0.0060	<0.0060	<0.0060	0.0060	8856506
Bromodichloromethane	ug/g	5.8	18	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Bromoform	ug/g	2.5	1.7	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Bromomethane	ug/g	0.05	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Chlorobenzene	ug/g	0.28	2.7	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Chloroform	ug/g	0.26	0.18	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Dibromochloromethane	ug/g	5.5	13	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1-Dichloroethane	ug/g	0.57	21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	<0.049	<0.049	<0.049	0.049	8856506
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	<0.040	<0.040	<0.040	0.040	8856506
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	<0.040	<0.040	<0.040	0.040	8856506
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	<0.040	<0.040	<0.040	0.040	8856506
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	<0.030	<0.030	<0.030	0.030	8856506
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Ethylbenzene	ug/g	1.9	19	<0.010	<0.010	<0.010	<0.010	0.010	8856506
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Hexane	ug/g	2.5	88	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.049	<0.049	<0.049	<0.049	0.049	8856506
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	<0.40	<0.40	<0.40	0.40	8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD356	WRD357	WRD358	WRD359		
Sampling Date				2023/08/11 07:25	2023/08/11 07:30	2023/08/11 07:40	2023/08/11 07:40		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-06	BH23-03-07	BH23-03-10	BH23-03-100	RDL	QC Batch
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	<0.40	<0.40	<0.40	0.40	8856506
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Styrene	ug/g	6.8	43	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Tetrachloroethylene	ug/g	0.05	21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Toluene	ug/g	7.8	78	<0.020	<0.020	<0.020	<0.020	0.020	8856506
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Trichloroethylene	ug/g	0.05	0.61	<0.010	<0.010	<0.010	<0.010	0.010	8856506
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Vinyl Chloride	ug/g	0.02	0.25	<0.019	<0.019	<0.019	<0.019	0.019	8856506
p+m-Xylene	ug/g	-	-	<0.020	<0.020	0.025	<0.020	0.020	8856506
o-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	0.020	8856506
Total Xylenes	ug/g	3	30	<0.020	<0.020	0.025	<0.020	0.020	8856506
F1 (C6-C10)	ug/g	25	65	<10	<10	<10	<10	10	8856506
F1 (C6-C10) - BTEX	ug/g	25	65	<10	<10	<10	<10	10	8856506
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	-	-	97	96	97	97		8856506
D10-o-Xylene	%	-	-	107	104	114	102		8856506
D4-1,2-Dichloroethane	%	-	-	102	102	104	102		8856506
D8-Toluene	%	-	-	99	99	98	99		8856506
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil									



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD360	WRD361	WRD362	WRD363		
Sampling Date				2023/08/11 08:20	2023/08/11 08:30	2023/08/11 08:45	2023/08/11 09:00		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-01	BH23-02-02	BH23-02-04	BH23-02-07	RDL	QC Batch

Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	<0.050	<0.050	<0.050	0.050	8855624
Volatile Organics									
Acetone (2-Propanone)	ug/g	1.8	28	<0.49	<0.49	<0.49	<0.49	0.49	8856506
Benzene	ug/g	0.034	0.4	<0.0060	<0.0060	<0.0060	<0.0060	0.0060	8856506
Bromodichloromethane	ug/g	5.8	18	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Bromoform	ug/g	2.5	1.7	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Bromomethane	ug/g	0.05	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Chlorobenzene	ug/g	0.28	2.7	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Chloroform	ug/g	0.26	0.18	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Dibromochloromethane	ug/g	5.5	13	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1-Dichloroethane	ug/g	0.57	21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	<0.049	<0.049	<0.049	0.049	8856506
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	<0.040	<0.040	<0.040	0.040	8856506
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	<0.040	<0.040	<0.040	0.040	8856506
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	<0.040	<0.040	<0.040	0.040	8856506
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	<0.030	<0.030	<0.030	0.030	8856506
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Ethylbenzene	ug/g	1.9	19	<0.010	<0.010	<0.010	<0.010	0.010	8856506
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Hexane	ug/g	2.5	88	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.049	<0.049	<0.049	<0.049	0.049	8856506
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	<0.40	<0.40	<0.40	0.40	8856506

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD360	WRD361	WRD362	WRD363		
Sampling Date				2023/08/11 08:20	2023/08/11 08:30	2023/08/11 08:45	2023/08/11 09:00		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-01	BH23-02-02	BH23-02-04	BH23-02-07	RDL	QC Batch
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	<0.40	<0.40	<0.40	0.40	8856506
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Styrene	ug/g	6.8	43	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Tetrachloroethylene	ug/g	0.05	21	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Toluene	ug/g	7.8	78	<0.020	<0.020	<0.020	<0.020	0.020	8856506
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	<0.040	<0.040	<0.040	0.040	8856506
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Trichloroethylene	ug/g	0.05	0.61	<0.010	<0.010	<0.010	<0.010	0.010	8856506
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	<0.040	<0.040	<0.040	0.040	8856506
Vinyl Chloride	ug/g	0.02	0.25	<0.019	<0.019	<0.019	<0.019	0.019	8856506
p+m-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	0.020	8856506
o-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	0.020	8856506
Total Xylenes	ug/g	3	30	<0.020	<0.020	<0.020	<0.020	0.020	8856506
F1 (C6-C10)	ug/g	25	65	<10	<10	<10	<10	10	8856506
F1 (C6-C10) - BTEX	ug/g	25	65	<10	<10	<10	<10	10	8856506
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	-	-	97	97	98	98		8856506
D10-o-Xylene	%	-	-	104	105	107	109		8856506
D4-1,2-Dichloroethane	%	-	-	105	103	104	102		8856506
D8-Toluene	%	-	-	97	98	98	99		8856506
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil									



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD364		WRD444		
Sampling Date				2023/08/11 09:10		2023/08/11		
COC Number				948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-09	QC Batch	TRIP BLANK	RDL	QC Batch
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.21	<0.050	8856506	<0.050	0.050	8870639
Volatile Organics								
Acetone (2-Propanone)	ug/g	1.8	28	<0.49	8856506	<0.49	0.49	8870689
Benzene	ug/g	0.034	0.4	<0.0060	8856506	<0.0060	0.0060	8870689
Bromodichloromethane	ug/g	5.8	18	<0.040	8856506	<0.040	0.040	8870689
Bromoform	ug/g	2.5	1.7	<0.040	8856506	<0.040	0.040	8870689
Bromomethane	ug/g	0.05	0.05	<0.040	8856506	<0.040	0.040	8870689
Carbon Tetrachloride	ug/g	0.05	1.5	<0.040	8856506	<0.040	0.040	8870689
Chlorobenzene	ug/g	0.28	2.7	<0.040	8856506	<0.040	0.040	8870689
Chloroform	ug/g	0.26	0.18	<0.040	8856506	<0.040	0.040	8870689
Dibromochloromethane	ug/g	5.5	13	<0.040	8856506	<0.040	0.040	8870689
1,2-Dichlorobenzene	ug/g	6.8	8.5	<0.040	8856506	<0.040	0.040	8870689
1,3-Dichlorobenzene	ug/g	6.8	12	<0.040	8856506	<0.040	0.040	8870689
1,4-Dichlorobenzene	ug/g	0.05	0.84	<0.040	8856506	<0.040	0.040	8870689
Dichlorodifluoromethane (FREON 12)	ug/g	1.8	25	<0.040	8856506	<0.040	0.040	8870689
1,1-Dichloroethane	ug/g	0.57	21	<0.040	8856506	<0.040	0.040	8870689
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	8856506	<0.049	0.049	8870689
1,1-Dichloroethylene	ug/g	0.05	0.48	<0.040	8856506	<0.040	0.040	8870689
cis-1,2-Dichloroethylene	ug/g	0.05	37	<0.040	8856506	<0.040	0.040	8870689
trans-1,2-Dichloroethylene	ug/g	0.05	9.3	<0.040	8856506	<0.040	0.040	8870689
1,2-Dichloropropane	ug/g	0.05	0.68	<0.040	8856506	<0.040	0.040	8870689
cis-1,3-Dichloropropene	ug/g	0.05	0.21	<0.030	8856506	<0.030	0.030	8870689
trans-1,3-Dichloropropene	ug/g	0.05	0.21	<0.040	8856506	<0.040	0.040	8870689
Ethylbenzene	ug/g	1.9	19	<0.010	8856506	<0.010	0.010	8870689
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	8856506	<0.040	0.040	8870689
Hexane	ug/g	2.5	88	<0.040	8856506	<0.040	0.040	8870689
Methylene Chloride(Dichloromethane)	ug/g	0.2	2	<0.049	8856506	<0.049	0.049	8870689
Methyl Ethyl Ketone (2-Butanone)	ug/g	26	88	<0.40	8856506	<0.40	0.40	8870689
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use								
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)								
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition								
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil								



Bureau Veritas Job #: C3O3894

Report Date: 2023/08/30

SNC-Lavalin Inc

Client Project #: 694129

Site Location: 1440 Prince of Wales Drive, Ottawa, ON

Your P.O. #: 694129

Sampler Initials: JT

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID				WRD364		WRD444		
Sampling Date				2023/08/11 09:10		2023/08/11		
COC Number				948522-01-01		948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-09	QC Batch	TRIP BLANK	RDL	QC Batch
Methyl Isobutyl Ketone	ug/g	17	210	<0.40	8856506	<0.40	0.40	8870689
Methyl t-butyl ether (MTBE)	ug/g	0.05	3.2	<0.040	8856506	<0.040	0.040	8870689
Styrene	ug/g	6.8	43	<0.040	8856506	<0.040	0.040	8870689
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.11	<0.040	8856506	<0.040	0.040	8870689
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.094	<0.040	8856506	<0.040	0.040	8870689
Tetrachloroethylene	ug/g	0.05	21	<0.040	8856506	<0.040	0.040	8870689
Toluene	ug/g	7.8	78	<0.020	8856506	<0.020	0.020	8870689
1,1,1-Trichloroethane	ug/g	0.4	12	<0.040	8856506	<0.040	0.040	8870689
1,1,2-Trichloroethane	ug/g	0.05	0.11	<0.040	8856506	<0.040	0.040	8870689
Trichloroethylene	ug/g	0.05	0.61	<0.010	8856506	<0.010	0.010	8870689
Trichlorofluoromethane (FREON 11)	ug/g	0.46	5.8	<0.040	8856506	<0.040	0.040	8870689
Vinyl Chloride	ug/g	0.02	0.25	<0.019	8856506	<0.019	0.019	8870689
p+m-Xylene	ug/g	-	-	<0.020	8856506	<0.020	0.020	8870689
o-Xylene	ug/g	-	-	<0.020	8856506	<0.020	0.020	8870689
Total Xylenes	ug/g	3	30	<0.020	8856506	<0.020	0.020	8870689
F1 (C6-C10)	ug/g	25	65	<10	8856506	<10	10	8870689
F1 (C6-C10) - BTEX	ug/g	25	65	<10	8856506	<10	10	8870689
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	-	-	96	8856506	97		8870689
D10-o-Xylene	%	-	-	102	8856506	98		8870689
D4-1,2-Dichloroethane	%	-	-	104	8856506	96		8870689
D8-Toluene	%	-	-	98	8856506	94		8870689
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use								
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)								
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition								
Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil								



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID				WRD345	WRD346	WRD347	WRD348	WRD349		
Sampling Date				2023/08/10 09:30	2023/08/10 09:30	2023/08/10 09:45	2023/08/10 09:50	2023/08/10 10:00		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-01	BH23-01-011	BH23-01-03	BH23-01-04	BH23-01-05	RDL	QC Batch

F2-F4 Hydrocarbons

F2 (C10-C16 Hydrocarbons)	ug/g	26	250	<10	<10	<10	51	110	10	8858684
F3 (C16-C34 Hydrocarbons)	ug/g	1700	2500	56	<50	55	<50	<50	50	8858684
F4 (C34-C50 Hydrocarbons)	ug/g	3300	6600	51	<50	<50	<50	<50	50	8858684
Reached Baseline at C50	ug/g	-	-	Yes	Yes	Yes	Yes	Yes		8858684

Surrogate Recovery (%)

o-Terphenyl	%	-	-	90	101	102	104	92		8858684
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil

Bureau Veritas ID				WRD349	WRD350	WRD351	WRD352	WRD353		
Sampling Date				2023/08/10 10:00	2023/08/10 10:15	2023/08/10 10:30	2023/08/10 10:40	2023/08/10 12:30		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-01-05 Lab-Dup	BH23-01-06	BH23-01-08	BH23-01-11	BH23-03-01	RDL	QC Batch

F2-F4 Hydrocarbons

F2 (C10-C16 Hydrocarbons)	ug/g	26	250	130	810	<10	<10	<10	10	8858684
F3 (C16-C34 Hydrocarbons)	ug/g	1700	2500	<50	120	<50	<50	100	50	8858684
F4 (C34-C50 Hydrocarbons)	ug/g	3300	6600	<50	<50	<50	<50	<50	50	8858684
Reached Baseline at C50	ug/g	-	-	Yes	Yes	Yes	Yes	Yes		8858684

Surrogate Recovery (%)

o-Terphenyl	%	-	-	102	101	98	102	98		8858684
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID				WRD354	WRD355	WRD356	WRD357	WRD358		
Sampling Date				2023/08/10 12:45	2023/08/11 07:20	2023/08/11 07:25	2023/08/11 07:30	2023/08/11 07:40		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-03	BH23-03-05	BH23-03-06	BH23-03-07	BH23-03-10	RDL	QC Batch

F2-F4 Hydrocarbons

F2 (C10-C16 Hydrocarbons)	ug/g	26	250	<10	<10	<10	<10	<10	10	8858684
F3 (C16-C34 Hydrocarbons)	ug/g	1700	2500	<50	<50	<50	<50	<50	50	8858684
F4 (C34-C50 Hydrocarbons)	ug/g	3300	6600	<50	<50	<50	<50	<50	50	8858684
Reached Baseline at C50	ug/g	-	-	Yes	Yes	Yes	Yes	Yes		8858684

Surrogate Recovery (%)

o-Terphenyl	%	-	-	99	99	102	102	101		8858684
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil

Bureau Veritas ID				WRD359	WRD360	WRD361	WRD362	WRD363		
Sampling Date				2023/08/11 07:40	2023/08/11 08:20	2023/08/11 08:30	2023/08/11 08:45	2023/08/11 09:00		
COC Number				948522-01-01	948522-01-01	948522-01-01	948522-01-01	948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-03-100	BH23-02-01	BH23-02-02	BH23-02-04	BH23-02-07	RDL	QC Batch

F2-F4 Hydrocarbons

F2 (C10-C16 Hydrocarbons)	ug/g	26	250	<10	<10	<10	<10	<10	10	8858684
F3 (C16-C34 Hydrocarbons)	ug/g	1700	2500	<50	<50	<50	<50	<50	50	8858684
F4 (C34-C50 Hydrocarbons)	ug/g	3300	6600	<50	82	51	<50	<50	50	8858684
Reached Baseline at C50	ug/g	-	-	Yes	Yes	Yes	Yes	Yes		8858684

Surrogate Recovery (%)

o-Terphenyl	%	-	-	102	100	100	101	102		8858684
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use

Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID				WRD364		
Sampling Date				2023/08/11 09:10		
COC Number				948522-01-01		
	UNITS	Criteria	Criteria-2	BH23-02-09	RDL	QC Batch
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/g	26	250	<10	10	8858684
F3 (C16-C34 Hydrocarbons)	ug/g	1700	2500	<50	50	8858684
F4 (C34-C50 Hydrocarbons)	ug/g	3300	6600	<50	50	8858684
Reached Baseline at C50	ug/g	-	-	Yes		8858684
Surrogate Recovery (%)						
o-Terphenyl	%	-	-	94		8858684
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ont. Reg. 406/19 Excess Soil Quality Standards, Table 3.1, Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition, Industrial/ Commercial/ Community Property Use Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community- Medium and Fine Textured Soil						



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD345
Sample ID: BH23-01-01
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee K AUR
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8861445	2023/08/18	2023/08/18	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD345 Dup
Sample ID: BH23-01-01
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD346
Sample ID: BH23-01-011
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858208	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee K AUR
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD347
Sample ID: BH23-01-03
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8861168	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee K AUR



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD347
Sample ID: BH23-01-03
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD348
Sample ID: BH23-01-04
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8859653	2023/08/17	2023/08/17	Leily Karimi
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/18	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD348 Dup
Sample ID: BH23-01-04
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl ₂ EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee Kaur

Bureau Veritas ID: WRD349
Sample ID: BH23-01-05
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/21	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee Kaur
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD349
Sample ID: BH23-01-05
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl ₂ EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD349 Dup
Sample ID: BH23-01-05
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam

Bureau Veritas ID: WRD350
Sample ID: BH23-01-06
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/21	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8859653	2023/08/17	2023/08/17	Leily Karimi
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/18	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD351
Sample ID: BH23-01-08
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859824	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee K AUR
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD352
Sample ID: BH23-01-11
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8859653	2023/08/17	2023/08/17	Leily Karimi
Hexavalent Chromium in Soil by IC	IC/SPEC	8858931	2023/08/17	2023/08/18	Surleen Kaur Romana
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/18	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD352 Dup
Sample ID: BH23-01-11
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hexavalent Chromium in Soil by IC	IC/SPEC	8858931	2023/08/17	2023/08/18	Surleen Kaur Romana

Bureau Veritas ID: WRD353
Sample ID: BH23-03-01
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859824	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858353	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee Kaur
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD353 Dup
Sample ID: BH23-03-01
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD354
Sample ID: BH23-03-03
Matrix: Soil

Collected: 2023/08/10
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858353	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8859653	2023/08/17	2023/08/17	Leily Karimi
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee KAU
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/18	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD355
Sample ID: BH23-03-05
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858353	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee KAU
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee KAU
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD356
Sample ID: BH23-03-06
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee KAU
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee KAU
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD356
Sample ID: BH23-03-06
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD357
Sample ID: BH23-03-07
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee KAUAR
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee KAUAR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD358
Sample ID: BH23-03-10
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858353	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee KAUAR
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee KAUAR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD359
Sample ID: BH23-03-100
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858353	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee KAUAR



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD359
Sample ID: BH23-03-100
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD360
Sample ID: BH23-02-01
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859824	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858280	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee Kaur
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD361
Sample ID: BH23-02-02
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859824	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858353	2023/08/17	2023/08/18	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee Kaur
Hexavalent Chromium in Soil by IC	IC/SPEC	8858405	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl ₂ EXTRACT	AT	8861502	2023/08/18	2023/08/18	Gurpartee Kaur
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD362
Sample ID: BH23-02-04
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858208	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee K AUR
Hexavalent Chromium in Soil by IC	IC/SPEC	8858396	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD363
Sample ID: BH23-02-07
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858208	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8861105	2023/08/18	2023/08/18	Gurpartee K AUR
Hexavalent Chromium in Soil by IC	IC/SPEC	8858396	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/21	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD364
Sample ID: BH23-02-09
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8859732	2023/08/17	2023/08/17	Medhat Nasr
1,3-Dichloropropene Sum	CALC	8855624	N/A	2023/08/18	Automated Statchk
Free (WAD) Cyanide	TECH	8858208	2023/08/17	2023/08/17	Prgya Panchal
Conductivity	AT	8859653	2023/08/17	2023/08/17	Leily Karimi
Hexavalent Chromium in Soil by IC	IC/SPEC	8858396	2023/08/17	2023/08/18	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8858684	2023/08/17	2023/08/18	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8859492	2023/08/17	2023/08/17	Indira HarryPaul
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai
pH CaCl2 EXTRACT	AT	8858849	2023/08/17	2023/08/17	Gurpartee K AUR
Sodium Adsorption Ratio (SAR)	CALC/MET	8855581	N/A	2023/08/18	Automated Statchk



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

TEST SUMMARY

Bureau Veritas ID: WRD364
Sample ID: BH23-02-09
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8856506	N/A	2023/08/18	Dina Wang

Bureau Veritas ID: WRD364 Dup
Sample ID: BH23-02-09
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8857542	N/A	2023/08/16	Shivani Desai

Bureau Veritas ID: WRD444
Sample ID: TRIP BLANK
Matrix: Soil

Collected: 2023/08/11
Shipped:
Received: 2023/08/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8870639	N/A	2023/08/24	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8870689	N/A	2023/08/23	Hai Son Tran



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.3°C
Package 2	6.3°C

Revised report[2023/08/24] - Criteria included as per client request.

Revised report[2023/08/30] - MTBE DL updated WRD350 as per client request

Sample WRD346 [BH23-01-011] : VOC/F1 Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample WRD349 [BH23-01-05] : VOC/F1 Analysis: Due to high concentrations of target analytes, sample required dilution. Detection limits were adjusted accordingly. In order to achieve lower reporting limits, results for selected compounds (obtained by a separate analysis using an appropriate low dilution) are included in the report.

Sample WRD350 [BH23-01-06] : VOC/F1 Analysis: Due to high concentrations of target analytes, sample required dilution. Detection limits were adjusted accordingly. In order to achieve lower reporting limits, results for selected compounds (obtained by a separate analysis using an appropriate low dilution) are included in the report.

Sample WRD364 [BH23-02-09] : VOC/F1 Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Results relate only to the items tested.



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
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Sampler Initials: JT

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8856506	DW5	Matrix Spike [WRD345-03]	4-Bromofluorobenzene	2023/08/18		99	%	60 - 140
			D10-o-Xylene	2023/08/18		119	%	60 - 130
			D4-1,2-Dichloroethane	2023/08/18		98	%	60 - 140
			D8-Toluene	2023/08/18		107	%	60 - 140
			Acetone (2-Propanone)	2023/08/18		83	%	60 - 140
			Benzene	2023/08/18		82	%	60 - 140
			Bromodichloromethane	2023/08/18		85	%	60 - 140
			Bromoform	2023/08/18		97	%	60 - 140
			Bromomethane	2023/08/18		76	%	60 - 140
			Carbon Tetrachloride	2023/08/18		81	%	60 - 140
			Chlorobenzene	2023/08/18		94	%	60 - 140
			Chloroform	2023/08/18		84	%	60 - 140
			Dibromochloromethane	2023/08/18		96	%	60 - 140
			1,2-Dichlorobenzene	2023/08/18		99	%	60 - 140
			1,3-Dichlorobenzene	2023/08/18		99	%	60 - 140
			1,4-Dichlorobenzene	2023/08/18		103	%	60 - 140
			Dichlorodifluoromethane (FREON 12)	2023/08/18		64	%	60 - 140
			1,1-Dichloroethane	2023/08/18		83	%	60 - 140
			1,2-Dichloroethane	2023/08/18		86	%	60 - 140
			1,1-Dichloroethylene	2023/08/18		78	%	60 - 140
			cis-1,2-Dichloroethylene	2023/08/18		84	%	60 - 140
			trans-1,2-Dichloroethylene	2023/08/18		79	%	60 - 140
			1,2-Dichloropropane	2023/08/18		87	%	60 - 140
			cis-1,3-Dichloropropene	2023/08/18		80	%	60 - 140
			trans-1,3-Dichloropropene	2023/08/18		88	%	60 - 140
			Ethylbenzene	2023/08/18		96	%	60 - 140
			Ethylene Dibromide	2023/08/18		97	%	60 - 140
			Hexane	2023/08/18		82	%	60 - 140
			Methylene Chloride(Dichloromethane)	2023/08/18		80	%	60 - 140
			Methyl Ethyl Ketone (2-Butanone)	2023/08/18		89	%	60 - 140
			Methyl Isobutyl Ketone	2023/08/18		90	%	60 - 140
			Methyl t-butyl ether (MTBE)	2023/08/18		85	%	60 - 140
			Styrene	2023/08/18		99	%	60 - 140
			1,1,1,2-Tetrachloroethane	2023/08/18		96	%	60 - 140
			1,1,2,2-Tetrachloroethane	2023/08/18		99	%	60 - 140
			Tetrachloroethylene	2023/08/18		90	%	60 - 140
			Toluene	2023/08/18		93	%	60 - 140
			1,1,1-Trichloroethane	2023/08/18		82	%	60 - 140
			1,1,2-Trichloroethane	2023/08/18		97	%	60 - 140
			Trichloroethylene	2023/08/18		83	%	60 - 140
			Trichlorofluoromethane (FREON 11)	2023/08/18		80	%	60 - 140
			Vinyl Chloride	2023/08/18		75	%	60 - 140
			p+m-Xylene	2023/08/18		96	%	60 - 140
			o-Xylene	2023/08/18		95	%	60 - 140
			F1 (C6-C10)	2023/08/18		75	%	60 - 140
8856506	DW5	Spiked Blank	4-Bromofluorobenzene	2023/08/18		101	%	60 - 140
			D10-o-Xylene	2023/08/18		94	%	60 - 130
			D4-1,2-Dichloroethane	2023/08/18		101	%	60 - 140
			D8-Toluene	2023/08/18		107	%	60 - 140
			Acetone (2-Propanone)	2023/08/18		87	%	60 - 140
			Benzene	2023/08/18		85	%	60 - 130



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
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Site Location: 1440 Prince of Wales Drive, Ottawa, ON
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Sampler Initials: JT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				Bromodichloromethane	2023/08/18		88	%	60 - 130
				Bromoform	2023/08/18		99	%	60 - 130
				Bromomethane	2023/08/18		83	%	60 - 140
				Carbon Tetrachloride	2023/08/18		87	%	60 - 130
				Chlorobenzene	2023/08/18		94	%	60 - 130
				Chloroform	2023/08/18		87	%	60 - 130
				Dibromochloromethane	2023/08/18		98	%	60 - 130
				1,2-Dichlorobenzene	2023/08/18		99	%	60 - 130
				1,3-Dichlorobenzene	2023/08/18		99	%	60 - 130
				1,4-Dichlorobenzene	2023/08/18		101	%	60 - 130
				Dichlorodifluoromethane (FREON 12)	2023/08/18		72	%	60 - 140
				1,1-Dichloroethane	2023/08/18		88	%	60 - 130
				1,2-Dichloroethane	2023/08/18		89	%	60 - 130
				1,1-Dichloroethylene	2023/08/18		83	%	60 - 130
				cis-1,2-Dichloroethylene	2023/08/18		87	%	60 - 130
				trans-1,2-Dichloroethylene	2023/08/18		82	%	60 - 130
				1,2-Dichloropropane	2023/08/18		90	%	60 - 130
				cis-1,3-Dichloropropene	2023/08/18		84	%	60 - 130
				trans-1,3-Dichloropropene	2023/08/18		95	%	60 - 130
				Ethylbenzene	2023/08/18		95	%	60 - 130
				Ethylene Dibromide	2023/08/18		99	%	60 - 130
				Hexane	2023/08/18		86	%	60 - 130
				Methylene Chloride(Dichloromethane)	2023/08/18		83	%	60 - 130
				Methyl Ethyl Ketone (2-Butanone)	2023/08/18		93	%	60 - 140
				Methyl Isobutyl Ketone	2023/08/18		90	%	60 - 130
				Methyl t-butyl ether (MTBE)	2023/08/18		87	%	60 - 130
				Styrene	2023/08/18		99	%	60 - 130
				1,1,1,2-Tetrachloroethane	2023/08/18		99	%	60 - 130
				1,1,2,2-Tetrachloroethane	2023/08/18		101	%	60 - 130
				Tetrachloroethylene	2023/08/18		93	%	60 - 130
				Toluene	2023/08/18		95	%	60 - 130
				1,1,1-Trichloroethane	2023/08/18		87	%	60 - 130
				1,1,2-Trichloroethane	2023/08/18		100	%	60 - 130
				Trichloroethylene	2023/08/18		86	%	60 - 130
				Trichlorofluoromethane (FREON 11)	2023/08/18		87	%	60 - 130
				Vinyl Chloride	2023/08/18		81	%	60 - 130
				p+m-Xylene	2023/08/18		94	%	60 - 130
				o-Xylene	2023/08/18		97	%	60 - 130
				F1 (C6-C10)	2023/08/18		84	%	80 - 120
8856506	DW5		Method Blank	4-Bromofluorobenzene	2023/08/18		97	%	60 - 140
				D10-o-Xylene	2023/08/18		101	%	60 - 130
				D4-1,2-Dichloroethane	2023/08/18		102	%	60 - 140
				D8-Toluene	2023/08/18		98	%	60 - 140
				Acetone (2-Propanone)	2023/08/18	<0.49		ug/g	
				Benzene	2023/08/18	<0.0060		ug/g	
				Bromodichloromethane	2023/08/18	<0.040		ug/g	
				Bromoform	2023/08/18	<0.040		ug/g	
				Bromomethane	2023/08/18	<0.040		ug/g	
				Carbon Tetrachloride	2023/08/18	<0.040		ug/g	
				Chlorobenzene	2023/08/18	<0.040		ug/g	
				Chloroform	2023/08/18	<0.040		ug/g	
				Dibromochloromethane	2023/08/18	<0.040		ug/g	



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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				1,2-Dichlorobenzene	2023/08/18	<0.040		ug/g	
				1,3-Dichlorobenzene	2023/08/18	<0.040		ug/g	
				1,4-Dichlorobenzene	2023/08/18	<0.040		ug/g	
				Dichlorodifluoromethane (FREON 12)	2023/08/18	<0.040		ug/g	
				1,1-Dichloroethane	2023/08/18	<0.040		ug/g	
				1,2-Dichloroethane	2023/08/18	<0.049		ug/g	
				1,1-Dichloroethylene	2023/08/18	<0.040		ug/g	
				cis-1,2-Dichloroethylene	2023/08/18	<0.040		ug/g	
				trans-1,2-Dichloroethylene	2023/08/18	<0.040		ug/g	
				1,2-Dichloropropane	2023/08/18	<0.040		ug/g	
				cis-1,3-Dichloropropene	2023/08/18	<0.030		ug/g	
				trans-1,3-Dichloropropene	2023/08/18	<0.040		ug/g	
				Ethylbenzene	2023/08/18	<0.010		ug/g	
				Ethylene Dibromide	2023/08/18	<0.040		ug/g	
				Hexane	2023/08/18	<0.040		ug/g	
				Methylene Chloride(Dichloromethane)	2023/08/18	<0.049		ug/g	
				Methyl Ethyl Ketone (2-Butanone)	2023/08/18	<0.40		ug/g	
				Methyl Isobutyl Ketone	2023/08/18	<0.40		ug/g	
				Methyl t-butyl ether (MTBE)	2023/08/18	<0.040		ug/g	
				Styrene	2023/08/18	<0.040		ug/g	
				1,1,1,2-Tetrachloroethane	2023/08/18	<0.040		ug/g	
				1,1,2,2-Tetrachloroethane	2023/08/18	<0.040		ug/g	
				Tetrachloroethylene	2023/08/18	<0.040		ug/g	
				Toluene	2023/08/18	<0.020		ug/g	
				1,1,1-Trichloroethane	2023/08/18	<0.040		ug/g	
				1,1,2-Trichloroethane	2023/08/18	<0.040		ug/g	
				Trichloroethylene	2023/08/18	<0.010		ug/g	
				Trichlorofluoromethane (FREON 11)	2023/08/18	<0.040		ug/g	
				Vinyl Chloride	2023/08/18	<0.019		ug/g	
				p+m-Xylene	2023/08/18	<0.020		ug/g	
				o-Xylene	2023/08/18	<0.020		ug/g	
				Total Xylenes	2023/08/18	<0.020		ug/g	
				F1 (C6-C10)	2023/08/18	<10		ug/g	
				F1 (C6-C10) - BTEX	2023/08/18	<10		ug/g	
8856506	DW5	RPD [WRD345-03]		Acetone (2-Propanone)	2023/08/18	NC		%	50
				Benzene	2023/08/18	4.4		%	50
				Bromodichloromethane	2023/08/18	NC		%	50
				Bromoform	2023/08/18	NC		%	50
				Bromomethane	2023/08/18	NC		%	50
				Carbon Tetrachloride	2023/08/18	NC		%	50
				Chlorobenzene	2023/08/18	NC		%	50
				Chloroform	2023/08/18	NC		%	50
				Dibromochloromethane	2023/08/18	NC		%	50
				1,2-Dichlorobenzene	2023/08/18	NC		%	50
				1,3-Dichlorobenzene	2023/08/18	NC		%	50
				1,4-Dichlorobenzene	2023/08/18	NC		%	50
				Dichlorodifluoromethane (FREON 12)	2023/08/18	NC		%	50
				1,1-Dichloroethane	2023/08/18	NC		%	50
				1,2-Dichloroethane	2023/08/18	NC		%	50
				1,1-Dichloroethylene	2023/08/18	NC		%	50
				cis-1,2-Dichloroethylene	2023/08/18	NC		%	50
				trans-1,2-Dichloroethylene	2023/08/18	NC		%	50



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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			1,2-Dichloropropane	2023/08/18	NC		%	50
			cis-1,3-Dichloropropene	2023/08/18	NC		%	50
			trans-1,3-Dichloropropene	2023/08/18	NC		%	50
			Ethylbenzene	2023/08/18	5.8		%	50
			Ethylene Dibromide	2023/08/18	NC		%	50
			Hexane	2023/08/18	4.3		%	50
			Methylene Chloride(Dichloromethane)	2023/08/18	NC (1)		%	50
			Methyl Ethyl Ketone (2-Butanone)	2023/08/18	NC		%	50
			Methyl Isobutyl Ketone	2023/08/18	NC		%	50
			Methyl t-butyl ether (MTBE)	2023/08/18	NC		%	50
			Styrene	2023/08/18	NC		%	50
			1,1,1,2-Tetrachloroethane	2023/08/18	NC		%	50
			1,1,2,2-Tetrachloroethane	2023/08/18	NC		%	50
			Tetrachloroethylene	2023/08/18	NC		%	50
			Toluene	2023/08/18	5.1		%	50
			1,1,1-Trichloroethane	2023/08/18	NC		%	50
			1,1,2-Trichloroethane	2023/08/18	NC		%	50
			Trichloroethylene	2023/08/18	NC		%	50
			Trichlorofluoromethane (FREON 11)	2023/08/18	NC		%	50
			Vinyl Chloride	2023/08/18	NC		%	50
			p+m-Xylene	2023/08/18	2.1		%	50
			o-Xylene	2023/08/18	5.6		%	50
			Total Xylenes	2023/08/18	4.2		%	50
			F1 (C6-C10)	2023/08/18	4.2		%	30
			F1 (C6-C10) - BTEX	2023/08/18	4.1		%	30
8857542	MUC	RPD [WRD364-01]	Moisture	2023/08/16	13		%	20
8858208	GYA	Matrix Spike	WAD Cyanide (Free)	2023/08/17		90	%	75 - 125
8858208	GYA	Spiked Blank	WAD Cyanide (Free)	2023/08/17		97	%	80 - 120
8858208	GYA	Method Blank	WAD Cyanide (Free)	2023/08/17	<0.01		ug/g	
8858208	GYA	RPD	WAD Cyanide (Free)	2023/08/17	NC		%	35
8858280	GYA	Matrix Spike	WAD Cyanide (Free)	2023/08/17		79	%	75 - 125
8858280	GYA	Spiked Blank	WAD Cyanide (Free)	2023/08/17		88	%	80 - 120
8858280	GYA	Method Blank	WAD Cyanide (Free)	2023/08/17	<0.01		ug/g	
8858280	GYA	RPD	WAD Cyanide (Free)	2023/08/17	NC		%	35
8858353	GYA	Matrix Spike	WAD Cyanide (Free)	2023/08/18		86	%	75 - 125
8858353	GYA	Spiked Blank	WAD Cyanide (Free)	2023/08/18		93	%	80 - 120
8858353	GYA	Method Blank	WAD Cyanide (Free)	2023/08/18	<0.01		ug/g	
8858353	GYA	RPD	WAD Cyanide (Free)	2023/08/18	NC		%	35
8858396	SB5	Matrix Spike	Chromium (VI)	2023/08/18		85	%	70 - 130
8858396	SB5	Spiked Blank	Chromium (VI)	2023/08/18		91	%	80 - 120
8858396	SB5	Method Blank	Chromium (VI)	2023/08/18	<0.18		ug/g	
8858396	SB5	RPD	Chromium (VI)	2023/08/18	NC		%	35
8858405	SB5	Matrix Spike	Chromium (VI)	2023/08/18		88	%	70 - 130
8858405	SB5	Spiked Blank	Chromium (VI)	2023/08/18		91	%	80 - 120
8858405	SB5	Method Blank	Chromium (VI)	2023/08/18	<0.18		ug/g	
8858405	SB5	RPD	Chromium (VI)	2023/08/18	NC		%	35
8858684	JJE	Matrix Spike [WRD349-02]	o-Terphenyl	2023/08/17		103	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2023/08/17		112	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2023/08/17		107	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2023/08/17		109	%	60 - 130
8858684	JJE	Spiked Blank	o-Terphenyl	2023/08/17		95	%	60 - 130



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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8858684	JJE	Method Blank	F2 (C10-C16 Hydrocarbons)	2023/08/17		89	%	80 - 120
			F3 (C16-C34 Hydrocarbons)	2023/08/17		116	%	80 - 120
			F4 (C34-C50 Hydrocarbons)	2023/08/17		110	%	80 - 120
			o-Terphenyl	2023/08/17		95	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2023/08/17	<10		ug/g	
8858684	JJE	RPD [WRD349-02]	F3 (C16-C34 Hydrocarbons)	2023/08/17	<50		ug/g	
			F4 (C34-C50 Hydrocarbons)	2023/08/17	<50		ug/g	
			F2 (C10-C16 Hydrocarbons)	2023/08/18	16		%	30
			F3 (C16-C34 Hydrocarbons)	2023/08/18	NC		%	30
			F4 (C34-C50 Hydrocarbons)	2023/08/18	NC		%	30
8858849	GTK	Spiked Blank	Available (CaCl ₂) pH	2023/08/17		100	%	97 - 103
8858849	GTK	RPD [WRD348-01]	Available (CaCl ₂) pH	2023/08/17	2.5		%	N/A
8858931	SUR	Matrix Spike [WRD352-01]	Chromium (VI)	2023/08/18		67 (2)	%	70 - 130
8858931	SUR	Spiked Blank	Chromium (VI)	2023/08/18		92	%	80 - 120
8858931	SUR	Method Blank	Chromium (VI)	2023/08/18	<0.18		ug/g	
8858931	SUR	RPD [WRD352-01]	Chromium (VI)	2023/08/18	NC		%	35
8859492	IHP	Matrix Spike [WRD353-01]	Acid Extractable Antimony (Sb)	2023/08/17		88	%	75 - 125
8859492	IHP	Spiked Blank	Acid Extractable Arsenic (As)	2023/08/17		98	%	75 - 125
			Acid Extractable Barium (Ba)	2023/08/17		NC	%	75 - 125
			Acid Extractable Beryllium (Be)	2023/08/17		101	%	75 - 125
			Acid Extractable Boron (B)	2023/08/17		99	%	75 - 125
			Acid Extractable Cadmium (Cd)	2023/08/17		101	%	75 - 125
			Acid Extractable Chromium (Cr)	2023/08/17		NC	%	75 - 125
			Acid Extractable Cobalt (Co)	2023/08/17		106	%	75 - 125
			Acid Extractable Copper (Cu)	2023/08/17		NC	%	75 - 125
			Acid Extractable Lead (Pb)	2023/08/17		NC	%	75 - 125
			Acid Extractable Molybdenum (Mo)	2023/08/17		104	%	75 - 125
			Acid Extractable Nickel (Ni)	2023/08/17		NC	%	75 - 125
			Acid Extractable Selenium (Se)	2023/08/17		100	%	75 - 125
			Acid Extractable Silver (Ag)	2023/08/17		102	%	75 - 125
			Acid Extractable Thallium (Tl)	2023/08/17		104	%	75 - 125
			Acid Extractable Uranium (U)	2023/08/17		105	%	75 - 125
			Acid Extractable Vanadium (V)	2023/08/17		NC	%	75 - 125
			Acid Extractable Zinc (Zn)	2023/08/17		NC	%	75 - 125
			Acid Extractable Mercury (Hg)	2023/08/17		102	%	75 - 125
			Acid Extractable Antimony (Sb)	2023/08/17		99	%	80 - 120
			Acid Extractable Arsenic (As)	2023/08/17		100	%	80 - 120
			Acid Extractable Barium (Ba)	2023/08/17		103	%	80 - 120
			Acid Extractable Beryllium (Be)	2023/08/17		96	%	80 - 120
			Acid Extractable Boron (B)	2023/08/17		96	%	80 - 120
			Acid Extractable Cadmium (Cd)	2023/08/17		96	%	80 - 120
			Acid Extractable Chromium (Cr)	2023/08/17		101	%	80 - 120
			Acid Extractable Cobalt (Co)	2023/08/17		98	%	80 - 120
			Acid Extractable Copper (Cu)	2023/08/17		101	%	80 - 120
			Acid Extractable Lead (Pb)	2023/08/17		101	%	80 - 120
			Acid Extractable Molybdenum (Mo)	2023/08/17		100	%	80 - 120
			Acid Extractable Nickel (Ni)	2023/08/17		97	%	80 - 120
			Acid Extractable Selenium (Se)	2023/08/17		100	%	80 - 120
			Acid Extractable Silver (Ag)	2023/08/17		99	%	80 - 120
			Acid Extractable Thallium (Tl)	2023/08/17		100	%	80 - 120



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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8859492	IHP	Method Blank	Acid Extractable Uranium (U)	2023/08/17		100	%	80 - 120
			Acid Extractable Vanadium (V)	2023/08/17		101	%	80 - 120
			Acid Extractable Zinc (Zn)	2023/08/17		98	%	80 - 120
			Acid Extractable Mercury (Hg)	2023/08/17		99	%	80 - 120
			Acid Extractable Antimony (Sb)	2023/08/17	<0.20		ug/g	
			Acid Extractable Arsenic (As)	2023/08/17	<1.0		ug/g	
			Acid Extractable Barium (Ba)	2023/08/17	<0.50		ug/g	
			Acid Extractable Beryllium (Be)	2023/08/17	<0.20		ug/g	
			Acid Extractable Boron (B)	2023/08/17	<5.0		ug/g	
			Acid Extractable Cadmium (Cd)	2023/08/17	<0.10		ug/g	
			Acid Extractable Chromium (Cr)	2023/08/17	<1.0		ug/g	
			Acid Extractable Cobalt (Co)	2023/08/17	<0.10		ug/g	
			Acid Extractable Copper (Cu)	2023/08/17	<0.50		ug/g	
			Acid Extractable Lead (Pb)	2023/08/17	<1.0		ug/g	
			Acid Extractable Molybdenum (Mo)	2023/08/17	<0.50		ug/g	
			Acid Extractable Nickel (Ni)	2023/08/17	<0.50		ug/g	
			Acid Extractable Selenium (Se)	2023/08/17	<0.50		ug/g	
			Acid Extractable Silver (Ag)	2023/08/17	<0.20		ug/g	
			Acid Extractable Thallium (Tl)	2023/08/17	<0.050		ug/g	
			Acid Extractable Uranium (U)	2023/08/17	<0.050		ug/g	
			Acid Extractable Vanadium (V)	2023/08/17	<5.0		ug/g	
			Acid Extractable Zinc (Zn)	2023/08/17	<5.0		ug/g	
			Acid Extractable Mercury (Hg)	2023/08/17	<0.050		ug/g	
8859492	IHP	RPD [WRD353-01]	Acid Extractable Antimony (Sb)	2023/08/17	NC		%	30
			Acid Extractable Arsenic (As)	2023/08/17	10		%	30
			Acid Extractable Barium (Ba)	2023/08/17	1.9		%	30
			Acid Extractable Beryllium (Be)	2023/08/17	0.94		%	30
			Acid Extractable Boron (B)	2023/08/17	0.0064		%	30
			Acid Extractable Cadmium (Cd)	2023/08/17	5.2		%	30
			Acid Extractable Chromium (Cr)	2023/08/17	2.7		%	30
			Acid Extractable Cobalt (Co)	2023/08/17	1.3		%	30
			Acid Extractable Copper (Cu)	2023/08/17	1.9		%	30
			Acid Extractable Lead (Pb)	2023/08/17	7.6		%	30
			Acid Extractable Molybdenum (Mo)	2023/08/17	6.8		%	30
			Acid Extractable Nickel (Ni)	2023/08/17	0.41		%	30
			Acid Extractable Selenium (Se)	2023/08/17	NC		%	30
			Acid Extractable Silver (Ag)	2023/08/17	13		%	30
			Acid Extractable Thallium (Tl)	2023/08/17	13		%	30
			Acid Extractable Uranium (U)	2023/08/17	5.3		%	30
			Acid Extractable Vanadium (V)	2023/08/17	0.42		%	30
			Acid Extractable Zinc (Zn)	2023/08/17	3.2		%	30
			Acid Extractable Mercury (Hg)	2023/08/17	10		%	30
8859653	LKI	Spiked Blank	Conductivity	2023/08/17		103	%	90 - 110
8859653	LKI	Method Blank	Conductivity	2023/08/17	<0.002		mS/cm	
8859653	LKI	RPD	Conductivity	2023/08/17	1.6		%	10
8859732	MEN	Matrix Spike	Hot Water Ext. Boron (B)	2023/08/17		102	%	75 - 125
8859732	MEN	Spiked Blank	Hot Water Ext. Boron (B)	2023/08/17		102	%	75 - 125
8859732	MEN	Method Blank	Hot Water Ext. Boron (B)	2023/08/17	<0.050		ug/g	
8859732	MEN	RPD	Hot Water Ext. Boron (B)	2023/08/17	3.5		%	40
8859824	MEN	Matrix Spike	Hot Water Ext. Boron (B)	2023/08/17		101	%	75 - 125
8859824	MEN	Spiked Blank	Hot Water Ext. Boron (B)	2023/08/17		105	%	75 - 125
8859824	MEN	Method Blank	Hot Water Ext. Boron (B)	2023/08/17	<0.050		ug/g	



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QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
	8859824	MEN	RPD	Hot Water Ext. Boron (B)	2023/08/17	21		%	40
	8861105	GTK	Spiked Blank	Conductivity	2023/08/18		102	%	90 - 110
	8861105	GTK	Method Blank	Conductivity	2023/08/18	<0.002		mS/cm	
	8861105	GTK	RPD	Conductivity	2023/08/18	0.86		%	10
	8861168	GYA	Matrix Spike	WAD Cyanide (Free)	2023/08/18		85	%	75 - 125
	8861168	GYA	Spiked Blank	WAD Cyanide (Free)	2023/08/18		92	%	80 - 120
	8861168	GYA	Method Blank	WAD Cyanide (Free)	2023/08/18	<0.01		ug/g	
	8861168	GYA	RPD	WAD Cyanide (Free)	2023/08/18	NC		%	35
	8861445	IHP	Matrix Spike	Acid Extractable Antimony (Sb)	2023/08/18		89	%	75 - 125
				Acid Extractable Arsenic (As)	2023/08/18		90	%	75 - 125
				Acid Extractable Barium (Ba)	2023/08/18		NC	%	75 - 125
				Acid Extractable Beryllium (Be)	2023/08/18		93	%	75 - 125
				Acid Extractable Boron (B)	2023/08/18		89	%	75 - 125
				Acid Extractable Cadmium (Cd)	2023/08/18		96	%	75 - 125
				Acid Extractable Chromium (Cr)	2023/08/18		97	%	75 - 125
				Acid Extractable Cobalt (Co)	2023/08/18		96	%	75 - 125
				Acid Extractable Copper (Cu)	2023/08/18		94	%	75 - 125
				Acid Extractable Lead (Pb)	2023/08/18		98	%	75 - 125
				Acid Extractable Molybdenum (Mo)	2023/08/18		101	%	75 - 125
				Acid Extractable Nickel (Ni)	2023/08/18		93	%	75 - 125
				Acid Extractable Selenium (Se)	2023/08/18		95	%	75 - 125
				Acid Extractable Silver (Ag)	2023/08/18		101	%	75 - 125
				Acid Extractable Thallium (Tl)	2023/08/18		100	%	75 - 125
				Acid Extractable Uranium (U)	2023/08/18		101	%	75 - 125
				Acid Extractable Vanadium (V)	2023/08/18		102	%	75 - 125
				Acid Extractable Zinc (Zn)	2023/08/18		NC	%	75 - 125
				Acid Extractable Mercury (Hg)	2023/08/18		96	%	75 - 125
	8861445	IHP	Spiked Blank	Acid Extractable Antimony (Sb)	2023/08/18		97	%	80 - 120
				Acid Extractable Arsenic (As)	2023/08/18		99	%	80 - 120
				Acid Extractable Barium (Ba)	2023/08/18		92	%	80 - 120
				Acid Extractable Beryllium (Be)	2023/08/18		97	%	80 - 120
				Acid Extractable Boron (B)	2023/08/18		97	%	80 - 120
				Acid Extractable Cadmium (Cd)	2023/08/18		100	%	80 - 120
				Acid Extractable Chromium (Cr)	2023/08/18		98	%	80 - 120
				Acid Extractable Cobalt (Co)	2023/08/18		100	%	80 - 120
				Acid Extractable Copper (Cu)	2023/08/18		101	%	80 - 120
				Acid Extractable Lead (Pb)	2023/08/18		106	%	80 - 120
				Acid Extractable Molybdenum (Mo)	2023/08/18		100	%	80 - 120
				Acid Extractable Nickel (Ni)	2023/08/18		100	%	80 - 120
				Acid Extractable Selenium (Se)	2023/08/18		103	%	80 - 120
				Acid Extractable Silver (Ag)	2023/08/18		104	%	80 - 120
				Acid Extractable Thallium (Tl)	2023/08/18		106	%	80 - 120
				Acid Extractable Uranium (U)	2023/08/18		107	%	80 - 120
				Acid Extractable Vanadium (V)	2023/08/18		99	%	80 - 120
				Acid Extractable Zinc (Zn)	2023/08/18		98	%	80 - 120
				Acid Extractable Mercury (Hg)	2023/08/18		105	%	80 - 120
	8861445	IHP	Method Blank	Acid Extractable Antimony (Sb)	2023/08/18	<0.20		ug/g	
				Acid Extractable Arsenic (As)	2023/08/18	<1.0		ug/g	
				Acid Extractable Barium (Ba)	2023/08/18	<0.50		ug/g	
				Acid Extractable Beryllium (Be)	2023/08/18	<0.20		ug/g	
				Acid Extractable Boron (B)	2023/08/18	<5.0		ug/g	
				Acid Extractable Cadmium (Cd)	2023/08/18	<0.10		ug/g	



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8861445	IHP	RPD	Acid Extractable Chromium (Cr)	2023/08/18	<1.0		ug/g	
			Acid Extractable Cobalt (Co)	2023/08/18	<0.10		ug/g	
			Acid Extractable Copper (Cu)	2023/08/18	<0.50		ug/g	
			Acid Extractable Lead (Pb)	2023/08/18	<1.0		ug/g	
			Acid Extractable Molybdenum (Mo)	2023/08/18	<0.50		ug/g	
			Acid Extractable Nickel (Ni)	2023/08/18	<0.50		ug/g	
			Acid Extractable Selenium (Se)	2023/08/18	<0.50		ug/g	
			Acid Extractable Silver (Ag)	2023/08/18	<0.20		ug/g	
			Acid Extractable Thallium (Tl)	2023/08/18	<0.050		ug/g	
			Acid Extractable Uranium (U)	2023/08/18	<0.050		ug/g	
			Acid Extractable Vanadium (V)	2023/08/18	<5.0		ug/g	
			Acid Extractable Zinc (Zn)	2023/08/18	<5.0		ug/g	
			Acid Extractable Mercury (Hg)	2023/08/18	<0.050		ug/g	
			Acid Extractable Antimony (Sb)	2023/08/18	NC		%	30
			Acid Extractable Arsenic (As)	2023/08/18	20		%	30
			Acid Extractable Barium (Ba)	2023/08/18	0.44		%	30
			Acid Extractable Beryllium (Be)	2023/08/18	2.7		%	30
			Acid Extractable Boron (B)	2023/08/18	2.7		%	30
			Acid Extractable Cadmium (Cd)	2023/08/18	NC		%	30
			Acid Extractable Chromium (Cr)	2023/08/18	0.63		%	30
			Acid Extractable Cobalt (Co)	2023/08/18	5.5		%	30
			Acid Extractable Copper (Cu)	2023/08/18	2.5		%	30
			Acid Extractable Lead (Pb)	2023/08/18	1.7		%	30
			Acid Extractable Molybdenum (Mo)	2023/08/18	NC		%	30
			Acid Extractable Nickel (Ni)	2023/08/18	0.16		%	30
			Acid Extractable Selenium (Se)	2023/08/18	NC		%	30
			Acid Extractable Silver (Ag)	2023/08/18	NC		%	30
			Acid Extractable Thallium (Tl)	2023/08/18	7.0		%	30
			Acid Extractable Uranium (U)	2023/08/18	1.9		%	30
			Acid Extractable Vanadium (V)	2023/08/18	2.2		%	30
			Acid Extractable Zinc (Zn)	2023/08/18	7.4		%	30
			Acid Extractable Mercury (Hg)	2023/08/18	NC		%	30
8861502	GTK	Spiked Blank	Available (CaCl2) pH	2023/08/18		101	%	97 - 103
8861502	GTK	RPD	Available (CaCl2) pH	2023/08/18	1.2		%	N/A
8870689	HST	Matrix Spike	4-Bromofluorobenzene	2023/08/23		100	%	60 - 140
			D10-o-Xylene	2023/08/23		103	%	60 - 130
			D4-1,2-Dichloroethane	2023/08/23		93	%	60 - 140
			D8-Toluene	2023/08/23		107	%	60 - 140
			Acetone (2-Propanone)	2023/08/23		95	%	60 - 140
			Benzene	2023/08/23		90	%	60 - 140
			Bromodichloromethane	2023/08/23		88	%	60 - 140
			Bromoform	2023/08/23		83	%	60 - 140
			Bromomethane	2023/08/23		81	%	60 - 140
			Carbon Tetrachloride	2023/08/23		95	%	60 - 140
			Chlorobenzene	2023/08/23		93	%	60 - 140
			Chloroform	2023/08/23		92	%	60 - 140
			Dibromochloromethane	2023/08/23		88	%	60 - 140
			1,2-Dichlorobenzene	2023/08/23		95	%	60 - 140
			1,3-Dichlorobenzene	2023/08/23		98	%	60 - 140
			1,4-Dichlorobenzene	2023/08/23		99	%	60 - 140
			Dichlorodifluoromethane (FREON 12)	2023/08/23		72	%	60 - 140
			1,1-Dichloroethane	2023/08/23		93	%	60 - 140



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8870689	HST	Spiked Blank		1,2-Dichloroethane	2023/08/23		88	%	60 - 140
				1,1-Dichloroethylene	2023/08/23		96	%	60 - 140
				cis-1,2-Dichloroethylene	2023/08/23		91	%	60 - 140
				trans-1,2-Dichloroethylene	2023/08/23		96	%	60 - 140
				1,2-Dichloropropane	2023/08/23		91	%	60 - 140
				cis-1,3-Dichloropropene	2023/08/23		80	%	60 - 140
				trans-1,3-Dichloropropene	2023/08/23		83	%	60 - 140
				Ethylbenzene	2023/08/23		97	%	60 - 140
				Ethylene Dibromide	2023/08/23		87	%	60 - 140
				Hexane	2023/08/23		99	%	60 - 140
				Methylene Chloride(Dichloromethane)	2023/08/23		86	%	60 - 140
				Methyl Ethyl Ketone (2-Butanone)	2023/08/23		88	%	60 - 140
				Methyl Isobutyl Ketone	2023/08/23		86	%	60 - 140
				Methyl t-butyl ether (MTBE)	2023/08/23		88	%	60 - 140
				Styrene	2023/08/23		98	%	60 - 140
				1,1,1,2-Tetrachloroethane	2023/08/23		92	%	60 - 140
				1,1,2,2-Tetrachloroethane	2023/08/23		84	%	60 - 140
				Tetrachloroethylene	2023/08/23		98	%	60 - 140
				Toluene	2023/08/23		99	%	60 - 140
				1,1,1-Trichloroethane	2023/08/23		94	%	60 - 140
				1,1,2-Trichloroethane	2023/08/23		88	%	60 - 140
				Trichloroethylene	2023/08/23		95	%	60 - 140
				Trichlorofluoromethane (FREON 11)	2023/08/23		89	%	60 - 140
				Vinyl Chloride	2023/08/23		86	%	60 - 140
				p+m-Xylene	2023/08/23		99	%	60 - 140
				o-Xylene	2023/08/23		99	%	60 - 140
				F1 (C6-C10)	2023/08/23		80	%	60 - 140
				4-Bromofluorobenzene	2023/08/23		100	%	60 - 140
				D10-o-Xylene	2023/08/23		108	%	60 - 130
				D4-1,2-Dichloroethane	2023/08/23		94	%	60 - 140
				D8-Toluene	2023/08/23		107	%	60 - 140
				Acetone (2-Propanone)	2023/08/23		94	%	60 - 140
				Benzene	2023/08/23		91	%	60 - 130
				Bromodichloromethane	2023/08/23		89	%	60 - 130
				Bromoform	2023/08/23		85	%	60 - 130
				Bromomethane	2023/08/23		85	%	60 - 140
				Carbon Tetrachloride	2023/08/23		97	%	60 - 130
				Chlorobenzene	2023/08/23		94	%	60 - 130
				Chloroform	2023/08/23		93	%	60 - 130
				Dibromochloromethane	2023/08/23		89	%	60 - 130
				1,2-Dichlorobenzene	2023/08/23		95	%	60 - 130
				1,3-Dichlorobenzene	2023/08/23		98	%	60 - 130
				1,4-Dichlorobenzene	2023/08/23		99	%	60 - 130
				Dichlorodifluoromethane (FREON 12)	2023/08/23		73	%	60 - 140
				1,1-Dichloroethane	2023/08/23		94	%	60 - 130
				1,2-Dichloroethane	2023/08/23		90	%	60 - 130
				1,1-Dichloroethylene	2023/08/23		97	%	60 - 130
				cis-1,2-Dichloroethylene	2023/08/23		92	%	60 - 130
				trans-1,2-Dichloroethylene	2023/08/23		97	%	60 - 130
				1,2-Dichloropropane	2023/08/23		91	%	60 - 130
				cis-1,3-Dichloropropene	2023/08/23		86	%	60 - 130
				trans-1,3-Dichloropropene	2023/08/23		89	%	60 - 130



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QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				Ethylbenzene	2023/08/23		99	%	60 - 130
				Ethylene Dibromide	2023/08/23		88	%	60 - 130
				Hexane	2023/08/23		102	%	60 - 130
				Methylene Chloride(Dichloromethane)	2023/08/23		87	%	60 - 130
				Methyl Ethyl Ketone (2-Butanone)	2023/08/23		88	%	60 - 140
				Methyl Isobutyl Ketone	2023/08/23		87	%	60 - 130
				Methyl t-butyl ether (MTBE)	2023/08/23		89	%	60 - 130
				Styrene	2023/08/23		99	%	60 - 130
				1,1,1,2-Tetrachloroethane	2023/08/23		94	%	60 - 130
				1,1,2,2-Tetrachloroethane	2023/08/23		85	%	60 - 130
				Tetrachloroethylene	2023/08/23		100	%	60 - 130
				Toluene	2023/08/23		99	%	60 - 130
				1,1,1-Trichloroethane	2023/08/23		96	%	60 - 130
				1,1,2-Trichloroethane	2023/08/23		89	%	60 - 130
				Trichloroethylene	2023/08/23		96	%	60 - 130
				Trichlorofluoromethane (FREON 11)	2023/08/23		91	%	60 - 130
				Vinyl Chloride	2023/08/23		87	%	60 - 130
				p+m-Xylene	2023/08/23		99	%	60 - 130
				o-Xylene	2023/08/23		99	%	60 - 130
				F1 (C6-C10)	2023/08/23		87	%	80 - 120
8870689	HST	Method Blank		4-Bromofluorobenzene	2023/08/23		96	%	60 - 140
				D10-o-Xylene	2023/08/23		87	%	60 - 130
				D4-1,2-Dichloroethane	2023/08/23		96	%	60 - 140
				D8-Toluene	2023/08/23		94	%	60 - 140
				Acetone (2-Propanone)	2023/08/23	<0.49		ug/g	
				Benzene	2023/08/23	<0.0060		ug/g	
				Bromodichloromethane	2023/08/23	<0.040		ug/g	
				Bromoform	2023/08/23	<0.040		ug/g	
				Bromomethane	2023/08/23	<0.040		ug/g	
				Carbon Tetrachloride	2023/08/23	<0.040		ug/g	
				Chlorobenzene	2023/08/23	<0.040		ug/g	
				Chloroform	2023/08/23	<0.040		ug/g	
				Dibromochloromethane	2023/08/23	<0.040		ug/g	
				1,2-Dichlorobenzene	2023/08/23	<0.040		ug/g	
				1,3-Dichlorobenzene	2023/08/23	<0.040		ug/g	
				1,4-Dichlorobenzene	2023/08/23	<0.040		ug/g	
				Dichlorodifluoromethane (FREON 12)	2023/08/23	<0.040		ug/g	
				1,1-Dichloroethane	2023/08/23	<0.040		ug/g	
				1,2-Dichloroethane	2023/08/23	<0.049		ug/g	
				1,1-Dichloroethylene	2023/08/23	<0.040		ug/g	
				cis-1,2-Dichloroethylene	2023/08/23	<0.040		ug/g	
				trans-1,2-Dichloroethylene	2023/08/23	<0.040		ug/g	
				1,2-Dichloropropane	2023/08/23	<0.040		ug/g	
				cis-1,3-Dichloropropene	2023/08/23	<0.030		ug/g	
				trans-1,3-Dichloropropene	2023/08/23	<0.040		ug/g	
				Ethylbenzene	2023/08/23	<0.010		ug/g	
				Ethylene Dibromide	2023/08/23	<0.040		ug/g	
				Hexane	2023/08/23	<0.040		ug/g	
				Methylene Chloride(Dichloromethane)	2023/08/23	<0.049		ug/g	
				Methyl Ethyl Ketone (2-Butanone)	2023/08/23	<0.40		ug/g	
				Methyl Isobutyl Ketone	2023/08/23	<0.40		ug/g	
				Methyl t-butyl ether (MTBE)	2023/08/23	<0.040		ug/g	



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				Styrene	2023/08/23	<0.040		ug/g	
				1,1,1,2-Tetrachloroethane	2023/08/23	<0.040		ug/g	
				1,1,2,2-Tetrachloroethane	2023/08/23	<0.040		ug/g	
				Tetrachloroethylene	2023/08/23	<0.040		ug/g	
				Toluene	2023/08/23	<0.020		ug/g	
				1,1,1-Trichloroethane	2023/08/23	<0.040		ug/g	
				1,1,2-Trichloroethane	2023/08/23	<0.040		ug/g	
				Trichloroethylene	2023/08/23	<0.010		ug/g	
				Trichlorofluoromethane (FREON 11)	2023/08/23	<0.040		ug/g	
				Vinyl Chloride	2023/08/23	<0.019		ug/g	
				p+m-Xylene	2023/08/23	<0.020		ug/g	
				o-Xylene	2023/08/23	<0.020		ug/g	
				Total Xylenes	2023/08/23	<0.020		ug/g	
				F1 (C6-C10)	2023/08/23	<10		ug/g	
				F1 (C6-C10) - BTEX	2023/08/23	<10		ug/g	
8870689	HST	RPD		Acetone (2-Propanone)	2023/08/23	NC		%	50
				Benzene	2023/08/23	0.46		%	50
				Bromodichloromethane	2023/08/23	NC		%	50
				Bromoform	2023/08/23	NC		%	50
				Bromomethane	2023/08/23	NC		%	50
				Carbon Tetrachloride	2023/08/23	NC		%	50
				Chlorobenzene	2023/08/23	NC		%	50
				Chloroform	2023/08/23	NC		%	50
				Dibromochloromethane	2023/08/23	NC		%	50
				1,2-Dichlorobenzene	2023/08/23	NC		%	50
				1,3-Dichlorobenzene	2023/08/23	NC		%	50
				1,4-Dichlorobenzene	2023/08/23	NC		%	50
				Dichlorodifluoromethane (FREON 12)	2023/08/23	NC		%	50
				1,1-Dichloroethane	2023/08/23	NC		%	50
				1,2-Dichloroethane	2023/08/23	NC		%	50
				1,1-Dichloroethylene	2023/08/23	NC		%	50
				cis-1,2-Dichloroethylene	2023/08/23	NC		%	50
				trans-1,2-Dichloroethylene	2023/08/23	NC		%	50
				1,2-Dichloropropane	2023/08/23	NC		%	50
				cis-1,3-Dichloropropene	2023/08/23	NC		%	50
				trans-1,3-Dichloropropene	2023/08/23	NC		%	50
				Ethylbenzene	2023/08/23	2.0		%	50
				Ethylene Dibromide	2023/08/23	NC		%	50
				Hexane	2023/08/23	NC		%	50
				Methylene Chloride(Dichloromethane)	2023/08/23	NC		%	50
				Methyl Ethyl Ketone (2-Butanone)	2023/08/23	NC		%	50
				Methyl Isobutyl Ketone	2023/08/23	NC		%	50
				Methyl t-butyl ether (MTBE)	2023/08/23	NC		%	50
				Styrene	2023/08/23	NC		%	50
				1,1,1,2-Tetrachloroethane	2023/08/23	NC		%	50
				1,1,2,2-Tetrachloroethane	2023/08/23	NC		%	50
				Tetrachloroethylene	2023/08/23	NC		%	50
				Toluene	2023/08/23	1.8		%	50
				1,1,1-Trichloroethane	2023/08/23	NC		%	50
				1,1,2-Trichloroethane	2023/08/23	NC		%	50
				Trichloroethylene	2023/08/23	NC		%	50
				Trichlorofluoromethane (FREON 11)	2023/08/23	NC		%	50



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Vinyl Chloride	2023/08/23	NC		%	50
			p+m-Xylene	2023/08/23	1.1		%	50
			o-Xylene	2023/08/23	2.3		%	50
			Total Xylenes	2023/08/23	1.7		%	50
			F1 (C6-C10)	2023/08/23	NC		%	30
			F1 (C6-C10) - BTEX	2023/08/23	NC		%	30

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times$ RDL).

(1) Detection limit was raised due to matrix interference.

(2) The matrix spike recovery was below the lower control limit. This may be due in part to the reducing environment of the sample. The sample was re-analyzed with the same results



Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Wales Drive, Ottawa, ON
Your P.O. #: 694129
Sampler Initials: JT

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.



Bureau Veritas
6740 Campbell Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-free 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Received by *Dee*

11-Aug-23 12:13

Deepti Shaji

C303894

SPJ

ENV-1645

COC #:



CW948522-01-01

Only:

Bottle Order #:



Project Manager:

Deepti Shaji

INVOICE TO:	REPORT TO:	PROJECT INFORMATION:
Company Name: #21644 SNC-Lavalin Inc	Company Name: #13786 SNC-Lavalin Inc	Quotation #: C21794
Attention: Accounts Payable	Attention: Akruhi Atawala	P.O. #: 294129
Address: 455 René-Lévesque Blvd. West	Address: 235 Lesmill Road	Project: 694129
Montreal QC H2Z 1Z3	Toronto ON M3B 2V1	Project Name: 440 Rene Lavalin, Ottawa
Tel: (514) 393-1000 Fax: (514) 866-0795	Tel: (416) 635-5882 Ext: 5839 Fax: (416) 635-5353	Site #:
Email: Payables@snc-lavalin.com	Email: akruhi.atawala@snc-lavalin.com, ON_LabData@snc-lavalin.com	Sampled By: <i>Dee</i>

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT:

(will be applied if Rush TAT is not specified)

Standard TAT = 5-7 Working days for most tests

Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details

Job Specific Rush TAT (if applies to entire submission):

Date Required: Time Required:

Rush Confirmation Number: Scale (g) for \$1

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Pack ☐ Medium/Fine ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA ☐ Municipality ☐ PWQO ☐ Reg 455 Table ☐ Table 2 ☐ Inst/Comm ☐ Coarse ☐ Agri/Onsite ☐ RSC ☐ Table 3 ☐ Table 4	☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA ☐ Municipality ☐ PWQO ☐ Reg 455 Table ☐ Other	

Excess soil regulation Table 3

Include Criteria on Certificate of Analysis (Y/N)?

Sample Number Label	Sample Location Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle)	Metals / Hg / Cr / V	O Reg 153 VOCs by HS & F1-F4	O Reg 153 PCBs	O Reg 153 Metals & Inorganics Pkg	O Reg 558 TCLP Inorganics Package	O Reg 558 TCLP Benzene/Toluene	O Reg 558 TCLP VOCs by HS	# of Bottles	Comments
1	BH23-01-01	Aug 10/23	9:30	Soil			X	X					3	odor / grey
2	BH23-01-01		9:35										3	
3	BH23-01-03		9:45										3	
4	BH23-01-04		9:50										3	
5	BH23-01-05		10:00										3	odor
6	BH23-01-06		10:15										3	Strong odor -
7	BH23-01-08		10:30										3	
8	BH23-01-11		10:40										3	
9	BH23-03-01		10:50										3	
10	BH23-03-03		10:45										3	

RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time
<i>Dee</i>	23/08/11	11:38	<i>Samuel Durand</i>	2023/08/11	12:13

Jars used and not submitted
1

Laboratory Use Only
Time Sensitive

Temperature (°C) on Receipt
2, 2, 3

Custody Seal	Yes	No
Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COCS-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

81575
81919

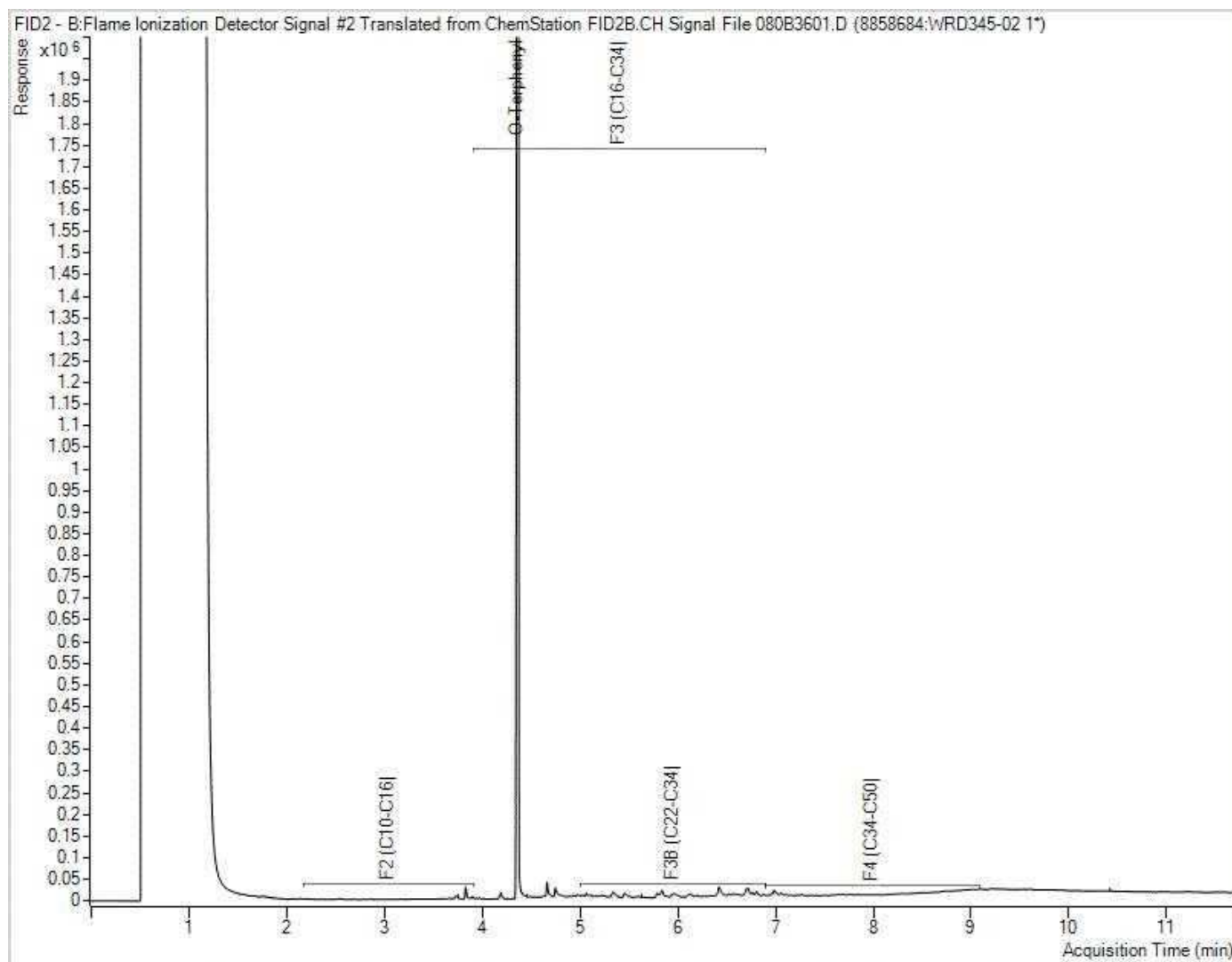


INVOICE TO: Company Name: #21644 SNC-Lavalin Inc. Attention: Accounts Payable Address: 455 René-Lévesque Blvd. West Montreal QC H2Z 1Z3 Tel: (514) 393-1000 Fax: (514) 866-0795 Email: Payables@sncclavalin.com		REPORT TO: Company Name: #13786 SNC-Lavalin Inc. Attention: Akruhi Atawala Address: 235 LeSmith Road Toronto ON M3B 2V1 Tel: (416) 635-5882 Ext: 5839 Fax: (416) 635-5353 Email: akruhi.atawala@sncclavalin.com, ON_LabData@sncclavalin.com		PROJECT INFORMATION: Quotation #: C21794 P.O. #: 694129 Project: 694129 Project Name: H409-Phase 1 & 2 (Lake Ontario) Site #: Sampled By: Tony Ruddy		Laboratory Use Only: Bureau Veritas Job #: Bottle Order #: 94552 COC #:  C0948522-02-01 Turnaround Time (TAT) Required: Please provide advance notice for rush projects	
MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY				ANALYSIS REQUESTED (PLEASE BE SPECIFIC): () Reg 153 VOCs by HS & FS & E () Reg 153 Metals & Inorganics Pkg () Reg 158 TCLP Inorganics Package () Reg 558 TCLP Barium/Calcium () Reg 558 TCLP VOCs by HS			
Regulation 153 (2011) ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☒ Table 3 ☐ Agr/Other ☐ For RSC ☐ Table From Solen Title 3		Other Regulations ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA ☐ Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other		Special Instructions			
Include Criteria on Certificate of Analysis (Y/N)?				Field Filtered (please circle): Metals / Hg / Cr / Vt			
Sample Barcodes Label		Sample (Location) Identification		Time Sampled			
Matrix		Time Sampled		Matrix			
1 BH23-03-05 Aug 11/03 7:20 Sol		2 BH23-03-06 7:25		3 BH23-03-07 7:30			
4 BH23-03-10 7:40		5 BH23-03-100 7:40		6 BH23-02-01 8:20			
7 BH23-02-02 8:30		8 BH23-02-04 8:45		9 BH23-02-07 9:00			
10 BH23-02-09 9:10							
* RELINQUISHED BY: (Signature/Print) Tony Ruddy		Date: (YY/MM/DD) 23/08/11		Time 11:30			
RECEIVED BY: (Signature/Print) Samuel Durand		Date: (YY/MM/DD) 2023/08/11		Time 12:11			
# jars used and not submitted		ICE Time Sensitive		Laboratory Use Only Temperature (°C) on Receipt: 4, 0, 15			
Custody Seal Present		Yes		No			

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.
 * IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.
 ** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCs.

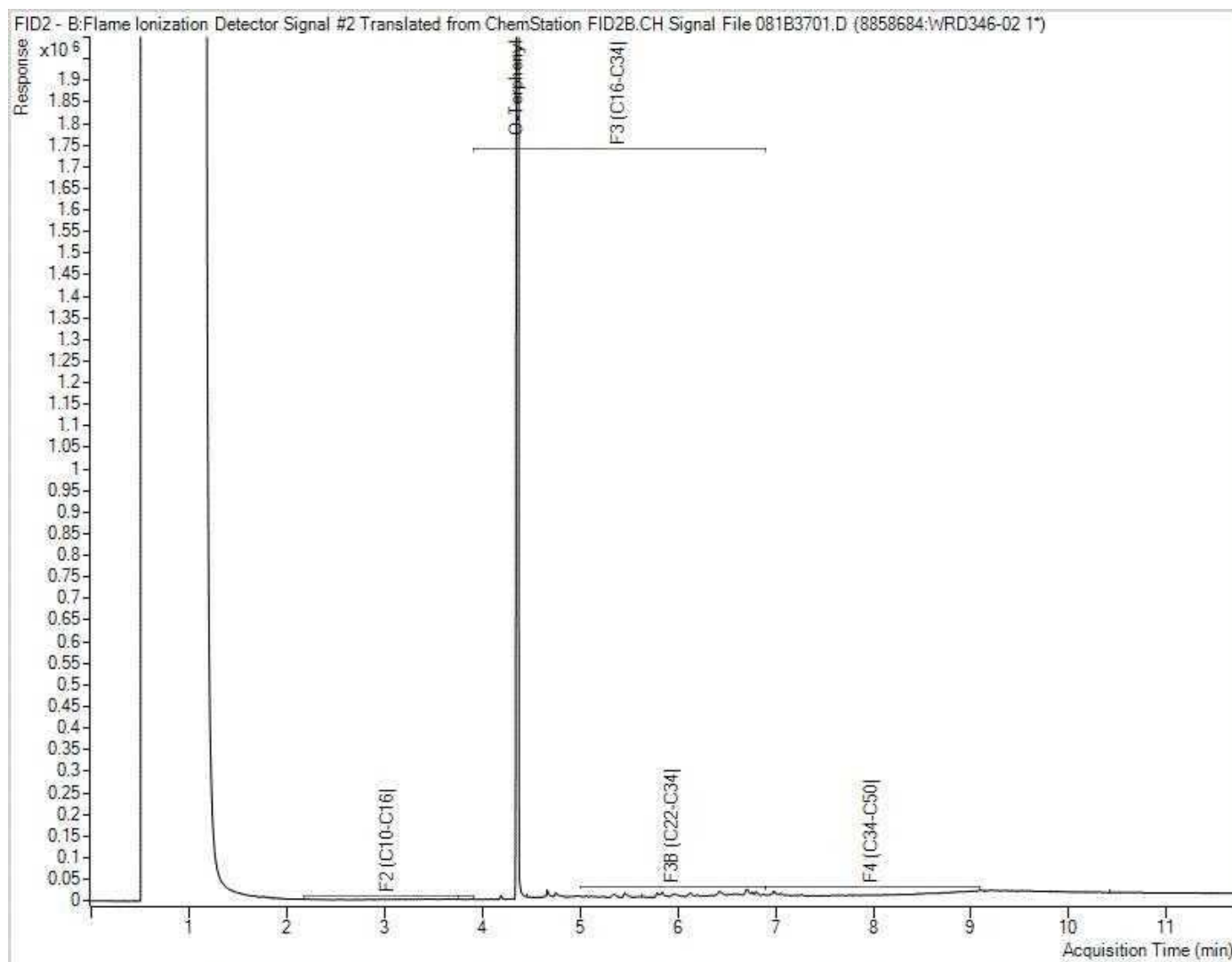
White: Bureau Veritas Yellow: Client
 9/5/5
 9/9/9

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



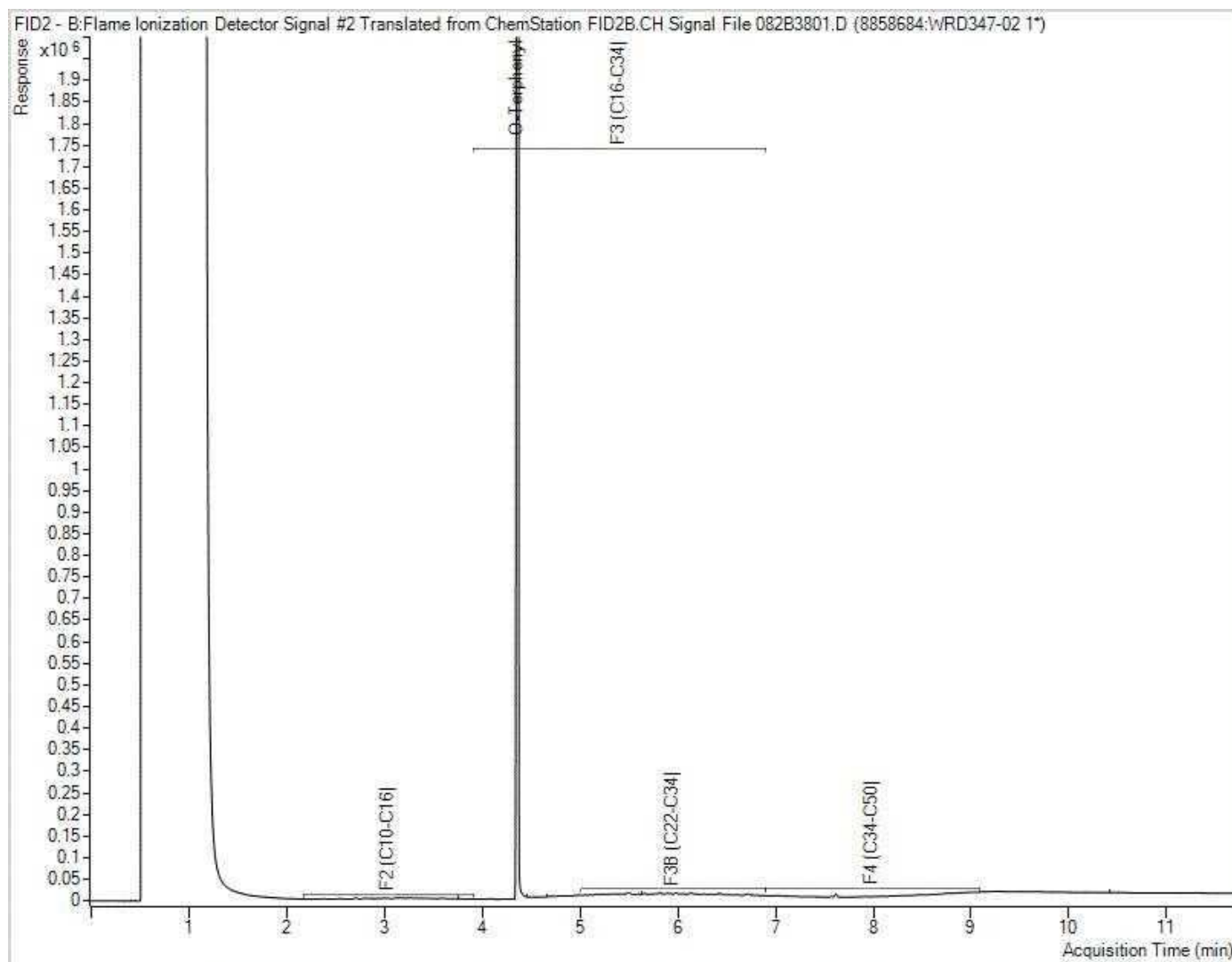
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



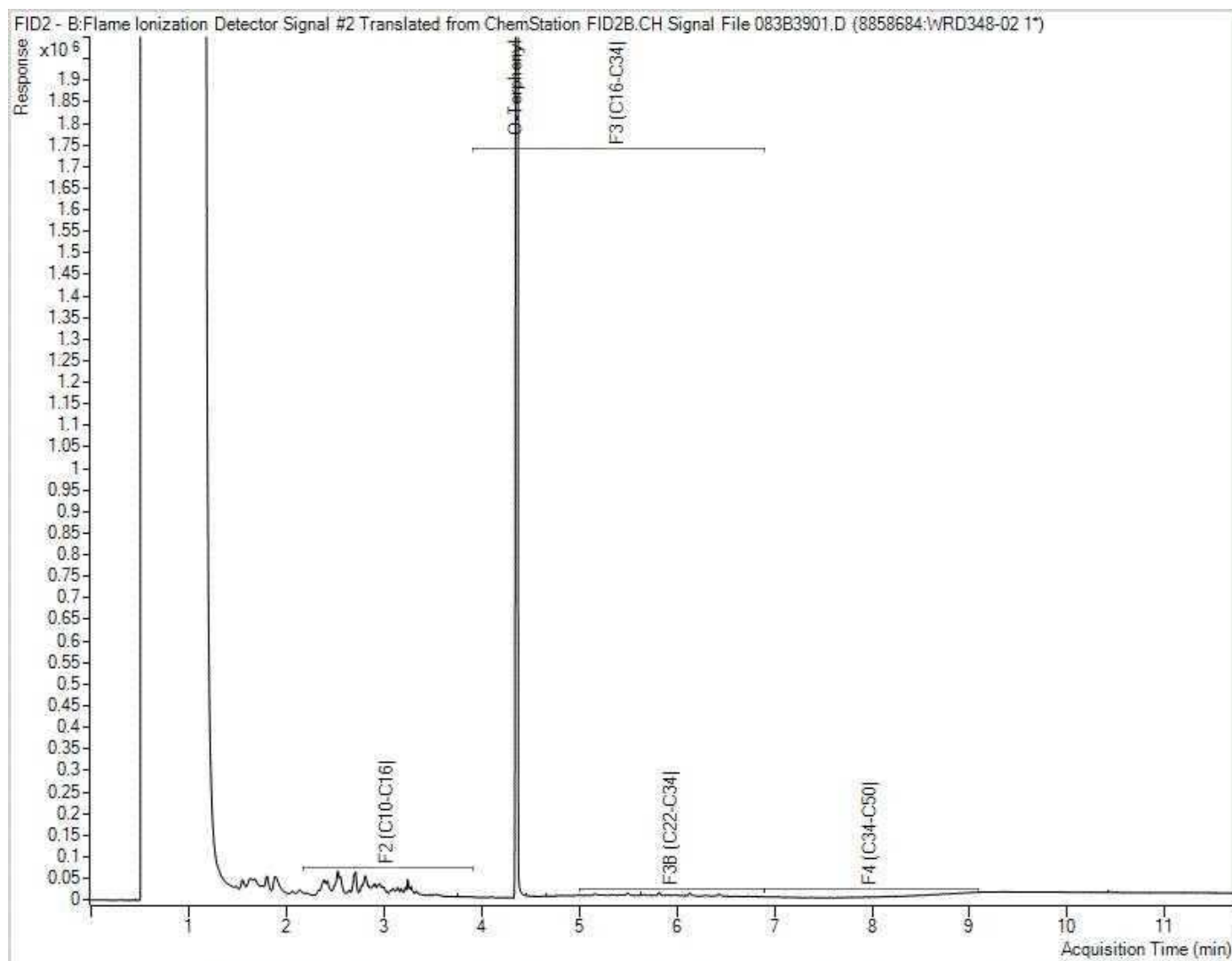
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



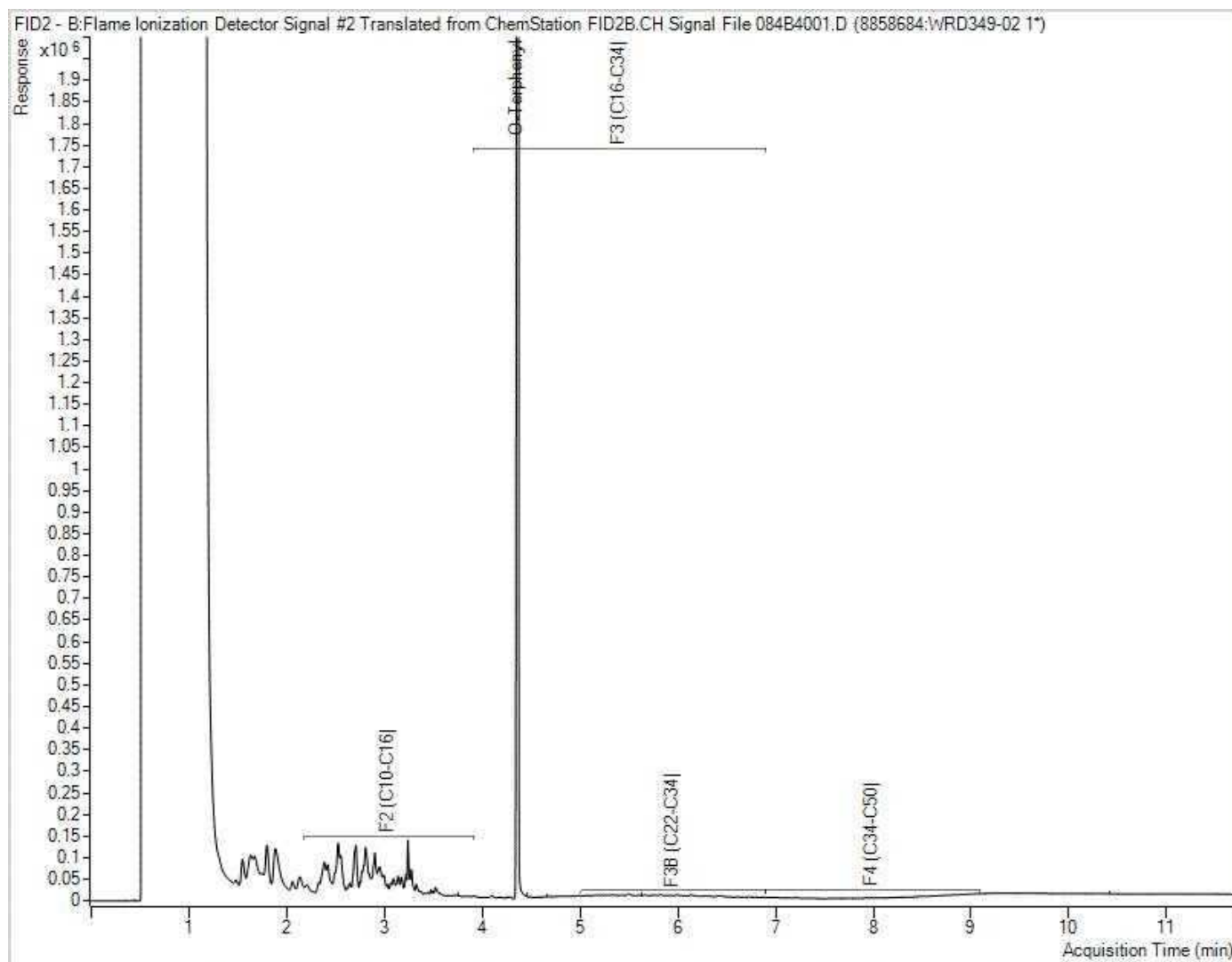
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

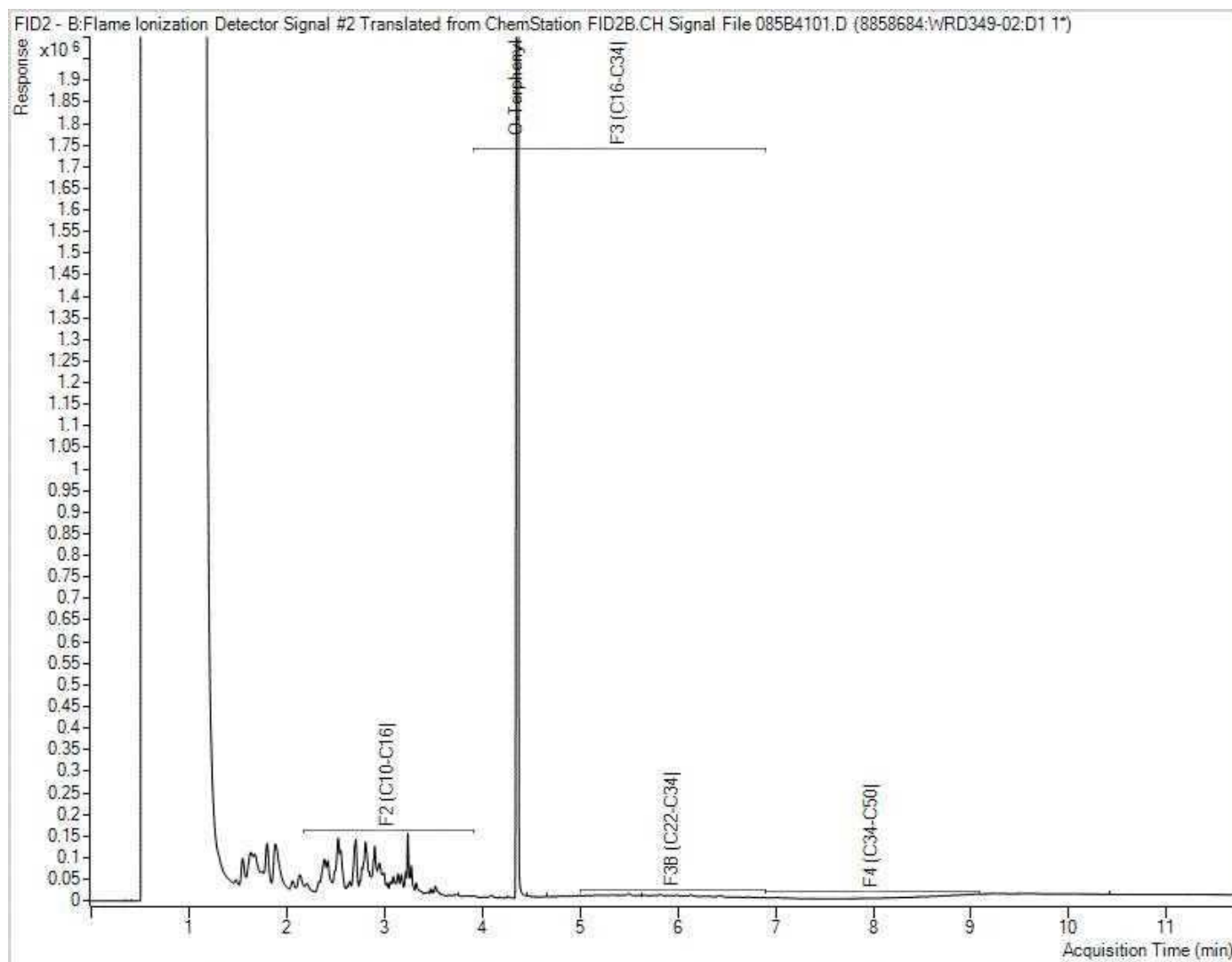


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C3O3894
Report Date: 2023/08/30
Bureau Veritas Sample: WRD349 Lab-Dup

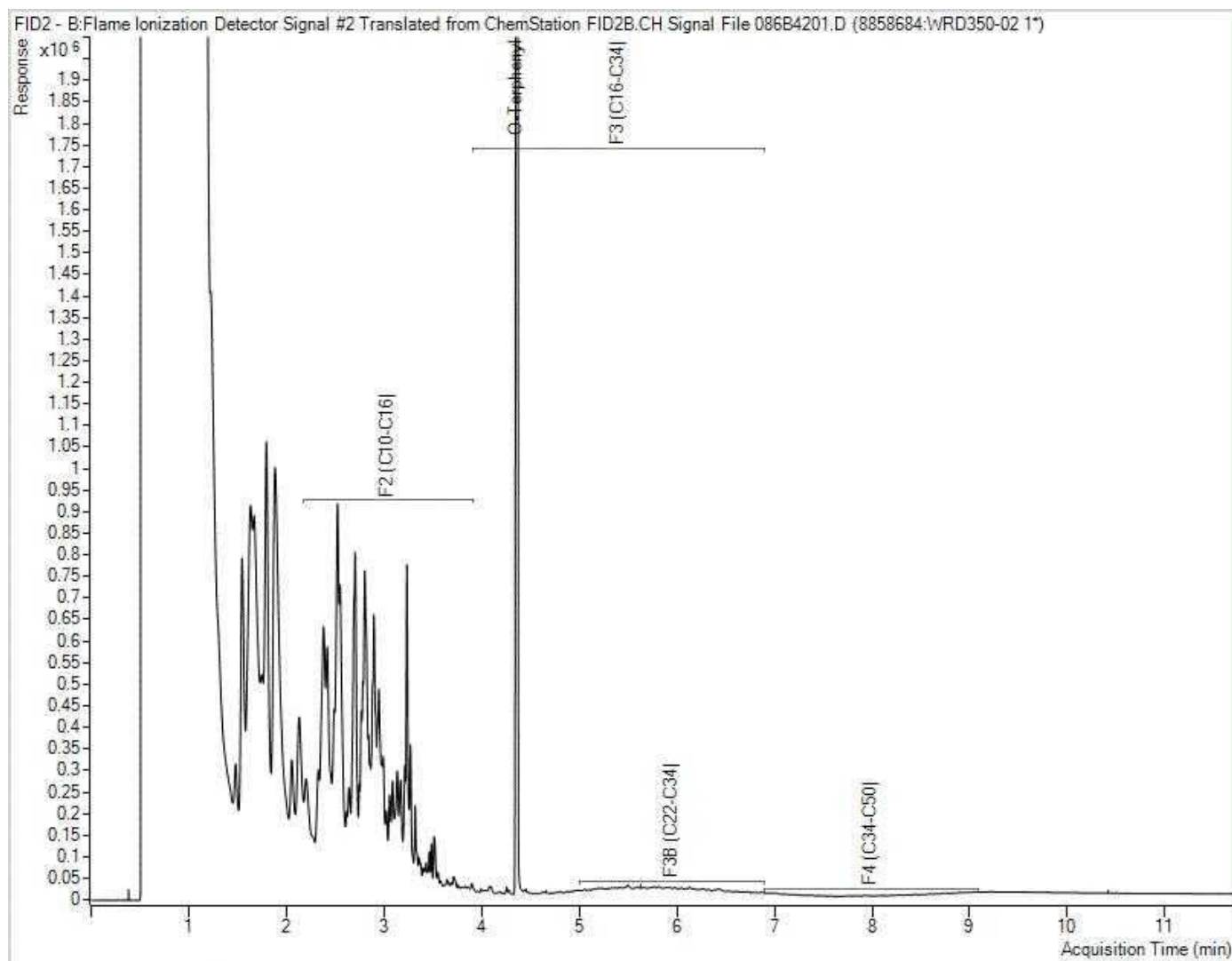
SNC-Lavalin Inc
Client Project #: 694129
Project name: 1440 Prince of Wales Drive, Ottawa, ON
Client ID: BH23-01-05

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



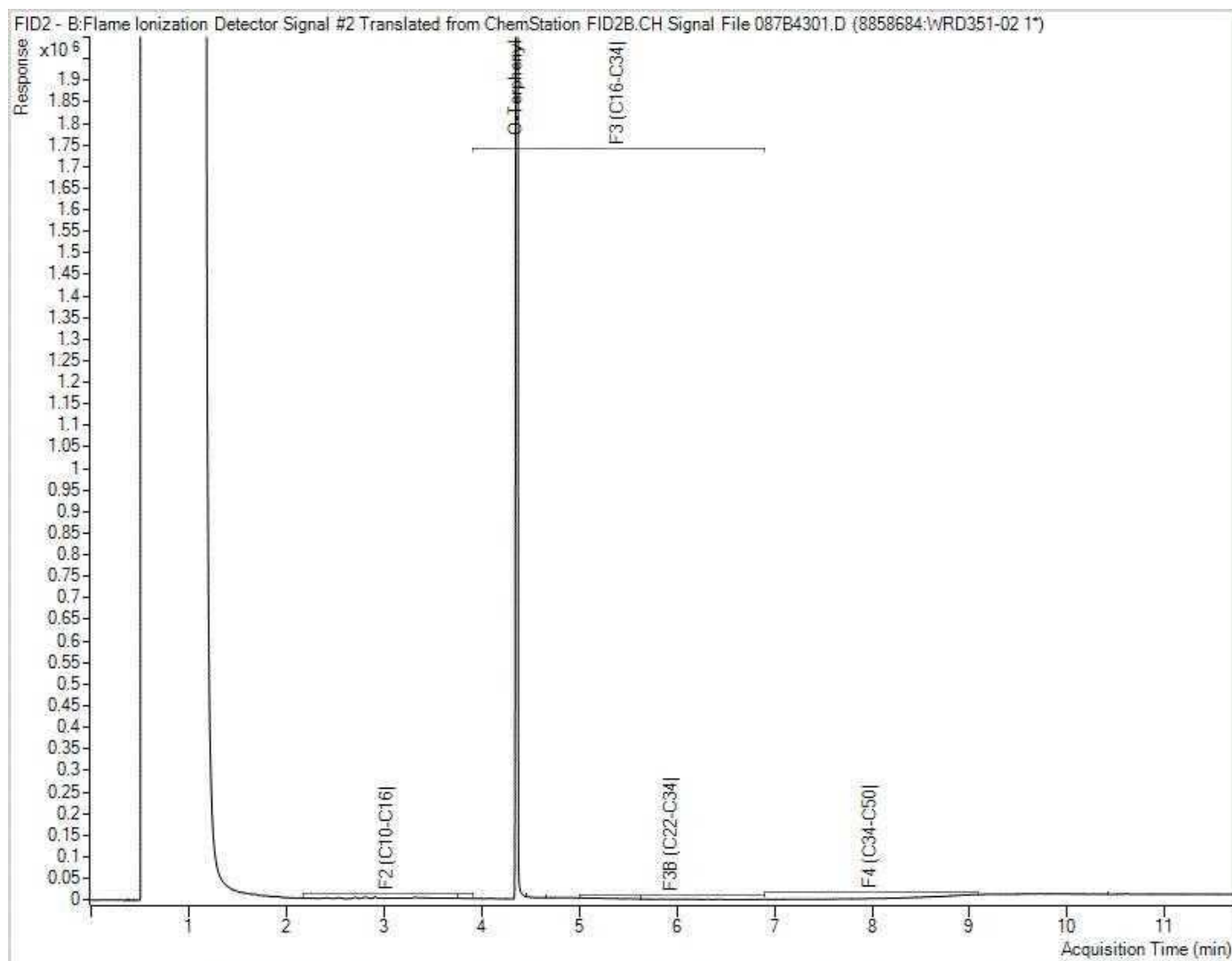
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



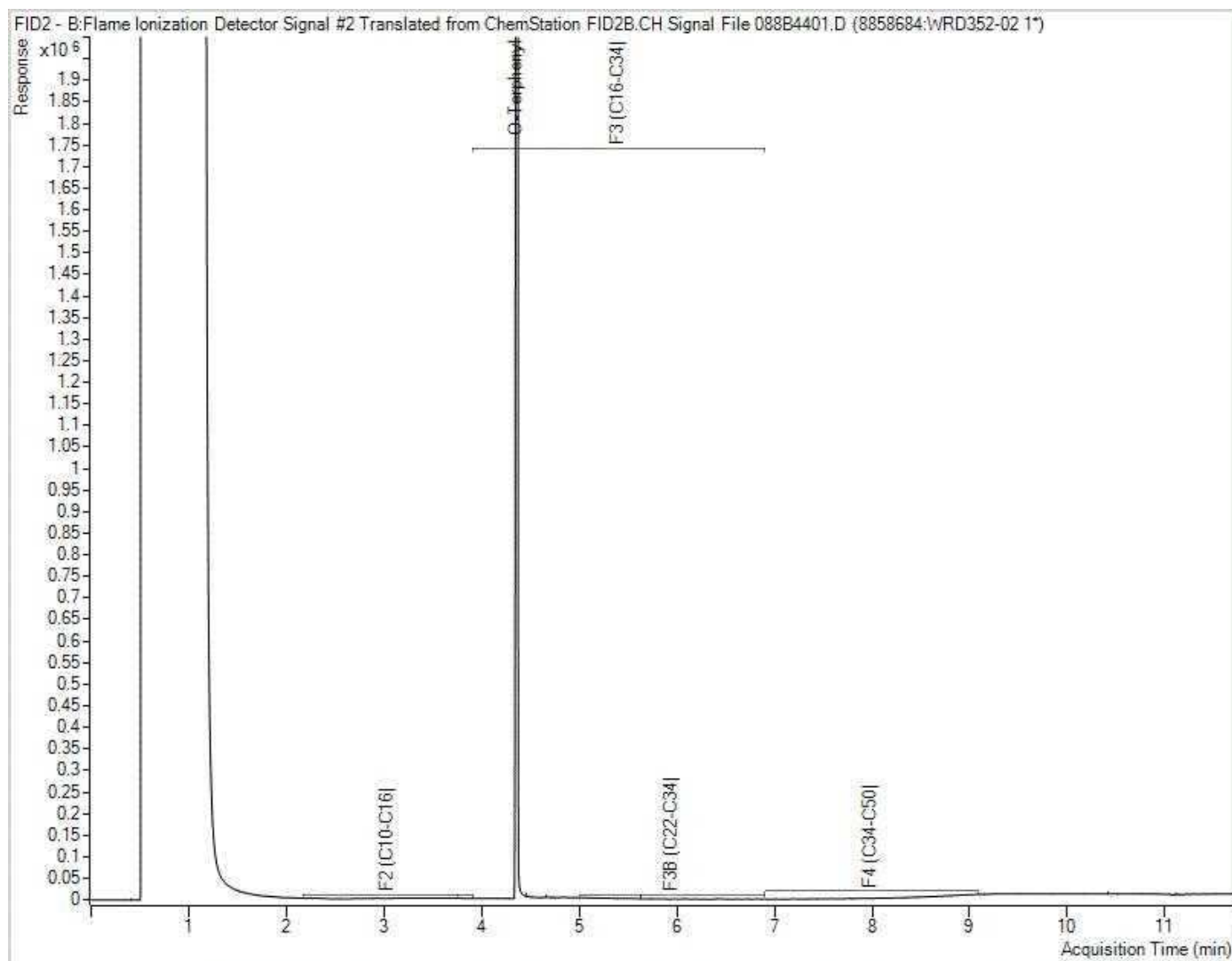
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



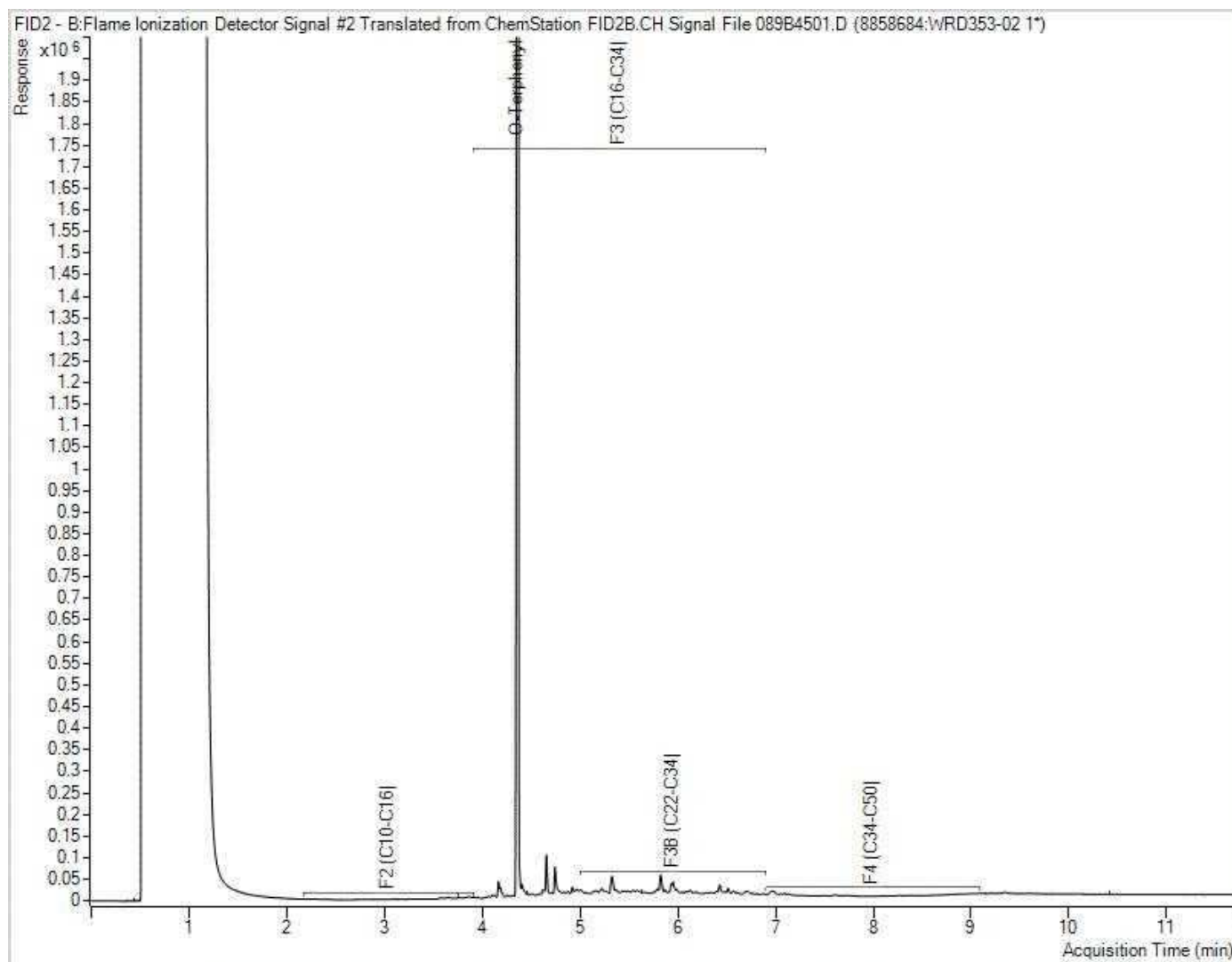
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



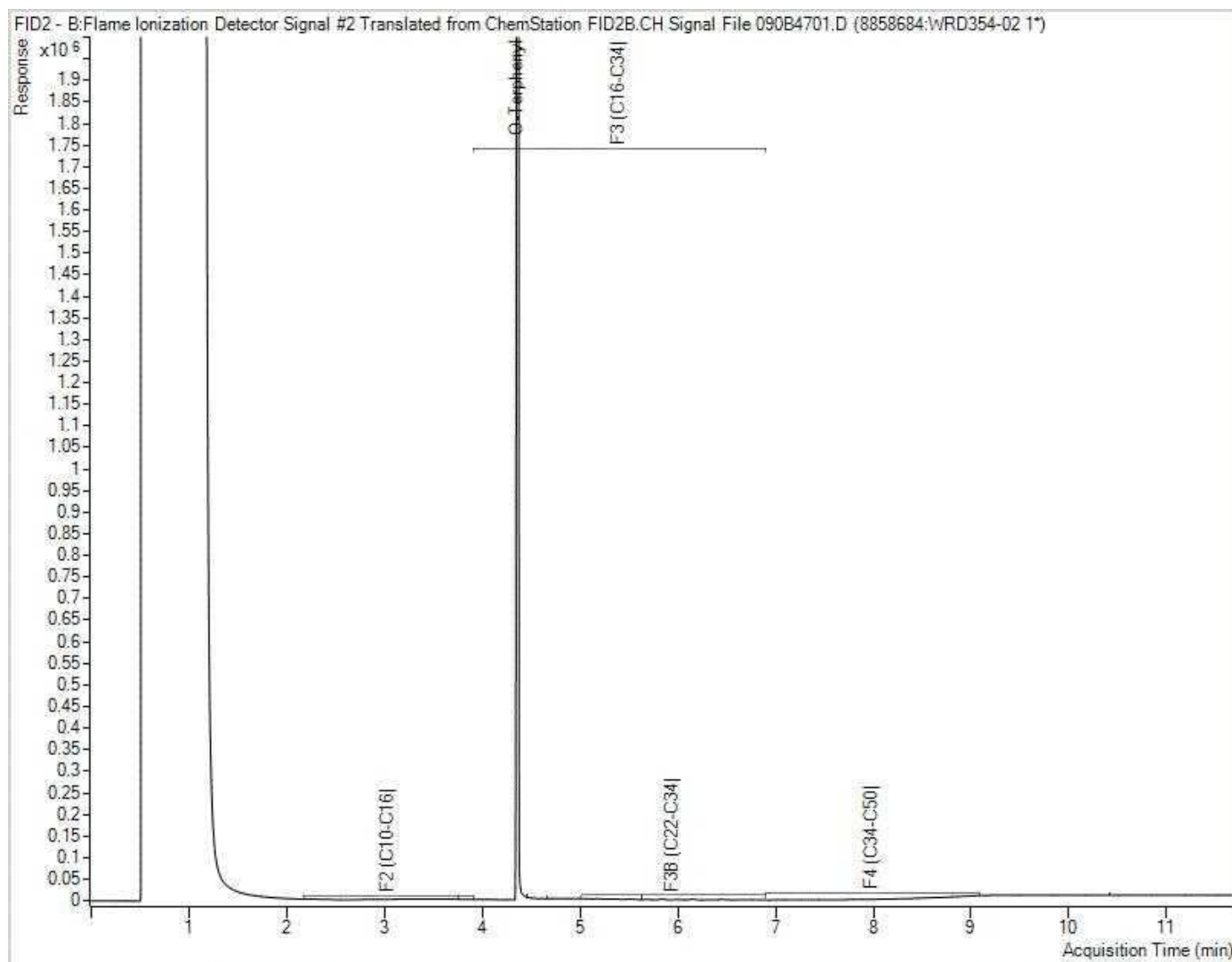
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Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



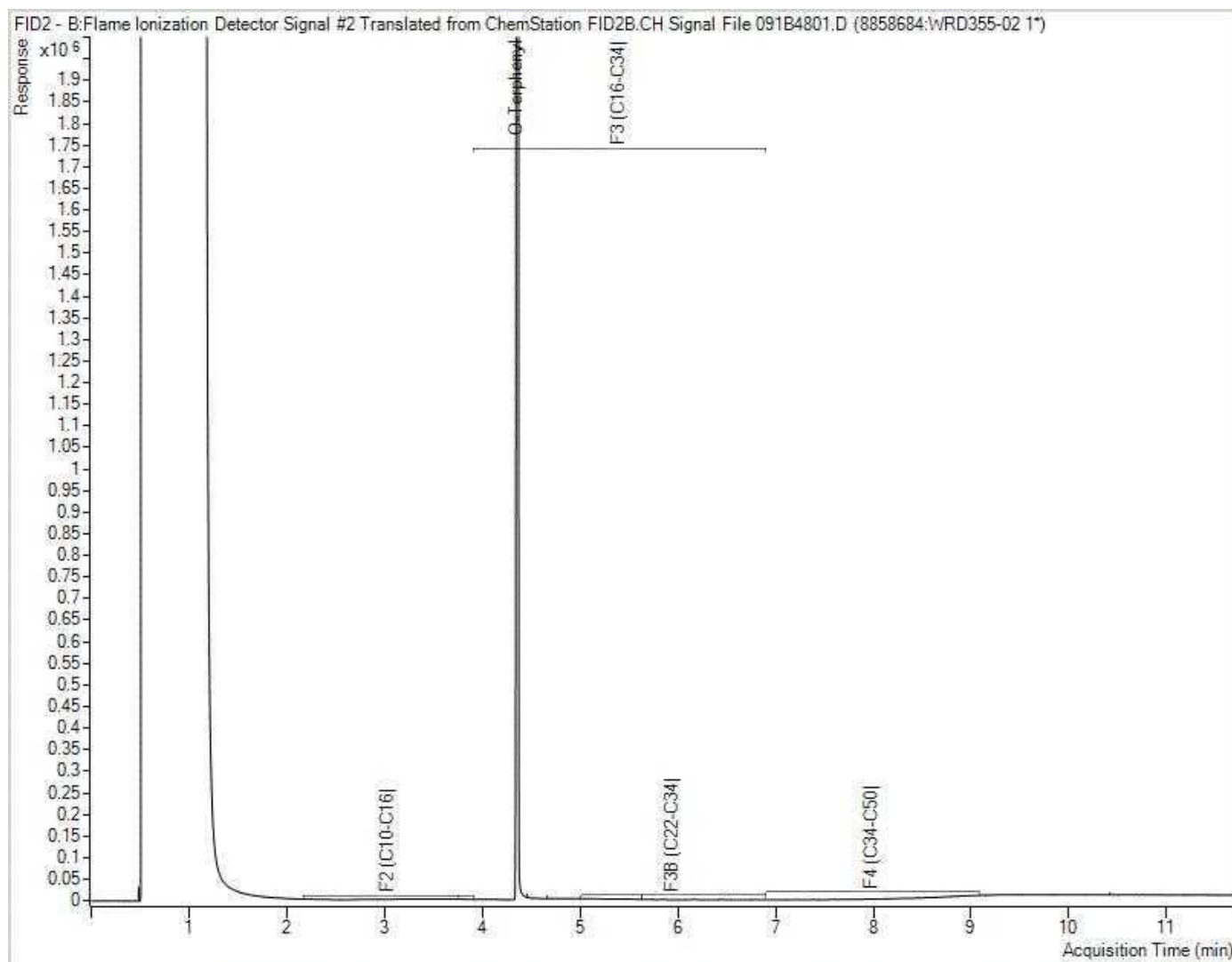
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



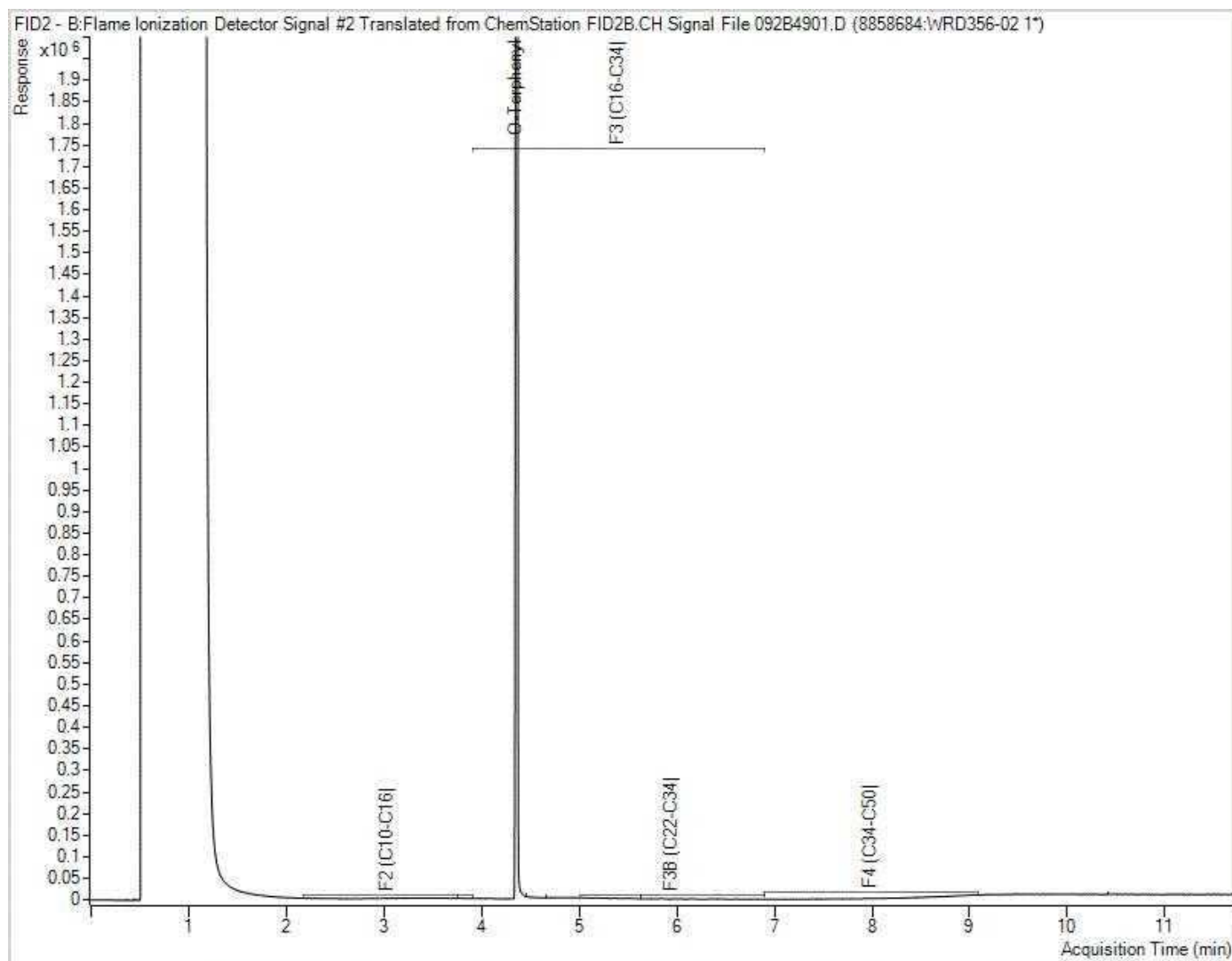
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



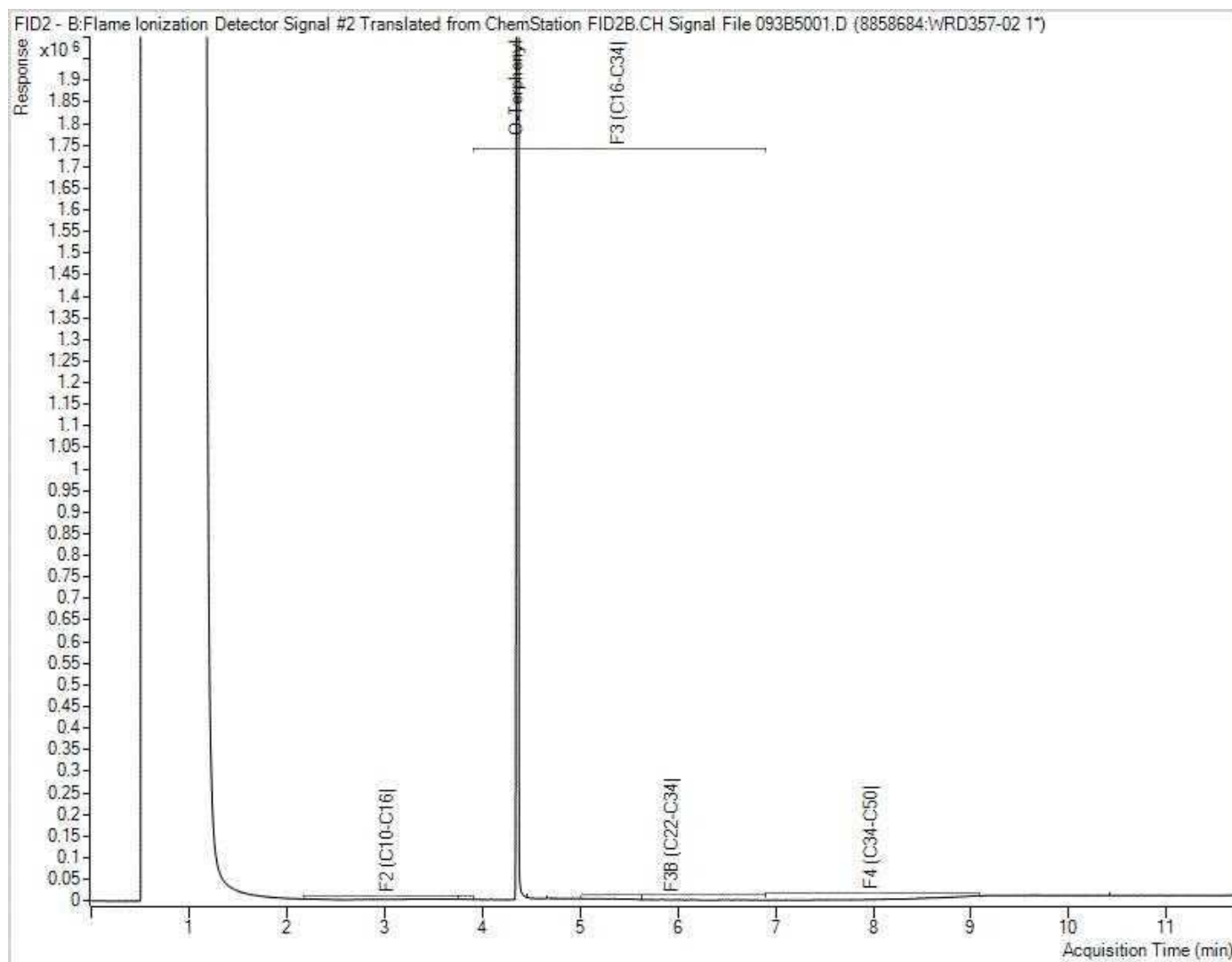
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Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



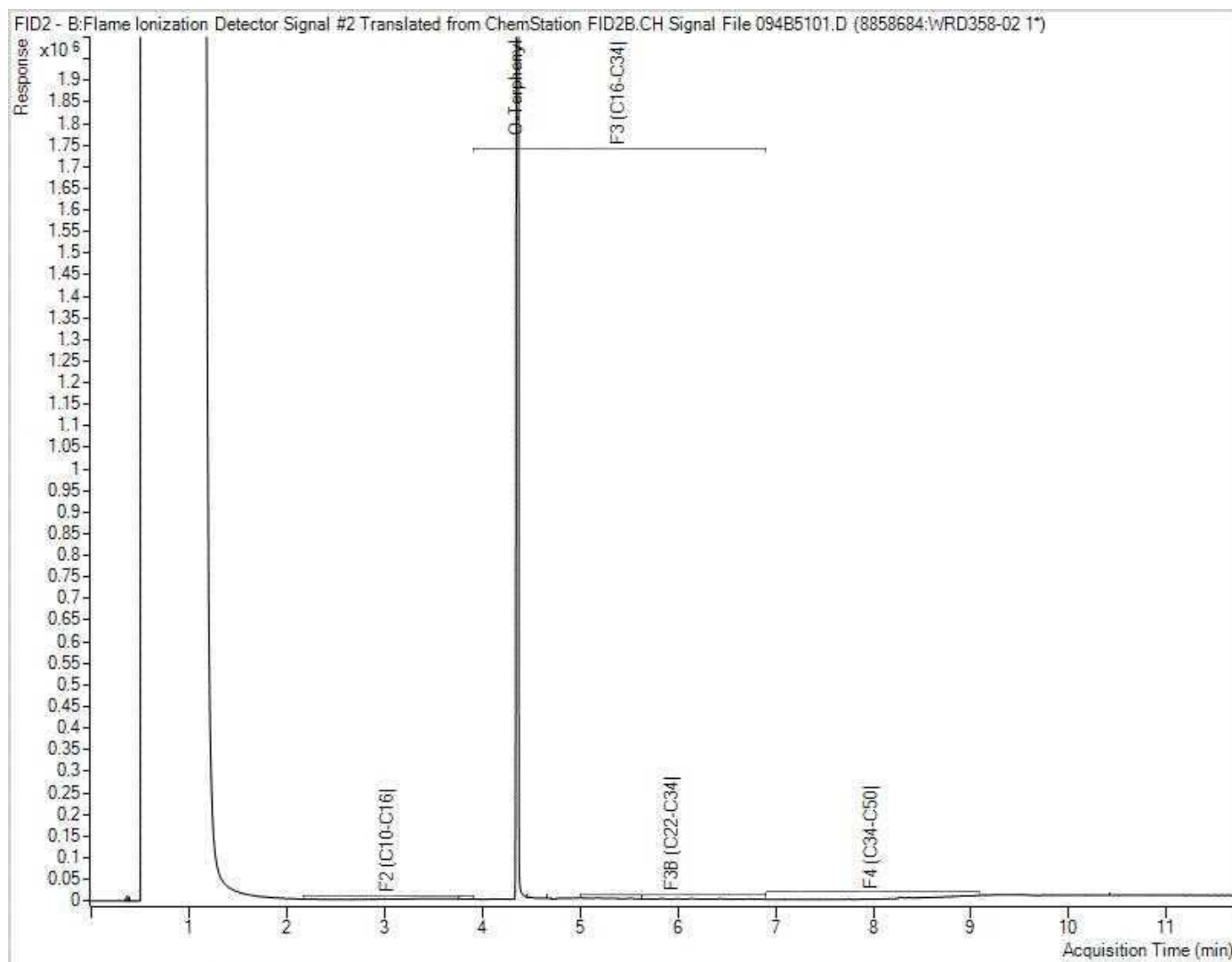
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



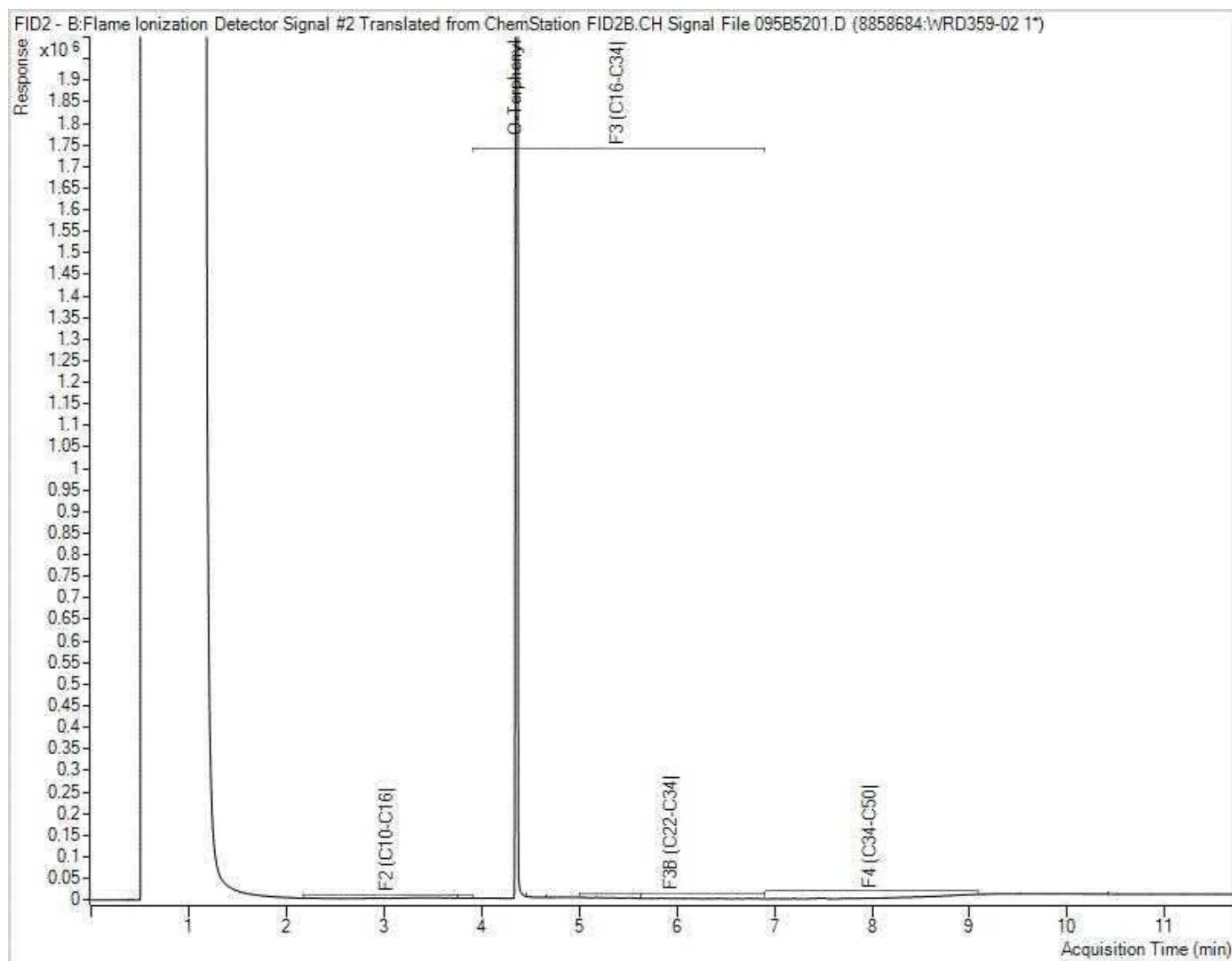
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Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



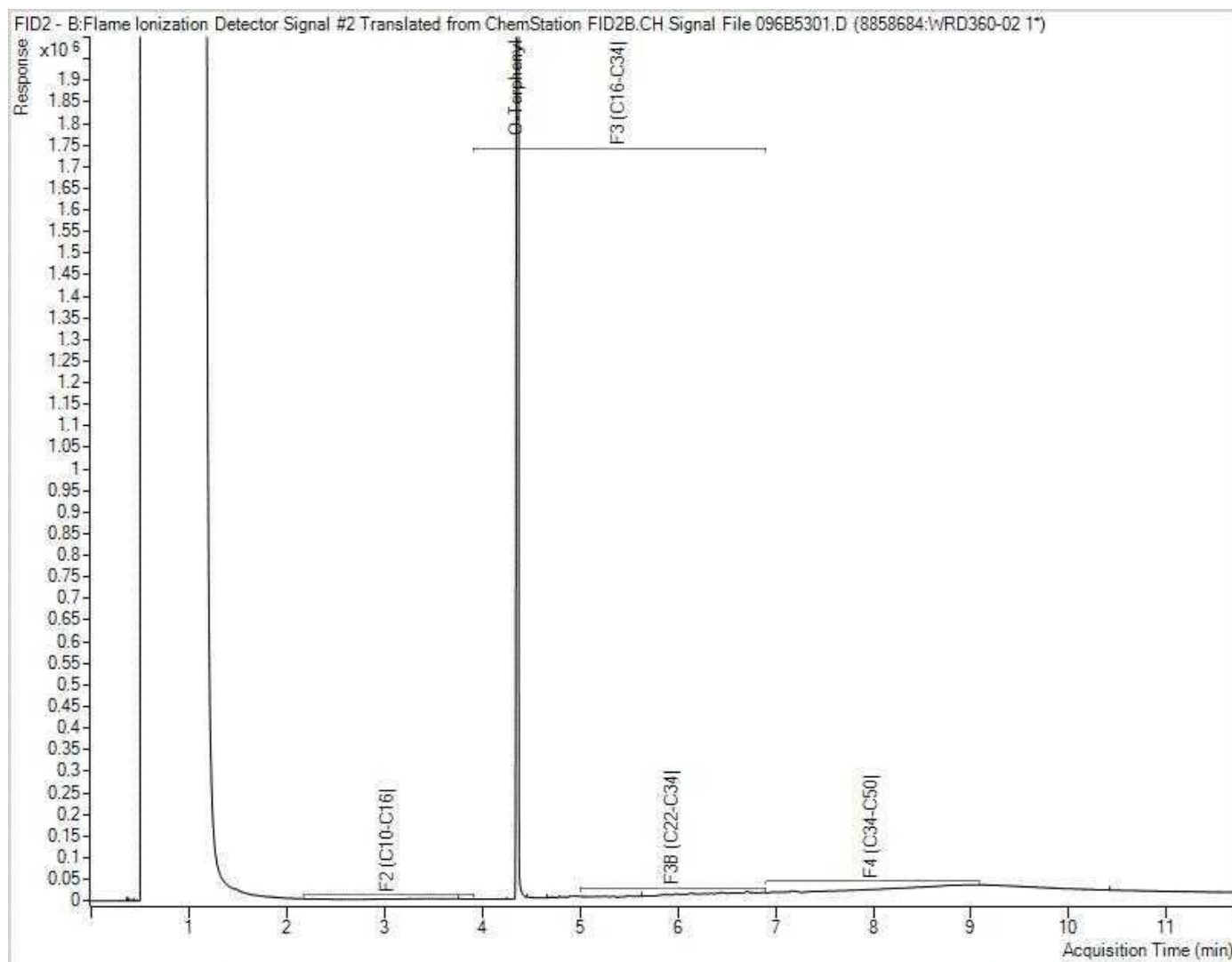
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



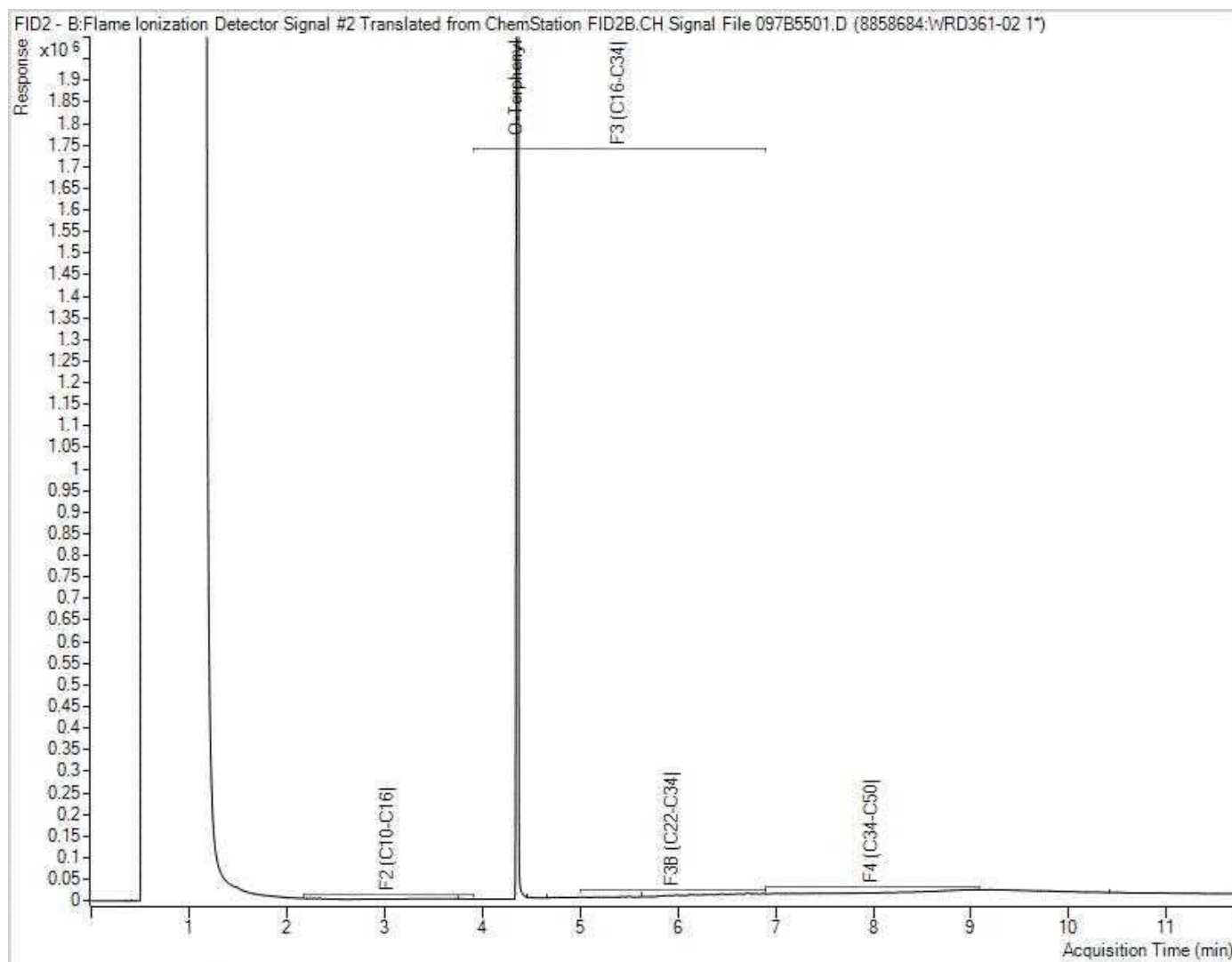
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



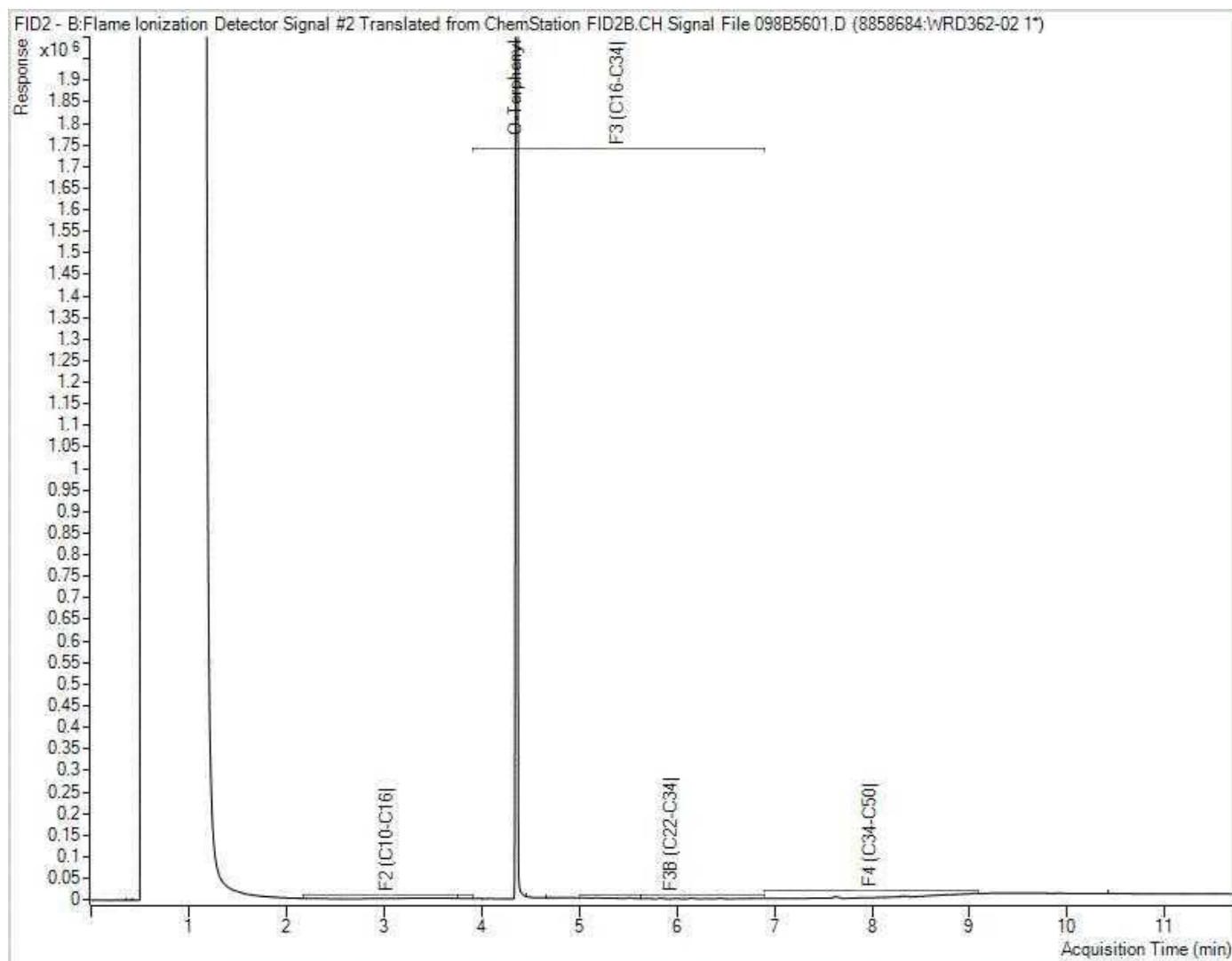
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



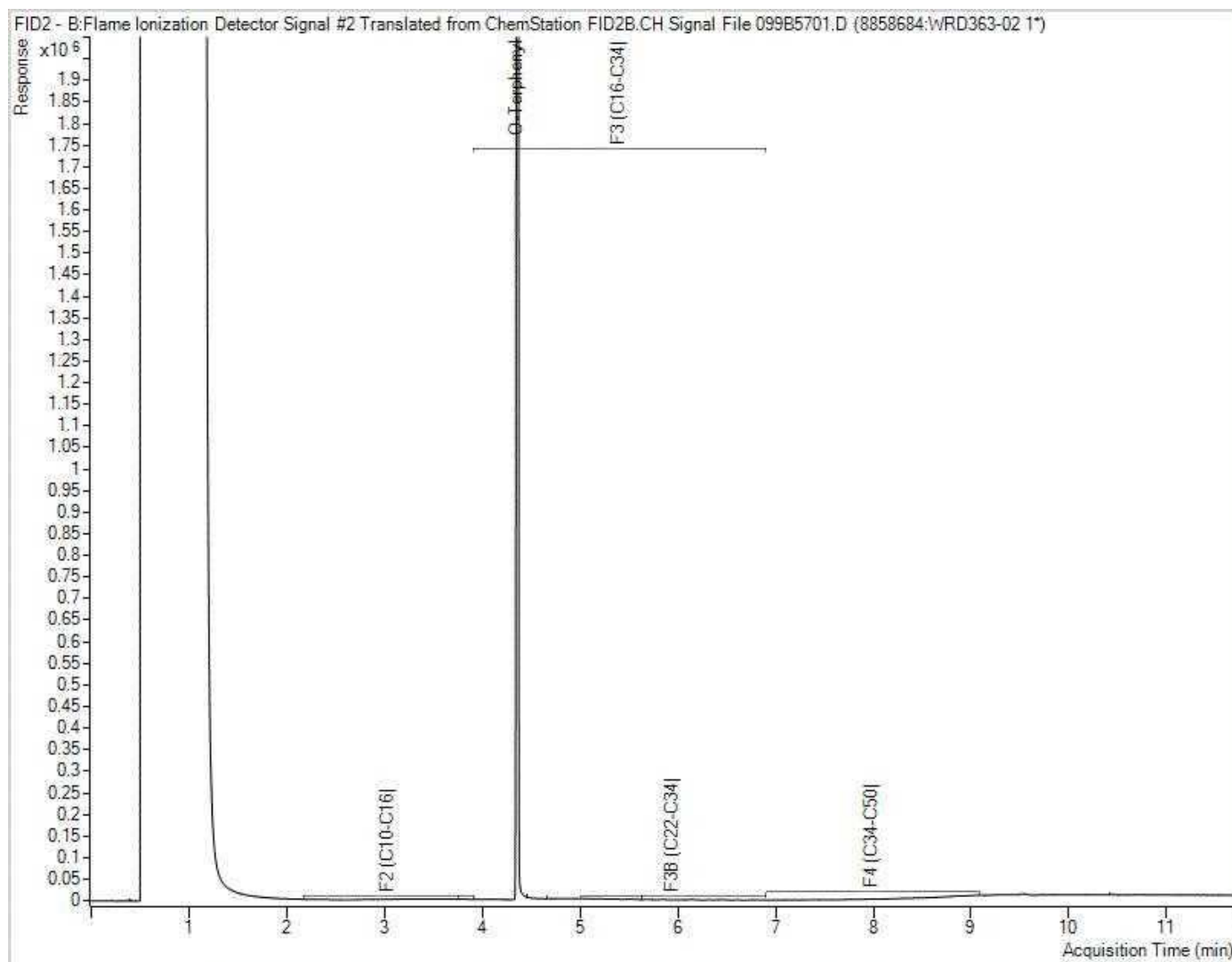
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



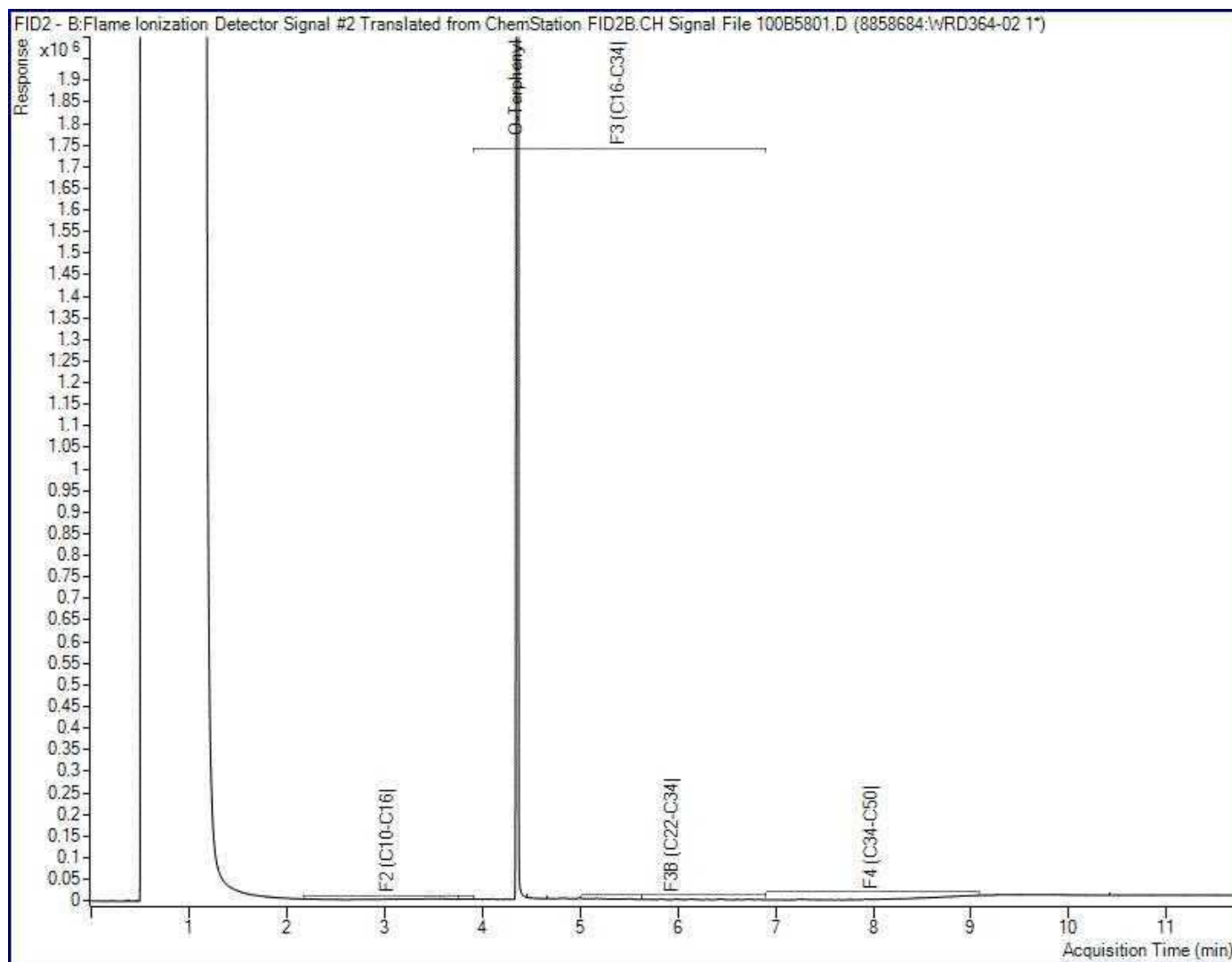
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

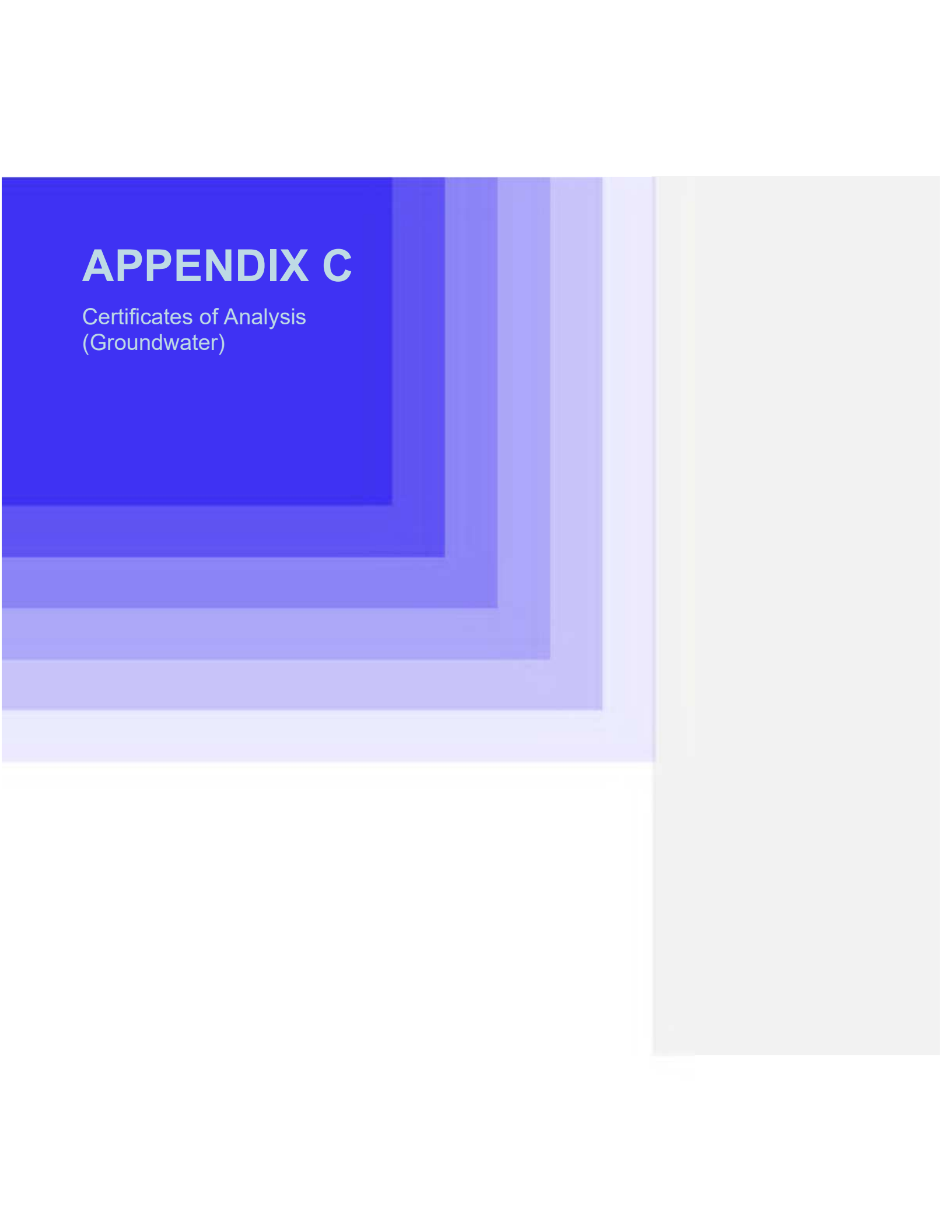


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.



APPENDIX C

Certificates of Analysis
(Groundwater)

TABLE C.1 : Field Duplicate QAQC Results for Groundwater - Petroleum Parameters
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd)			RPD ¹ Limit	98-1 XSK595 98-1 2023/11/27	98-1 XSK596 98-11 2023/11/27 Duplicate of 98-1	RPD
Parameter	RDL	Units				
<u>Volatiles</u>						
Benzene	4.0	µg/L	60%	<0.20	<0.20	*
Toluene	4.0	µg/L	60%	<0.20	<0.20	*
Ethylbenzene	4.0	µg/L	60%	<0.20	<0.20	*
Xylenes	8.0	µg/L	60%	<0.20	<0.20	*
<u>Petroleum Hydrocarbons (PHC) Fractions</u>						
PHC F1	500	µg/L	60%	-	-	-
PHC F2	100	µg/L	60%	-	-	-
PHC F3	200	µg/L	60%	-	-	-
PHC F4	200	µg/L	60%	-	-	-

Laboratory analysis by Bureau Veritas Canada (2019) Inc., ,
Additional terms may be defined within the body of SNC-Lavalin's report.
RDL - Reportable Detection Limit, unless otherwise noted
< - Denotes concentration less than indicated detection limit
"-" - Not analyzed
na - Not applicable
µg/L - micrograms per litre

BOLD RPD Exceeds RPD Limit

¹ RPD limits calculated as 2x laboratory performance criteria (CCME, 2016) using limits provided in the CCME guidance.

TABLE C.2: Blank QA/QC Analytical Results for Groundwater - Petroleum Parameters
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd)			Table 3 NPG FG ¹ Standard	FIELD BLANK WEK252 FIELD BLANK 2023/06/21	FIELD BLANK XSK614 FIELD-BLANK 2023/11/27	TRIP BLANK WEK253 TRIP BLANK 2023/06/21	TRIP BLANK XSK615 TRIP-BLANK 2023/11/27
Parameter	RDL	Units					
Volatiles							
Benzene	0.20	µg/L	430	< 0.20	<0.20	< 0.20	< 0.20
Toluene	0.20	µg/L	18,000	< 0.20	<0.20	< 0.20	< 0.20
Ethylbenzene	0.20	µg/L	2,300	< 0.20	<0.20	< 0.20	< 0.20
Xylenes	0.20	µg/L	4,200	< 0.40	<0.20	< 0.20	< 0.20
Petroleum Hydrocarbon (PHC) Fractions							
PHC F1	25	µg/L	750	< 25	-	-	-
PHC F2	100	µg/L	150	< 100	-	-	-
PHC F3	200	µg/L	500	< 200	-	-	-
PHC F4	200	µg/L	500	< 200	-	-	-

Laboratory analysis by Bureau Veritas Canada (2019) Inc., ,
Additional terms may be defined within the body of SNC-Lavalin's report.
RDL - Reportable Detection Limit, unless otherwise noted
< - Denotes concentration less than indicated detection limit
"- " - Not analyzed
na - Not applicable
µg/L - micrograms per litre

BOLD Concentration greater than Table 3 NPG FG Standard

¹ Table 3 full depth generic site condition standards in a non-potable groundwater condition for all types of property use, medium and fine textured soils (MOE, 2011)

TABLE C.3: Field Duplicate QAQC Results for Groundwater - VOCs
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd)			RPD ¹ Limit	98-1 XSK595 98-1 2023/11/27	98-1 XSK596 98-11 2023/11/27 Duplicate of 98-1	RPD
Parameter	RDL	Units				
<u>Volatile Organic Compounds</u>						
Acetone	10	µg/L	60%	< 10	< 10	*
Benzene	0.20	µg/L	60%	< 0.20	< 0.20	*
Bromodichloromethane	0.50	µg/L	60%	< 0.50	< 0.50	*
Bromoform	1.0	µg/L	60%	< 1.0	< 1.0	*
Bromomethane	0.50	µg/L	60%	< 0.50	< 0.50	*
Carbon Tetrachloride	0.19	µg/L	60%	< 0.19	< 0.19	*
Chlorobenzene	0.20	µg/L	60%	< 0.20	< 0.20	*
Chloroform	0.20	µg/L	60%	< 0.20	< 0.20	*
Dibromochloromethane	0.50	µg/L	60%	< 0.50	< 0.50	*
Dichlorobenzene, 1,2- (o-DCB)	0.40	µg/L	60%	< 0.40	< 0.40	*
Dichlorobenzene, 1,3- (m-DCB)	0.40	µg/L	60%	< 0.40	< 0.40	*
Dichlorobenzene, 1,4- (p-DCB)	0.40	µg/L	60%	< 0.40	< 0.40	*
Dichlorodifluoromethane	1.0	µg/L	60%	< 1.0	< 1.0	*
Dichloroethane, 1,1-	0.20	µg/L	60%	< 0.20	< 0.20	*
Dichloroethane, 1,2-	0.49	µg/L	60%	< 0.49	< 0.49	*
Dichloroethylene, 1,1-	0.20	µg/L	60%	< 0.20	< 0.20	*
Dichloroethylene, cis-1,2-	0.50	µg/L	60%	< 0.50	< 0.50	*
Dichloroethylene, trans-1,2-	0.50	µg/L	60%	< 0.50	< 0.50	*
Dichloropropane, 1,2-	0.20	µg/L	60%	< 0.20	< 0.20	*
Dichloropropene, 1,3-	0.50	µg/L	60%	< 0.50	< 0.50	*
Dichloropropene, cis-1,3-	0.30	µg/L	60%	< 0.30	< 0.30	*
Dichloropropene, trans-1,3-	0.40	µg/L	60%	< 0.40	< 0.40	*
Ethylbenzene	0.20	µg/L	60%	< 0.20	< 0.20	*
Ethylene Dibromide (Dibromoethane, 1,2-)	0.19	µg/L	60%	< 0.19	< 0.19	*
Hexane (n)	1.0	µg/L	60%	< 1.0	< 1.0	*
Methyl Ethyl Ketone	10	µg/L	60%	< 10	< 10	*
Methyl Isobutyl Ketone	5.0	µg/L	60%	< 5.0	< 5.0	*
Methyl t-butyl ether (MTBE)	0.50	µg/L	60%	< 0.50	< 0.50	*
Methylene Chloride (Dichloromethane)	2.0	µg/L	60%	< 2.0	< 2.0	*
Styrene	0.40	µg/L	60%	< 0.40	< 0.40	*
Tetrachloroethane, 1,1,1,2-	0.50	µg/L	60%	< 0.50	< 0.50	*
Tetrachloroethane, 1,1,2,2-	0.40	µg/L	60%	< 0.40	< 0.40	*
Tetrachloroethylene	0.20	µg/L	60%	< 0.20	< 0.20	*
Toluene	0.20	µg/L	60%	< 0.20	< 0.20	*
Trichloroethane, 1,1,1-	0.20	µg/L	60%	< 0.20	< 0.20	*
Trichloroethane, 1,1,2-	0.40	µg/L	60%	< 0.40	< 0.40	*
Trichloroethylene	0.20	µg/L	60%	< 0.20	< 0.20	*
Trichlorofluoromethane	0.50	µg/L	60%	< 0.50	< 0.50	*
Vinyl Chloride	0.20	µg/L	60%	< 0.20	< 0.20	*
Xylenes	0.20	µg/L	60%	< 0.20	< 0.20	*
Xylenes, m+p-	0.20	µg/L	60%	< 0.20	< 0.20	*
Xylenes, o-	0.20	µg/L	60%	< 0.20	< 0.20	*

Footnotes:

Laboratory analysis by Bureau Veritas Canada (2019) Inc.
Additional terms may be defined within the body of SNC-Lavalin's report.
RDL - Reportable Detection Limit, unless otherwise noted
< - Denotes concentration less than indicated detection limit
"- " - Not analyzed
na - Not applicable
µg/L - micrograms per litre

BOLD Exceeds RPD Limit

¹ RPD limits calculated as 2x laboratory performance criteria (CCME, 2016) using limits provided in the CCME guidance.

TABLE C.4: Groundwater Analytical Results for VOCS
1440 Prince of Wales Dr., Ottawa, ON

Sample Location Laboratory Sample ID SNC-Lavalin Sample ID Sampling Date (yyyy/mm/dd)			Table 3 NPG FG ¹ Standard	FIELD BLANK XSK614 FIELD-BLANK 2023/11/27	TRIP BLANK XSK615 TRIP-BLANK 2023/11/27
Parameter	RDL	Units			
Volatile Organic Compounds					
Acetone	10	µg/L	130,000	< 10	< 10
Bromodichloromethane	0.50	µg/L	85,000	< 0.50	< 0.50
Bromoform	1.0	µg/L	770	< 1.0	< 1.0
Bromomethane	0.50	µg/L	56	< 0.50	< 0.50
Carbon Tetrachloride	0.19	µg/L	8.4	< 0.19	< 0.19
Chlorobenzene	0.20	µg/L	630	< 0.20	< 0.20
Chloroform	0.20	µg/L	22	< 0.20	< 0.20
Dibromochloromethane	0.50	µg/L	82,000	< 0.50	< 0.50
Dichlorobenzene, 1,2- (o-DCB)	0.40	µg/L	9,600	< 0.40	< 0.40
Dichlorobenzene, 1,3- (m-DCB)	0.40	µg/L	9,600	< 0.40	< 0.40
Dichlorobenzene, 1,4- (p-DCB)	0.40	µg/L	67	< 0.40	< 0.40
Dichlorodifluoromethane	1.0	µg/L	4,400	< 1.0	< 1.0
Dichloroethane, 1,1-	0.20	µg/L	3,100	< 0.20	< 0.20
Dichloroethane, 1,2-	0.49	µg/L	12	< 0.49	< 0.49
Dichloroethylene, 1,1-	0.20	µg/L	17	< 0.20	< 0.20
Dichloroethylene, cis-1,2-	0.50	µg/L	17	< 0.50	< 0.50
Dichloroethylene, trans-1,2-	0.50	µg/L	17	< 0.50	< 0.50
Dichloropropane, 1,2-	0.20	µg/L	140	< 0.20	< 0.20
Dichloropropene, 1,3-	0.50	µg/L	45	< 0.50	< 0.50
Dichloropropene, cis-1,3-	0.30	µg/L	na	< 0.30	< 0.30
Dichloropropene, trans-1,3-	0.40	µg/L	na	< 0.40	< 0.40
Ethylene Dibromide (Dibromoethane, 1,2-)	0.19	µg/L	0.83	< 0.19	< 0.19
Hexane (n)	1.0	µg/L	520	< 1.0	< 1.0
Methyl Ethyl Ketone	10	µg/L	1,500,000	< 10	< 10
Methyl Isobutyl Ketone	5.0	µg/L	580,000	< 5.0	< 5.0
Methyl t-butyl ether (MTBE)	0.50	µg/L	1,400	< 0.50	< 0.50
Methylene Chloride (Dichloromethane)	2.0	µg/L	5,500	< 2.0	< 2.0
Styrene	0.40	µg/L	9,100	< 0.40	< 0.40
Tetrachloroethane, 1,1,1,2-	0.50	µg/L	28	< 0.50	< 0.50
Tetrachloroethane, 1,1,2,2-	0.40	µg/L	15	< 0.40	< 0.40
Tetrachloroethylene	0.20	µg/L	17	< 0.20	< 0.20
Trichloroethane, 1,1,1-	0.20	µg/L	6,700	< 0.20	< 0.20
Trichloroethane, 1,1,2-	0.40	µg/L	30	< 0.40	< 0.40
Trichloroethylene	0.20	µg/L	17	< 0.20	< 0.20
Trichlorofluoromethane	0.50	µg/L	2,500	< 0.50	< 0.50
Vinyl Chloride	0.20	µg/L	1.7	< 0.20	< 0.20

Footnotes:

Laboratory analysis by Bureau Veritas Canada (2019) Inc.
Additional terms may be defined within the body of SNC-Lavalin's report.
RDL - Reportable Detection Limit, unless otherwise noted
< - Denotes concentration less than indicated detection limit
"- - Not analyzed
na - Not applicable
µg/L - micrograms per litre

BOLD Concentration greater than Table 3 NPG FG Standard

¹ Table 3 full depth generic site condition standards in a non-potable groundwater condition for all types of property use, medium and fine textured soils (MOE, 2011)



Your P.O. #: 694129
 Your Project #: 694129
 Site Location: 1440 Prince of Whales Drive, Ottawa
 Your C.O.C. #: 940239-03-01

Attention: Akruti Atawala

SNC-Lavalin Inc
 Toronto - Shell
 235 Lesmill Road
 Toronto, ON
 CANADA M3B 2V1

Report Date: 2023/06/29

Report #: R7694601

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3I3072

Received: 2023/06/21, 15:55

Sample Matrix: Water
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
1,3-Dichloropropene Sum (1)	1	N/A	2023/06/28		EPA 8260C m
Petroleum Hydro. CCME F1 & BTEX in Water (1)	1	N/A	2023/06/28	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1, 2)	1	2023/06/27	2023/06/27	CAM SOP-00316	CCME PHC-CWS m
Volatile Organic Compounds in Water (1)	1	N/A	2023/06/27	CAM SOP-00228	EPA 8260D

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.



Attention: Akruati Atawala

SNC-Lavalin Inc
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your C.O.C. #: 940239-03-01

Report Date: 2023/06/29
Report #: R7694601
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3I3072

Received: 2023/06/21, 15:55

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Deepthi Shaji, Project Manager

Email: Deepthi.Shaji@bureauveritas.com

Phone# (905)817-5700 Ext:7065843

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This report has been generated and distributed using a secure automated process.

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Bureau Veritas Job #: C313072
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		WEK253		
Sampling Date		2023/06/21 13:30		
	UNITS	TRIP BLANK	RDL	QC Batch
Calculated Parameters				
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	8744781
Volatile Organics				
Acetone (2-Propanone)	ug/L	<10	10	8751925
Benzene	ug/L	<0.20	0.20	8751925
Bromodichloromethane	ug/L	<0.50	0.50	8751925
Bromoform	ug/L	<1.0	1.0	8751925
Bromomethane	ug/L	<0.50	0.50	8751925
Carbon Tetrachloride	ug/L	<0.19	0.19	8751925
Chlorobenzene	ug/L	<0.20	0.20	8751925
Chloroform	ug/L	<0.20	0.20	8751925
Dibromochloromethane	ug/L	<0.50	0.50	8751925
1,2-Dichlorobenzene	ug/L	<0.40	0.40	8751925
1,3-Dichlorobenzene	ug/L	<0.40	0.40	8751925
1,4-Dichlorobenzene	ug/L	<0.40	0.40	8751925
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	8751925
1,1-Dichloroethane	ug/L	<0.20	0.20	8751925
1,2-Dichloroethane	ug/L	<0.49	0.49	8751925
1,1-Dichloroethylene	ug/L	<0.20	0.20	8751925
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	8751925
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	8751925
1,2-Dichloropropane	ug/L	<0.20	0.20	8751925
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	8751925
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	8751925
Ethylbenzene	ug/L	<0.20	0.20	8751925
Ethylene Dibromide	ug/L	<0.19	0.19	8751925
Hexane	ug/L	<1.0	1.0	8751925
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	8751925
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	8751925
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	8751925
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	8751925
Styrene	ug/L	<0.40	0.40	8751925
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	8751925
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	8751925
Tetrachloroethylene	ug/L	<0.20	0.20	8751925
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



Bureau Veritas Job #: C313072
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		WEK253		
Sampling Date		2023/06/21 13:30		
	UNITS	TRIP BLANK	RDL	QC Batch
Toluene	ug/L	<0.20	0.20	8751925
1,1,1-Trichloroethane	ug/L	<0.20	0.20	8751925
1,1,2-Trichloroethane	ug/L	<0.40	0.40	8751925
Trichloroethylene	ug/L	<0.20	0.20	8751925
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	8751925
Vinyl Chloride	ug/L	<0.20	0.20	8751925
p+m-Xylene	ug/L	<0.20	0.20	8751925
o-Xylene	ug/L	<0.20	0.20	8751925
Total Xylenes	ug/L	<0.20	0.20	8751925
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	99		8751925
D4-1,2-Dichloroethane	%	112		8751925
D8-Toluene	%	89		8751925
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



Bureau Veritas Job #: C313072
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		WEK252		
Sampling Date		2023/06/21 13:30		
	UNITS	FIELD BLANK	RDL	QC Batch
BTEX & F1 Hydrocarbons				
Benzene	ug/L	<0.20	0.20	8756296
Toluene	ug/L	<0.20	0.20	8756296
Ethylbenzene	ug/L	<0.20	0.20	8756296
o-Xylene	ug/L	<0.20	0.20	8756296
p+m-Xylene	ug/L	<0.40	0.40	8756296
Total Xylenes	ug/L	<0.40	0.40	8756296
F1 (C6-C10)	ug/L	<25	25	8756296
F1 (C6-C10) - BTEX	ug/L	<25	25	8756296
F2-F4 Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	8753761
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	8753761
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	8753761
Reached Baseline at C50	ug/L	Yes		8753761
Surrogate Recovery (%)				
1,4-Difluorobenzene	%	107		8756296
4-Bromofluorobenzene	%	93		8756296
D10-o-Xylene	%	97		8756296
D4-1,2-Dichloroethane	%	102		8756296
o-Terphenyl	%	105		8753761
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



Bureau Veritas Job #: C313072
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

TEST SUMMARY

Bureau Veritas ID: WEK252
Sample ID: FIELD BLANK
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8756296	N/A	2023/06/28	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8753761	2023/06/27	2023/06/27	Agnieszka Brzuzy-Snopko

Bureau Veritas ID: WEK253
Sample ID: TRIP BLANK
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8744781	N/A	2023/06/28	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	8751925	N/A	2023/06/27	Gabriella Morrone



Bureau Veritas Job #: C313072
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	12.3°C
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Results relate only to the items tested.



Bureau Veritas Job #: C313072
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

QUALITY ASSURANCE REPORT

QA/QC		QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
Batch	Init							
8751925	GMN	Matrix Spike	4-Bromofluorobenzene	2023/06/27		100	%	70 - 130
			D4-1,2-Dichloroethane	2023/06/27		106	%	70 - 130
			D8-Toluene	2023/06/27		106	%	70 - 130
			Acetone (2-Propanone)	2023/06/27		103	%	60 - 140
			Benzene	2023/06/27		89	%	70 - 130
			Bromodichloromethane	2023/06/27		98	%	70 - 130
			Bromoform	2023/06/27		101	%	70 - 130
			Bromomethane	2023/06/27		89	%	60 - 140
			Carbon Tetrachloride	2023/06/27		90	%	70 - 130
			Chlorobenzene	2023/06/27		94	%	70 - 130
			Chloroform	2023/06/27		93	%	70 - 130
			Dibromochloromethane	2023/06/27		96	%	70 - 130
			1,2-Dichlorobenzene	2023/06/27		97	%	70 - 130
			1,3-Dichlorobenzene	2023/06/27		93	%	70 - 130
			1,4-Dichlorobenzene	2023/06/27		109	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2023/06/27		87	%	60 - 140
			1,1-Dichloroethane	2023/06/27		90	%	70 - 130
			1,2-Dichloroethane	2023/06/27		93	%	70 - 130
			1,1-Dichloroethylene	2023/06/27		92	%	70 - 130
			cis-1,2-Dichloroethylene	2023/06/27		97	%	70 - 130
			trans-1,2-Dichloroethylene	2023/06/27		93	%	70 - 130
			1,2-Dichloropropane	2023/06/27		94	%	70 - 130
			cis-1,3-Dichloropropene	2023/06/27		84	%	70 - 130
			trans-1,3-Dichloropropene	2023/06/27		89	%	70 - 130
			Ethylbenzene	2023/06/27		86	%	70 - 130
			Ethylene Dibromide	2023/06/27		95	%	70 - 130
			Hexane	2023/06/27		95	%	70 - 130
			Methylene Chloride(Dichloromethane)	2023/06/27		97	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2023/06/27		115	%	60 - 140
			Methyl Isobutyl Ketone	2023/06/27		115	%	70 - 130
			Methyl t-butyl ether (MTBE)	2023/06/27		88	%	70 - 130
			Styrene	2023/06/27		100	%	70 - 130
			1,1,1,2-Tetrachloroethane	2023/06/27		97	%	70 - 130
			1,1,2,2-Tetrachloroethane	2023/06/27		103	%	70 - 130
			Tetrachloroethylene	2023/06/27		85	%	70 - 130
			Toluene	2023/06/27		93	%	70 - 130
			1,1,1-Trichloroethane	2023/06/27		94	%	70 - 130
			1,1,2-Trichloroethane	2023/06/27		100	%	70 - 130
			Trichloroethylene	2023/06/27		95	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2023/06/27		89	%	70 - 130
			Vinyl Chloride	2023/06/27		92	%	70 - 130
			p+m-Xylene	2023/06/27		90	%	70 - 130
			o-Xylene	2023/06/27		85	%	70 - 130
8751925	GMN	Spiked Blank	4-Bromofluorobenzene	2023/06/27		100	%	70 - 130
			D4-1,2-Dichloroethane	2023/06/27		105	%	70 - 130
			D8-Toluene	2023/06/27		106	%	70 - 130
			Acetone (2-Propanone)	2023/06/27		114	%	60 - 140
			Benzene	2023/06/27		98	%	70 - 130
			Bromodichloromethane	2023/06/27		107	%	70 - 130
			Bromoform	2023/06/27		108	%	70 - 130
			Bromomethane	2023/06/27		104	%	60 - 140
			Carbon Tetrachloride	2023/06/27		101	%	70 - 130



Bureau Veritas Job #: C313072
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				Chlorobenzene	2023/06/27		102	%	70 - 130
				Chloroform	2023/06/27		103	%	70 - 130
				Dibromochloromethane	2023/06/27		105	%	70 - 130
				1,2-Dichlorobenzene	2023/06/27		101	%	70 - 130
				1,3-Dichlorobenzene	2023/06/27		97	%	70 - 130
				1,4-Dichlorobenzene	2023/06/27		111	%	70 - 130
				Dichlorodifluoromethane (FREON 12)	2023/06/27		113	%	60 - 140
				1,1-Dichloroethane	2023/06/27		100	%	70 - 130
				1,2-Dichloroethane	2023/06/27		103	%	70 - 130
				1,1-Dichloroethylene	2023/06/27		103	%	70 - 130
				cis-1,2-Dichloroethylene	2023/06/27		107	%	70 - 130
				trans-1,2-Dichloroethylene	2023/06/27		100	%	70 - 130
				1,2-Dichloropropane	2023/06/27		104	%	70 - 130
				cis-1,3-Dichloropropene	2023/06/27		101	%	70 - 130
				trans-1,3-Dichloropropene	2023/06/27		107	%	70 - 130
				Ethylbenzene	2023/06/27		95	%	70 - 130
				Ethylene Dibromide	2023/06/27		105	%	70 - 130
				Hexane	2023/06/27		109	%	70 - 130
				Methylene Chloride(Dichloromethane)	2023/06/27		107	%	70 - 130
				Methyl Ethyl Ketone (2-Butanone)	2023/06/27		126	%	60 - 140
				Methyl Isobutyl Ketone	2023/06/27		125	%	70 - 130
				Methyl t-butyl ether (MTBE)	2023/06/27		101	%	70 - 130
				Styrene	2023/06/27		114	%	70 - 130
				1,1,1,2-Tetrachloroethane	2023/06/27		105	%	70 - 130
				1,1,2,2-Tetrachloroethane	2023/06/27		107	%	70 - 130
				Tetrachloroethylene	2023/06/27		91	%	70 - 130
				Toluene	2023/06/27		104	%	70 - 130
				1,1,1-Trichloroethane	2023/06/27		105	%	70 - 130
				1,1,2-Trichloroethane	2023/06/27		109	%	70 - 130
				Trichloroethylene	2023/06/27		104	%	70 - 130
				Trichlorofluoromethane (FREON 11)	2023/06/27		101	%	70 - 130
				Vinyl Chloride	2023/06/27		104	%	70 - 130
				p+m-Xylene	2023/06/27		100	%	70 - 130
				o-Xylene	2023/06/27		99	%	70 - 130
8751925	GMN		Method Blank	4-Bromofluorobenzene	2023/06/27		99	%	70 - 130
				D4-1,2-Dichloroethane	2023/06/27		110	%	70 - 130
				D8-Toluene	2023/06/27		90	%	70 - 130
				Acetone (2-Propanone)	2023/06/27	<10		ug/L	
				Benzene	2023/06/27	<0.20		ug/L	
				Bromodichloromethane	2023/06/27	<0.50		ug/L	
				Bromoform	2023/06/27	<1.0		ug/L	
				Bromomethane	2023/06/27	<0.50		ug/L	
				Carbon Tetrachloride	2023/06/27	<0.19		ug/L	
				Chlorobenzene	2023/06/27	<0.20		ug/L	
				Chloroform	2023/06/27	<0.20		ug/L	
				Dibromochloromethane	2023/06/27	<0.50		ug/L	
				1,2-Dichlorobenzene	2023/06/27	<0.40		ug/L	
				1,3-Dichlorobenzene	2023/06/27	<0.40		ug/L	
				1,4-Dichlorobenzene	2023/06/27	<0.40		ug/L	
				Dichlorodifluoromethane (FREON 12)	2023/06/27	<1.0		ug/L	
				1,1-Dichloroethane	2023/06/27	<0.20		ug/L	
				1,2-Dichloroethane	2023/06/27	<0.49		ug/L	



Bureau Veritas Job #: C313072
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				1,1-Dichloroethylene	2023/06/27	<0.20		ug/L	
				cis-1,2-Dichloroethylene	2023/06/27	<0.50		ug/L	
				trans-1,2-Dichloroethylene	2023/06/27	<0.50		ug/L	
				1,2-Dichloropropane	2023/06/27	<0.20		ug/L	
				cis-1,3-Dichloropropene	2023/06/27	<0.30		ug/L	
				trans-1,3-Dichloropropene	2023/06/27	<0.40		ug/L	
				Ethylbenzene	2023/06/27	<0.20		ug/L	
				Ethylene Dibromide	2023/06/27	<0.19		ug/L	
				Hexane	2023/06/27	<1.0		ug/L	
				Methylene Chloride(Dichloromethane)	2023/06/27	<2.0		ug/L	
				Methyl Ethyl Ketone (2-Butanone)	2023/06/27	<10		ug/L	
				Methyl Isobutyl Ketone	2023/06/27	<5.0		ug/L	
				Methyl t-butyl ether (MTBE)	2023/06/27	<0.50		ug/L	
				Styrene	2023/06/27	<0.40		ug/L	
				1,1,1,2-Tetrachloroethane	2023/06/27	<0.50		ug/L	
				1,1,2,2-Tetrachloroethane	2023/06/27	<0.40		ug/L	
				Tetrachloroethylene	2023/06/27	<0.20		ug/L	
				Toluene	2023/06/27	<0.20		ug/L	
				1,1,1-Trichloroethane	2023/06/27	<0.20		ug/L	
				1,1,2-Trichloroethane	2023/06/27	<0.40		ug/L	
				Trichloroethylene	2023/06/27	<0.20		ug/L	
				Trichlorofluoromethane (FREON 11)	2023/06/27	<0.50		ug/L	
				Vinyl Chloride	2023/06/27	<0.20		ug/L	
				p+m-Xylene	2023/06/27	<0.20		ug/L	
				o-Xylene	2023/06/27	<0.20		ug/L	
				Total Xylenes	2023/06/27	<0.20		ug/L	
8751925	GMN	RPD		Acetone (2-Propanone)	2023/06/27	NC		%	30
				Benzene	2023/06/27	NC		%	30
				Bromodichloromethane	2023/06/27	NC		%	30
				Bromoform	2023/06/27	NC		%	30
				Bromomethane	2023/06/27	NC		%	30
				Carbon Tetrachloride	2023/06/27	NC		%	30
				Chlorobenzene	2023/06/27	NC		%	30
				Chloroform	2023/06/27	NC		%	30
				Dibromochloromethane	2023/06/27	NC		%	30
				1,2-Dichlorobenzene	2023/06/27	NC		%	30
				1,3-Dichlorobenzene	2023/06/27	NC		%	30
				1,4-Dichlorobenzene	2023/06/27	NC		%	30
				Dichlorodifluoromethane (FREON 12)	2023/06/27	NC		%	30
				1,1-Dichloroethane	2023/06/27	NC		%	30
				1,2-Dichloroethane	2023/06/27	NC		%	30
				1,1-Dichloroethylene	2023/06/27	NC		%	30
				cis-1,2-Dichloroethylene	2023/06/27	NC		%	30
				trans-1,2-Dichloroethylene	2023/06/27	NC		%	30
				1,2-Dichloropropane	2023/06/27	NC		%	30
				cis-1,3-Dichloropropene	2023/06/27	NC		%	30
				trans-1,3-Dichloropropene	2023/06/27	NC		%	30
				Ethylbenzene	2023/06/27	NC		%	30
				Ethylene Dibromide	2023/06/27	NC		%	30
				Hexane	2023/06/27	NC		%	30
				Methylene Chloride(Dichloromethane)	2023/06/27	NC		%	30
				Methyl Ethyl Ketone (2-Butanone)	2023/06/27	NC		%	30



Bureau Veritas Job #: C313072
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Methyl Isobutyl Ketone	2023/06/27	NC		%	30
			Methyl t-butyl ether (MTBE)	2023/06/27	NC		%	30
			Styrene	2023/06/27	NC		%	30
			1,1,1,2-Tetrachloroethane	2023/06/27	NC		%	30
			1,1,2,2-Tetrachloroethane	2023/06/27	NC		%	30
			Tetrachloroethylene	2023/06/27	1.4		%	30
			Toluene	2023/06/27	NC		%	30
			1,1,1-Trichloroethane	2023/06/27	NC		%	30
			1,1,2-Trichloroethane	2023/06/27	NC		%	30
			Trichloroethylene	2023/06/27	8.5		%	30
			Trichlorofluoromethane (FREON 11)	2023/06/27	NC		%	30
			Vinyl Chloride	2023/06/27	NC		%	30
			p+m-Xylene	2023/06/27	NC		%	30
			o-Xylene	2023/06/27	NC		%	30
			Total Xylenes	2023/06/27	NC		%	30
8753761	ABS	Matrix Spike	o-Terphenyl	2023/06/27		107	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2023/06/27		105	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2023/06/27		106	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2023/06/27		106	%	60 - 130
8753761	ABS	Spiked Blank	o-Terphenyl	2023/06/27		106	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2023/06/27		104	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2023/06/27		107	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2023/06/27		106	%	60 - 130
8753761	ABS	Method Blank	o-Terphenyl	2023/06/27		103	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2023/06/27	<100		ug/L	
			F3 (C16-C34 Hydrocarbons)	2023/06/27	<200		ug/L	
			F4 (C34-C50 Hydrocarbons)	2023/06/27	<200		ug/L	
8753761	ABS	RPD	F2 (C10-C16 Hydrocarbons)	2023/06/27	NC		%	30
			F3 (C16-C34 Hydrocarbons)	2023/06/27	NC		%	30
			F4 (C34-C50 Hydrocarbons)	2023/06/27	NC		%	30
8756296	AGA	Matrix Spike	1,4-Difluorobenzene	2023/06/29		100	%	70 - 130
			4-Bromofluorobenzene	2023/06/29		99	%	70 - 130
			D10-o-Xylene	2023/06/29		93	%	70 - 130
			D4-1,2-Dichloroethane	2023/06/29		100	%	70 - 130
			Benzene	2023/06/29		98	%	50 - 140
			Toluene	2023/06/29		92	%	50 - 140
			Ethylbenzene	2023/06/29		106	%	50 - 140
			o-Xylene	2023/06/29		104	%	50 - 140
			p+m-Xylene	2023/06/29		100	%	50 - 140
			F1 (C6-C10)	2023/06/29		99	%	60 - 140
8756296	AGA	Spiked Blank	1,4-Difluorobenzene	2023/06/28		101	%	70 - 130
			4-Bromofluorobenzene	2023/06/28		100	%	70 - 130
			D10-o-Xylene	2023/06/28		95	%	70 - 130
			D4-1,2-Dichloroethane	2023/06/28		100	%	70 - 130
			Benzene	2023/06/28		98	%	50 - 140
			Toluene	2023/06/28		92	%	50 - 140
			Ethylbenzene	2023/06/28		106	%	50 - 140
			o-Xylene	2023/06/28		106	%	50 - 140
			p+m-Xylene	2023/06/28		102	%	50 - 140
			F1 (C6-C10)	2023/06/28		98	%	60 - 140
8756296	AGA	Method Blank	1,4-Difluorobenzene	2023/06/28		106	%	70 - 130
			4-Bromofluorobenzene	2023/06/28		77	%	70 - 130



Bureau Veritas Job #: C313072
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8756296	AGA	RPD	D10-o-Xylene	2023/06/28		100	%	70 - 130
			D4-1,2-Dichloroethane	2023/06/28		99	%	70 - 130
			Benzene	2023/06/28	<0.20		ug/L	
			Toluene	2023/06/28	<0.20		ug/L	
			Ethylbenzene	2023/06/28	<0.20		ug/L	
			o-Xylene	2023/06/28	<0.20		ug/L	
			p+m-Xylene	2023/06/28	<0.40		ug/L	
			Total Xylenes	2023/06/28	<0.40		ug/L	
			F1 (C6-C10)	2023/06/28	<25		ug/L	
			F1 (C6-C10) - BTEX	2023/06/28	<25		ug/L	
			Benzene	2023/06/28	NC		%	30
			Toluene	2023/06/28	NC		%	30
			Ethylbenzene	2023/06/28	NC		%	30
			o-Xylene	2023/06/28	NC		%	30
			p+m-Xylene	2023/06/28	NC		%	30
			Total Xylenes	2023/06/28	NC		%	30
			F1 (C6-C10)	2023/06/28	NC		%	30
			F1 (C6-C10) - BTEX	2023/06/28	NC		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).



Bureau Veritas Job #: C313072
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink, appearing to read "Anastassia Hamanov", written over a horizontal line.

Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.



Bureau Veritas
6740 Campbell Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Received in Ottawa

21-Jun-23 15:55

Deepthi Shaji

C313072

Page 1 of 1

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name: #21644 SNC-Lavalin Inc		Company Name: #13786 SNC-Lavalin Inc		Quotation #: C21794	
Attention: Accounts Payable		Attention: Akriti Atawala		P.O. #:	
Address: 455 René-Lévesque Blvd. West		Address: 235 Lesmill Road		Project: 694129	
Montreal QC H2Z 1Z3		Toronto ON M3B 2V1		Project Name:	
Tel: (514) 393-1000 Fax: (514) 866-0795		Tel: (416) 635-5882 Ext. 5839 Fax: (416) 635-5353		Site #:	
Email: Payables@snc-lavalin.com		Email: akriti.atawala@snc-lavalin.com, ON_LabData@snc-lavalin.com		Sampled By: A.Sa	

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1: ☐ Res/Park ☐ Medium/Fine ☐ Table 2: ☒ Field/Cont ☐ Coarse ☒ Table 3: ☐ Agri/Other ☐ For RSC ☐ Other:	☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA ☐ Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other:	

Field Filtered (please circle):

Metals / Hg / Cr / V1

10 Reg 153 PHCA BTEX/F 1,2,4

BTEX/VOC

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT:

(will be applied if Rush TAT is not specified)

Standard TAT = 5-7 Working days for most tests.

Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)

Date Required: Time Required:

Rush Confirmation Number: (call lab for #)

Sample Location Label	Sample Location Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle)	Metals / Hg / Cr / V1	10 Reg 153 PHCA BTEX/F 1,2,4	BTEX/VOC
1	Field Blank	Jun 21/23	11:30	GLW		X		
2	Trip Blank	—	—	—			X	
3								
4								
5								
6								
7								
8								
9								
10								

RELINQUISHED BY: (Signature/Print) *Andrew S AS*

Date: (YY/MM/DD) *Jun 21/23*

Time: *14:45*

RECEIVED BY: (Signature/Print) *Samuel Durand Samuel Tan*

Date: (YY/MM/DD) *2023/06/22*

Time: *13:55*

S jars used and not submitted

Laboratory Use Only *ICE*

Time Sensitive

Temperature (°C) on Receipt: *12/12.13*

Custody Seal: *Intact*

Yes ☒ No ☒

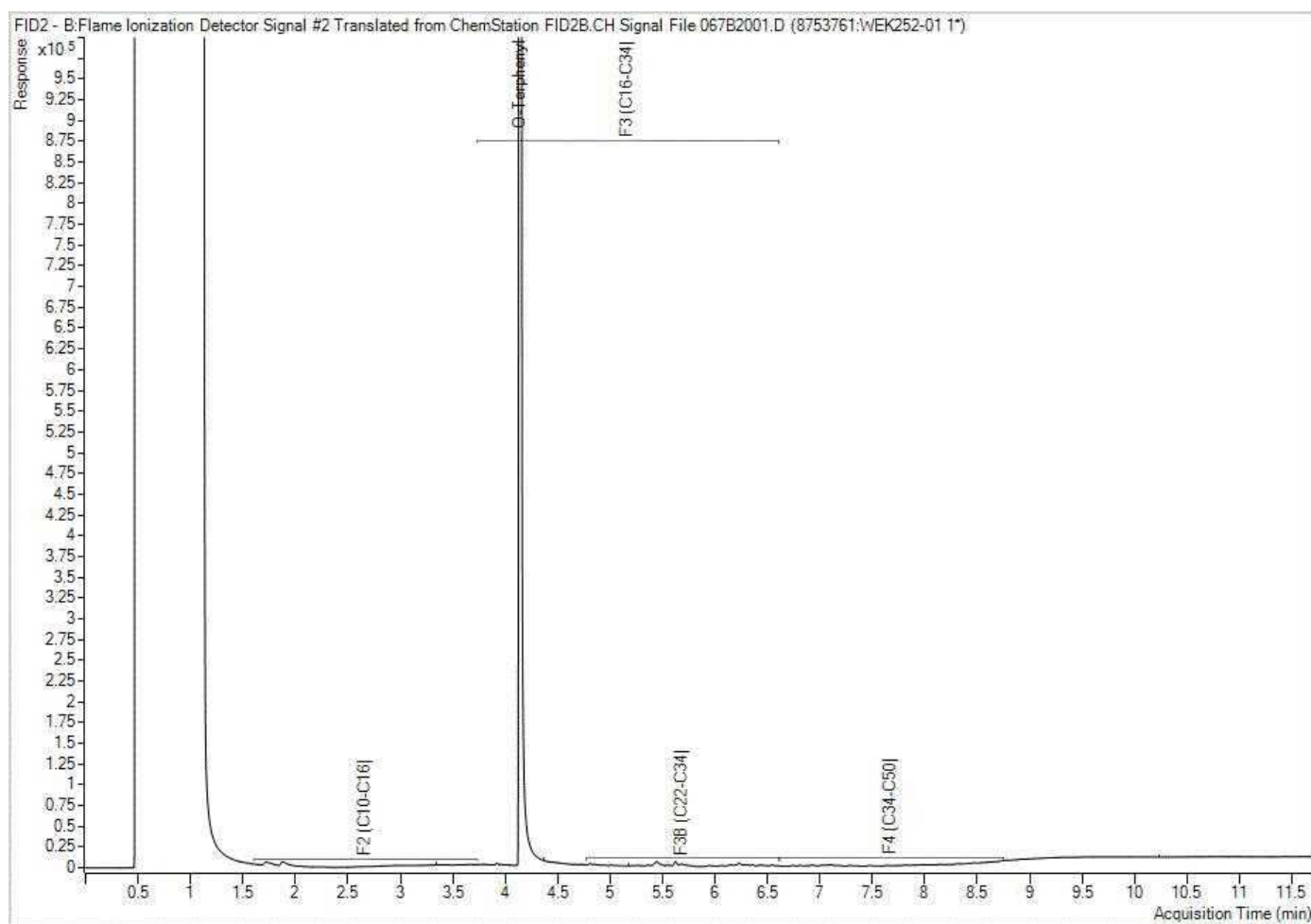
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COO-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCs

White: Bureau Veritas Yellow: Client

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.



Your P.O. #: 694129
 Your Project #: 694129
 Site Location: 1440 Prince of Whales Drive, Ottawa
 Your C.O.C. #: 940239-02-01

Attention: Akruti Atawala

SNC-Lavalin Inc
 Toronto - Shell
 235 Lesmill Road
 Toronto, ON
 CANADA M3B 2V1

Report Date: 2023/06/29
 Report #: R7695126
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C313084

Received: 2023/06/21, 15:55

Sample Matrix: Water
 # Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Petroleum Hydro. CCME F1 & BTEX in Water (1)	1	N/A	2023/06/28	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1, 2)	1	2023/06/27	2023/06/27	CAM SOP-00316	CCME PHC-CWS m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.



Attention: Akruiti Atawala

SNC-Lavalin Inc
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your C.O.C. #: 940239-02-01

Report Date: 2023/06/29
Report #: R7695126
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C313084

Received: 2023/06/21, 15:55

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Deepthi Shaji, Project Manager

Email: Deepthi.Shaji@bureauveritas.com

Phone# (905)817-5700 Ext:7065843

=====

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Bureau Veritas Job #: C313084
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		WEK284	WEK284		
Sampling Date		2023/06/21 14:15	2023/06/21 14:15		
COC Number		940239-02-01	940239-02-01		
	UNITS	98-1	98-1 Lab-Dup	RDL	QC Batch
BTEX & F1 Hydrocarbons					
Benzene	ug/L	<0.20	<0.20	0.20	8756188
Toluene	ug/L	<0.20	<0.20	0.20	8756188
Ethylbenzene	ug/L	<0.20	<0.20	0.20	8756188
o-Xylene	ug/L	<0.20	<0.20	0.20	8756188
p+m-Xylene	ug/L	<0.40	<0.40	0.40	8756188
Total Xylenes	ug/L	<0.40	<0.40	0.40	8756188
F1 (C6-C10)	ug/L	<25	<25	25	8756188
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	8756188
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	8753761
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	200	8753761
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	8753761
Reached Baseline at C50	ug/L	Yes	Yes		8753761
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	104	104		8756188
4-Bromofluorobenzene	%	98	97		8756188
D10-o-Xylene	%	105	103		8756188
D4-1,2-Dichloroethane	%	93	93		8756188
o-Terphenyl	%	106	106		8753761
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate					



Bureau Veritas Job #: C313084
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

TEST SUMMARY

Bureau Veritas ID: WEK284
Sample ID: 98-1
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8756188	N/A	2023/06/28	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8753761	2023/06/27	2023/06/27	Agnieszka Brzuzy-Snopko

Bureau Veritas ID: WEK284 Dup
Sample ID: 98-1
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8756188	N/A	2023/06/28	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8753761	2023/06/27	2023/06/27	Agnieszka Brzuzy-Snopko



Bureau Veritas Job #: C313084
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	12.3°C
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Results relate only to the items tested.



Bureau Veritas Job #: C313084
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8753761	ABS	Matrix Spike	o-Terphenyl	2023/06/27		107	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2023/06/27		105	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2023/06/27		106	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2023/06/27		106	%	60 - 130
8753761	ABS	Spiked Blank	o-Terphenyl	2023/06/27		106	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2023/06/27		104	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2023/06/27		107	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2023/06/27		106	%	60 - 130
8753761	ABS	Method Blank	o-Terphenyl	2023/06/27		103	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2023/06/27	<100		ug/L	
			F3 (C16-C34 Hydrocarbons)	2023/06/27	<200		ug/L	
			F4 (C34-C50 Hydrocarbons)	2023/06/27	<200		ug/L	
8753761	ABS	RPD [WEK284-01]	F2 (C10-C16 Hydrocarbons)	2023/06/27	NC		%	30
			F3 (C16-C34 Hydrocarbons)	2023/06/27	NC		%	30
			F4 (C34-C50 Hydrocarbons)	2023/06/27	NC		%	30
8756188	LRA	Matrix Spike [WEK284-02]	1,4-Difluorobenzene	2023/06/28		104	%	70 - 130
			4-Bromofluorobenzene	2023/06/28		98	%	70 - 130
			D10-o-Xylene	2023/06/28		94	%	70 - 130
			D4-1,2-Dichloroethane	2023/06/28		92	%	70 - 130
			Benzene	2023/06/28		98	%	50 - 140
			Toluene	2023/06/28		95	%	50 - 140
			Ethylbenzene	2023/06/28		110	%	50 - 140
			o-Xylene	2023/06/28		104	%	50 - 140
			p+m-Xylene	2023/06/28		103	%	50 - 140
			F1 (C6-C10)	2023/06/28		105	%	60 - 140
			1,4-Difluorobenzene	2023/06/28		103	%	70 - 130
			4-Bromofluorobenzene	2023/06/28		98	%	70 - 130
			D10-o-Xylene	2023/06/28		97	%	70 - 130
			D4-1,2-Dichloroethane	2023/06/28		93	%	70 - 130
8756188	LRA	Spiked Blank	Benzene	2023/06/28		99	%	50 - 140
			Toluene	2023/06/28		97	%	50 - 140
			Ethylbenzene	2023/06/28		113	%	50 - 140
			o-Xylene	2023/06/28		106	%	50 - 140
			p+m-Xylene	2023/06/28		105	%	50 - 140
			F1 (C6-C10)	2023/06/28		107	%	60 - 140
			1,4-Difluorobenzene	2023/06/28		105	%	70 - 130
			4-Bromofluorobenzene	2023/06/28		98	%	70 - 130
			D10-o-Xylene	2023/06/28		103	%	70 - 130
			D4-1,2-Dichloroethane	2023/06/28		93	%	70 - 130
			Benzene	2023/06/28	<0.20		ug/L	
			Toluene	2023/06/28	<0.20		ug/L	
			Ethylbenzene	2023/06/28	<0.20		ug/L	
			o-Xylene	2023/06/28	<0.20		ug/L	
8756188	LRA	Method Blank	p+m-Xylene	2023/06/28	<0.40		ug/L	
			Total Xylenes	2023/06/28	<0.40		ug/L	
			F1 (C6-C10)	2023/06/28	<25		ug/L	
			F1 (C6-C10) - BTEX	2023/06/28	<25		ug/L	
			1,4-Difluorobenzene	2023/06/28		105	%	70 - 130
			4-Bromofluorobenzene	2023/06/28		98	%	70 - 130
			D10-o-Xylene	2023/06/28		103	%	70 - 130
			D4-1,2-Dichloroethane	2023/06/28		93	%	70 - 130
			Benzene	2023/06/28	<0.20		ug/L	
			Toluene	2023/06/28	<0.20		ug/L	
			Ethylbenzene	2023/06/28	<0.20		ug/L	
			o-Xylene	2023/06/28	<0.20		ug/L	
			p+m-Xylene	2023/06/28	<0.40		ug/L	
			Total Xylenes	2023/06/28	<0.40		ug/L	
F1 (C6-C10)	2023/06/28	<25		ug/L				
F1 (C6-C10) - BTEX	2023/06/28	<25		ug/L				
8756188	LRA	RPD [WEK284-02]	Benzene	2023/06/28	NC		%	30
			Toluene	2023/06/28	NC		%	30
			Ethylbenzene	2023/06/28	NC		%	30
			o-Xylene	2023/06/28	NC		%	30



Bureau Veritas Job #: C313084
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			p+m-Xylene	2023/06/28	NC		%	30
			Total Xylenes	2023/06/28	NC		%	30
			F1 (C6-C10)	2023/06/28	NC		%	30
			F1 (C6-C10) - BTEX	2023/06/28	NC		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).



Bureau Veritas Job #: C313084
Report Date: 2023/06/29

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

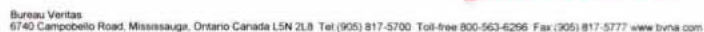
VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink that reads "Cristina Carriere".

Cristina Carriere, Senior Scientific Specialist

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Received in Ottawa

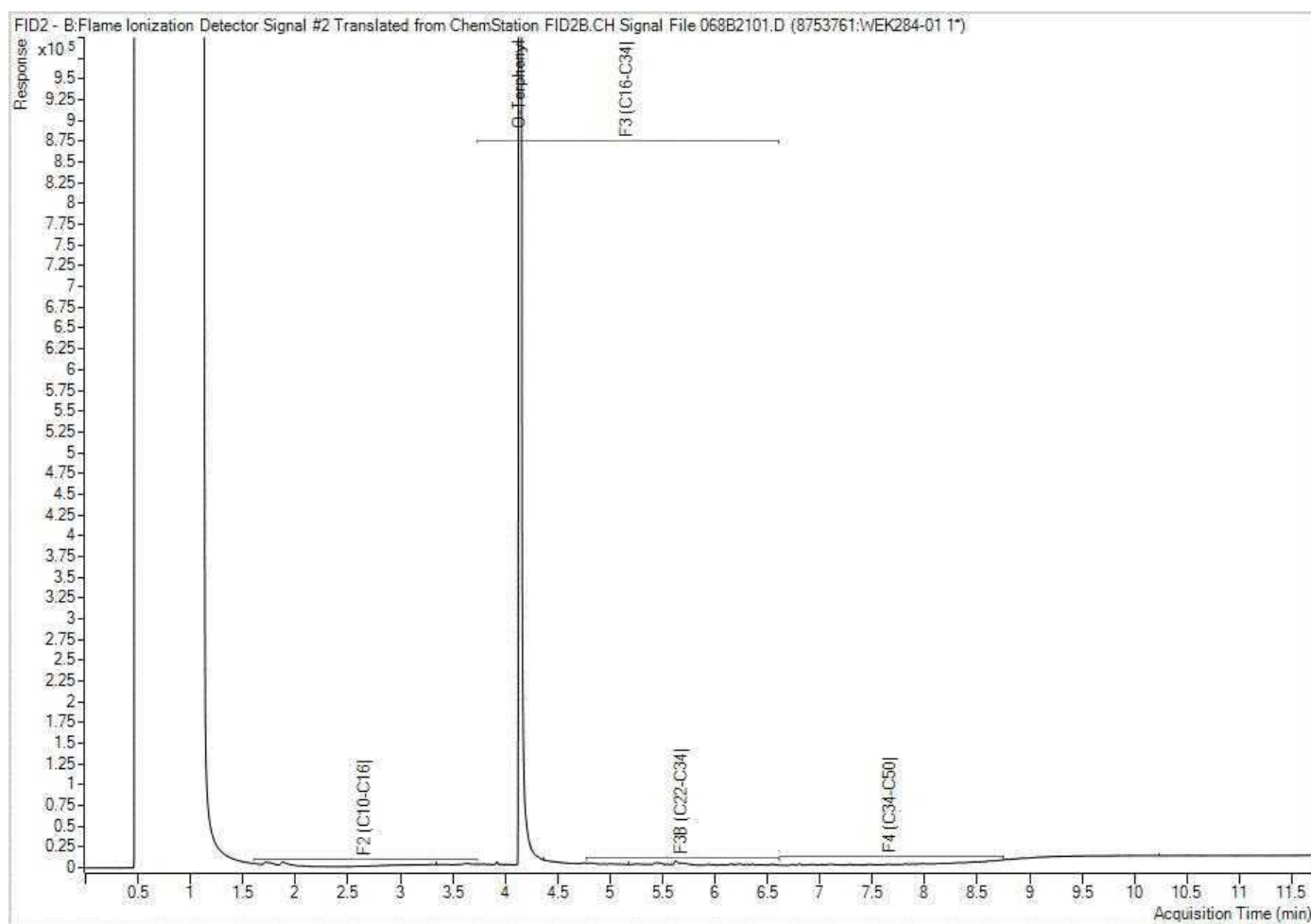
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CHAIN OF CUSTODY RECORD

Page 1 of 1

INVOICE TO: Company Name: #21644 SNC-Lavalin Inc Attention: Accounts Payable Address: 455 René-Lévesque Blvd. West Montreal QC H2Z 1Z3 Tel: (514) 393-1000 Fax: (514) 866-0795 Email: Payables@snclavalin.com		REPORT TO: Company Name: #13786 SNC-Lavalin Inc Attention: Akruti Atawala Address: 235 Lesmill Road Toronto ON M3B 2V1 Tel: (416) 635-5882 Ext: 5839 Fax: (416) 635-5353 Email: akruti.atawala@snclavalin.com, ON_LabData@snclavalin.com		PROJECT INFORMATION: Quotation #: C21794 P.O. #: Project: 694129 Project Name: Site #: Sampled By: <i>Andrew S</i>		Laboratory Use Only: Bureau Veritas Job #: Bottle Order #:  COC #: Project Manager:  C#940239-02-01 Turnaround Time (TAT) Required: Please provide advance notice for rush projects	
MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY				ANALYSIS REQUESTED (PLEASE BE SPECIFIC)			
Regulation 153 (2011) ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☒ IndComm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table _____		Other Regulations ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality _____ ☐ PWQO ☐ Reg 406 Table _____ ☐ Other _____		Special Instructions		Field Filtered (please circle): Metals / Hg / Cr VI Q Reg 153 PHCA BTEX/F1-F4	
include Criteria on Certificate of Analysis (Y/N)? _____				Turnaround Time (TAT) Required: _____ Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dissolved Solids are > 5 days - contact your Project Manager for details. Job Specific Rush TAT (if applies to entire submission) Date Required: _____ Time Required: _____ Rush Confirmation Number: _____ (call lab for #)			
Sample Barcode Label		Sample (Location) Identification		Date Sampled		Time Sampled	
1		98-1		Jun 21/23		14:15 Gw	
2		3		4		5	
6		7		8		9	
10		11		12		13	
14		15		16		17	
18		19		20		21	
22		23		24		25	
26		27		28		29	
30		31		32		33	
34		35		36		37	
38		39		40		41	
42		43		44		45	
46		47		48		49	
50		51		52		53	
54		55		56		57	
58		59		60		61	
62		63		64		65	
66		67		68		69	
70		71		72		73	
74		75		76		77	
78		79		80		81	
82		83		84		85	
86		87		88		89	
90		91		92		93	
94		95		96		97	
98		99		100		101	
102		103		104		105	
106		107		108		109	
110		111		112		113	
114		115		116		117	
118		119		120		121	
122		123		124		125	
126		127		128		129	
130		131		132		133	
134		135		136		137	
138		139		140		141	
142		143		144		145	
146		147		148		149	
150		151		152		153	
154							

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

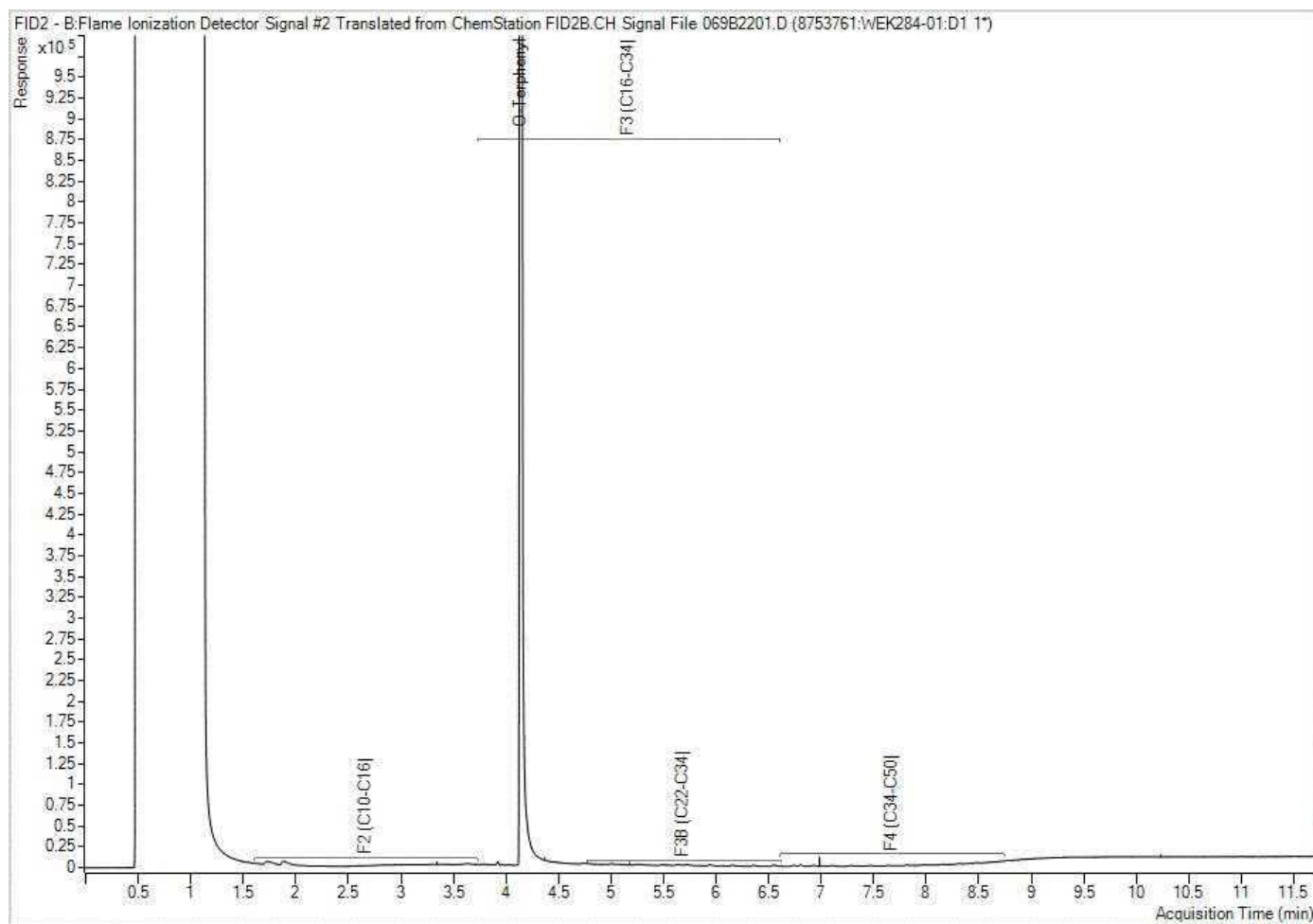


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C313084
Report Date: 2023/06/29
Bureau Veritas Sample: WEK284 Lab-Dup

SNC-Lavalin Inc
Client Project #: 694129
Project name: 1440 Prince of Whales Drive, Ottawa
Client ID: 98-1

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.



Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your C.O.C. #: 940239-01-01

Attention: Akruti Atawala

SNC-Lavalin Inc
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Report Date: 2023/06/28
Report #: R7693219
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C313092

Received: 2023/06/21, 15:55

Sample Matrix: Water
Samples Received: 4

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Petroleum Hydro. CCME F1 & BTEX in Water (1)	4	N/A	2023/06/27	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1, 2)	4	2023/06/27	2023/06/27	CAM SOP-00316	CCME PHC-CWS m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.



Attention: Akruti Atawala

SNC-Lavalin Inc
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your C.O.C. #: 940239-01-01

Report Date: 2023/06/28
Report #: R7693219
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C313092

Received: 2023/06/21, 15:55

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Deepthi Shaji, Project Manager

Email: Deepthi.Shaji@bureauveritas.com

Phone# (905)817-5700 Ext:7065843

=====

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Bureau Veritas Job #: C313092
Report Date: 2023/06/28

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		WEK326	WEK327			WEK327			WEK328		
Sampling Date		2023/06/21 11:15	2023/06/21 12:10			2023/06/21 12:10			2023/06/21 12:10		
COC Number		940239-01-01	940239-01-01			940239-01-01			940239-01-01		
	UNITS	OFF-1	MW-12	RDL	QC Batch	MW-12 Lab-Dup	RDL	QC Batch	MW-122	RDL	QC Batch

BTEX & F1 Hydrocarbons

Benzene	ug/L	1500	3900	4.0	8752974				3700	4.0	8752974
Toluene	ug/L	80	5100	4.0	8752974				4800	4.0	8752974
Ethylbenzene	ug/L	680	960	4.0	8752974				900	4.0	8752974
o-Xylene	ug/L	60	1600	4.0	8752974				1500	4.0	8752974
p+m-Xylene	ug/L	570	4700	8.0	8752974				4400	8.0	8752974
Total Xylenes	ug/L	630	6300	8.0	8752974				5900	8.0	8752974
F1 (C6-C10)	ug/L	4700	25000	500	8752974				24000	500	8752974
F1 (C6-C10) - BTEX	ug/L	1800	9000	500	8752974				8300	500	8752974

F2-F4 Hydrocarbons

F2 (C10-C16 Hydrocarbons)	ug/L	1700	5800	100	8753798	7300	100	8753798	5600	100	8753798
F3 (C16-C34 Hydrocarbons)	ug/L	<200	310	200	8753798	480	200	8753798	340	200	8753798
F4 (C34-C50 Hydrocarbons)	ug/L	<200	270	200	8753798	360	200	8753798	270	200	8753798
Reached Baseline at C50	ug/L	Yes	Yes		8753798	Yes		8753798	Yes		8753798

Surrogate Recovery (%)

1,4-Difluorobenzene	%	96	98		8752974				97		8752974
4-Bromofluorobenzene	%	102	102		8752974				103		8752974
D10-o-Xylene	%	106	105		8752974				105		8752974
D4-1,2-Dichloroethane	%	95	91		8752974				92		8752974
o-Terphenyl	%	102	103		8753798	104		8753798	103		8753798

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate



Bureau Veritas Job #: C313092
Report Date: 2023/06/28

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		WEK329		
Sampling Date		2023/06/21 13:30		
COC Number		940239-01-01		
	UNITS	OFF-3	RDL	QC Batch
BTEX & F1 Hydrocarbons				
Benzene	ug/L	4400	4.0	8752974
Toluene	ug/L	1700	4.0	8752974
Ethylbenzene	ug/L	1700	4.0	8752974
o-Xylene	ug/L	2000	4.0	8752974
p+m-Xylene	ug/L	5000	8.0	8752974
Total Xylenes	ug/L	7000	8.0	8752974
F1 (C6-C10)	ug/L	23000	500	8752974
F1 (C6-C10) - BTEX	ug/L	7900	500	8752974
F2-F4 Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	ug/L	2700	100	8753798
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	8753798
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	8753798
Reached Baseline at C50	ug/L	Yes		8753798
Surrogate Recovery (%)				
1,4-Difluorobenzene	%	100		8752974
4-Bromofluorobenzene	%	103		8752974
D10-o-Xylene	%	106		8752974
D4-1,2-Dichloroethane	%	89		8752974
o-Terphenyl	%	102		8753798
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



Bureau Veritas Job #: C313092
Report Date: 2023/06/28

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

TEST SUMMARY

Bureau Veritas ID: WEK326
Sample ID: OFF-1
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8752974	N/A	2023/06/27	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8753798	2023/06/27	2023/06/27	Emir Danisman

Bureau Veritas ID: WEK327
Sample ID: MW-12
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8752974	N/A	2023/06/27	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8753798	2023/06/27	2023/06/27	Emir Danisman

Bureau Veritas ID: WEK327 Dup
Sample ID: MW-12
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8753798	2023/06/27	2023/06/27	Emir Danisman

Bureau Veritas ID: WEK328
Sample ID: MW-122
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8752974	N/A	2023/06/27	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8753798	2023/06/27	2023/06/27	Emir Danisman

Bureau Veritas ID: WEK329
Sample ID: OFF-3
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8752974	N/A	2023/06/27	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8753798	2023/06/27	2023/06/27	Emir Danisman



Bureau Veritas Job #: C313092
Report Date: 2023/06/28

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	12.3°C
-----------	--------

Sample WEK326 [OFF-1] : F1 BTEX analysis : Due to high concentration of target analytes, sample required dilution. Reporting limits were adjusted accordingly.

Sample WEK327 [MW-12] : F1 BTEX analysis : Due to high concentration of target analytes, sample required dilution. Reporting limits were adjusted accordingly.

Sample WEK328 [MW-122] : F1 BTEX analysis : Due to high concentration of target analytes, sample required dilution. Reporting limits were adjusted accordingly.

Sample WEK329 [OFF-3] : F1 BTEX analysis : Due to high concentration of target analytes, sample required dilution. Reporting limits were adjusted accordingly.

Results relate only to the items tested.



Bureau Veritas Job #: C313092
Report Date: 2023/06/28

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits		
8752974	GRU	Matrix Spike	1,4-Difluorobenzene	2023/06/27		96	%	70 - 130		
			4-Bromofluorobenzene	2023/06/27		101	%	70 - 130		
			D10-o-Xylene	2023/06/27		97	%	70 - 130		
			D4-1,2-Dichloroethane	2023/06/27		95	%	70 - 130		
			Benzene	2023/06/27		90	%	50 - 140		
			Toluene	2023/06/27		90	%	50 - 140		
			Ethylbenzene	2023/06/27		108	%	50 - 140		
			o-Xylene	2023/06/27		101	%	50 - 140		
			p+m-Xylene	2023/06/27		96	%	50 - 140		
			F1 (C6-C10)	2023/06/27		98	%	60 - 140		
8752974	GRU	Spiked Blank	1,4-Difluorobenzene	2023/06/27		95	%	70 - 130		
			4-Bromofluorobenzene	2023/06/27		101	%	70 - 130		
			D10-o-Xylene	2023/06/27		98	%	70 - 130		
			D4-1,2-Dichloroethane	2023/06/27		94	%	70 - 130		
			Benzene	2023/06/27		93	%	50 - 140		
			Toluene	2023/06/27		91	%	50 - 140		
			Ethylbenzene	2023/06/27		105	%	50 - 140		
			o-Xylene	2023/06/27		102	%	50 - 140		
			p+m-Xylene	2023/06/27		96	%	50 - 140		
			F1 (C6-C10)	2023/06/27		104	%	60 - 140		
8752974	GRU	Method Blank	1,4-Difluorobenzene	2023/06/26		98	%	70 - 130		
			4-Bromofluorobenzene	2023/06/26		100	%	70 - 130		
			D10-o-Xylene	2023/06/26		105	%	70 - 130		
			D4-1,2-Dichloroethane	2023/06/26		99	%	70 - 130		
			Benzene	2023/06/26	<0.20		ug/L			
			Toluene	2023/06/26	<0.20		ug/L			
			Ethylbenzene	2023/06/26	<0.20		ug/L			
			o-Xylene	2023/06/26	<0.20		ug/L			
			p+m-Xylene	2023/06/26	<0.40		ug/L			
			Total Xylenes	2023/06/26	<0.40		ug/L			
			F1 (C6-C10)	2023/06/26	<25		ug/L			
F1 (C6-C10) - BTEX	2023/06/26	<25		ug/L						
8752974	GRU	RPD	Benzene	2023/06/27	0		%	30		
			Toluene	2023/06/27	NC		%	30		
			Ethylbenzene	2023/06/27	0.48		%	30		
			o-Xylene	2023/06/27	NC		%	30		
			p+m-Xylene	2023/06/27	1.7		%	30		
			Total Xylenes	2023/06/27	1.7		%	30		
			F1 (C6-C10)	2023/06/27	4.4		%	30		
			F1 (C6-C10) - BTEX	2023/06/27	4.7		%	30		
8753798	EDA	Matrix Spike [WEK326-01]	o-Terphenyl	2023/06/27		102	%	60 - 130		
			F2 (C10-C16 Hydrocarbons)	2023/06/27		107	%	60 - 130		
			F3 (C16-C34 Hydrocarbons)	2023/06/27		110	%	60 - 130		
8753798	EDA	Spiked Blank	F4 (C34-C50 Hydrocarbons)	2023/06/27		114	%	60 - 130		
			o-Terphenyl	2023/06/27		111	%	60 - 130		
			F2 (C10-C16 Hydrocarbons)	2023/06/27		108	%	60 - 130		
			F3 (C16-C34 Hydrocarbons)	2023/06/27		111	%	60 - 130		
8753798	EDA	Method Blank	F4 (C34-C50 Hydrocarbons)	2023/06/27		115	%	60 - 130		
			o-Terphenyl	2023/06/27		99	%	60 - 130		
			F2 (C10-C16 Hydrocarbons)	2023/06/27	<100		ug/L			
			F3 (C16-C34 Hydrocarbons)	2023/06/27	<200		ug/L			



Bureau Veritas Job #: C313092
Report Date: 2023/06/28

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8753798	EDA	RPD [WEK327-01]	F4 (C34-C50 Hydrocarbons)	2023/06/27	<200		ug/L	
			F2 (C10-C16 Hydrocarbons)	2023/06/27	23		%	30
			F3 (C16-C34 Hydrocarbons)	2023/06/27	NC		%	30
			F4 (C34-C50 Hydrocarbons)	2023/06/27	28		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).



Bureau Veritas Job #: C313092
Report Date: 2023/06/28

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

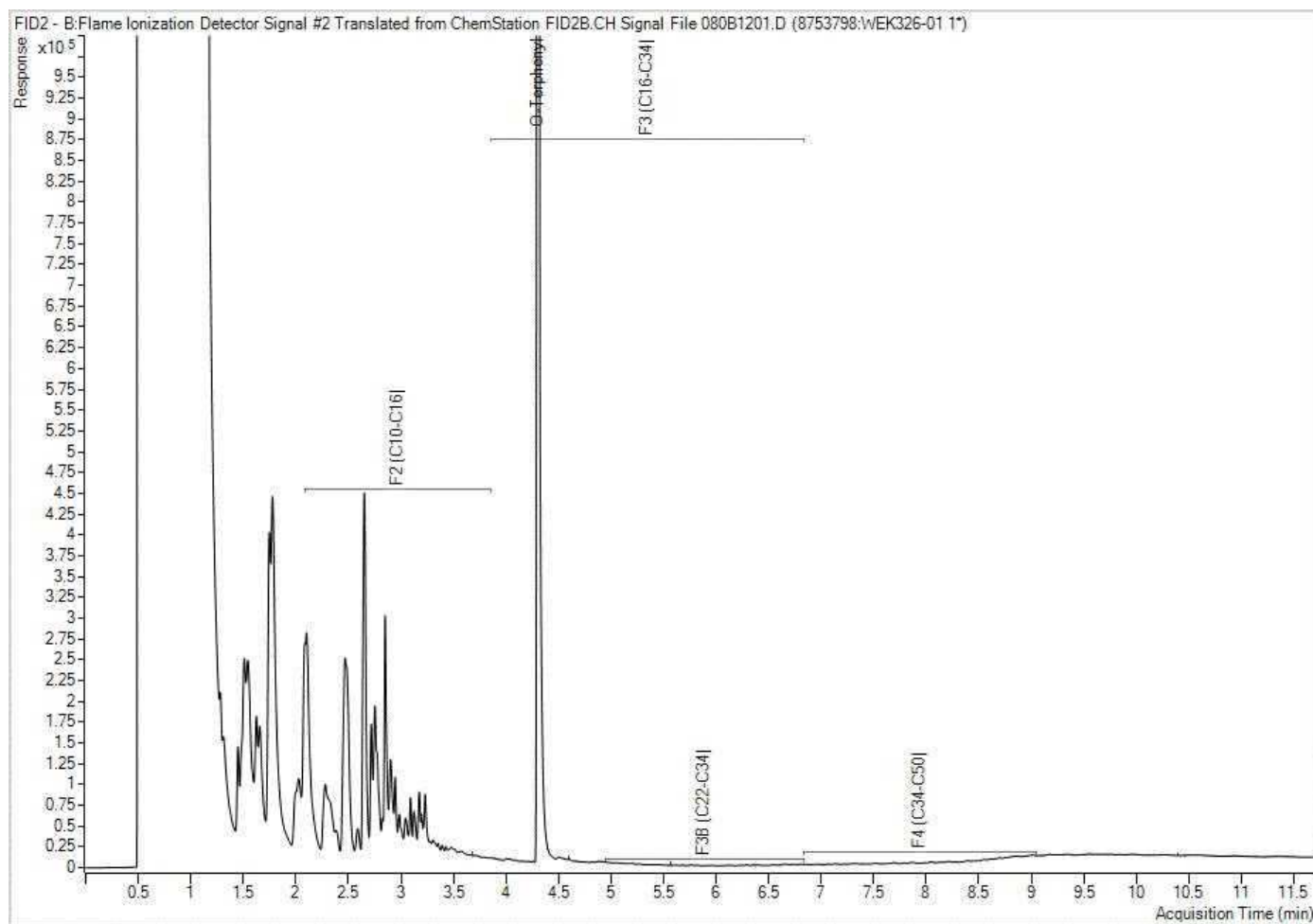
A handwritten signature in black ink, appearing to read "Anastassia Hamanov", written over a horizontal line.

Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

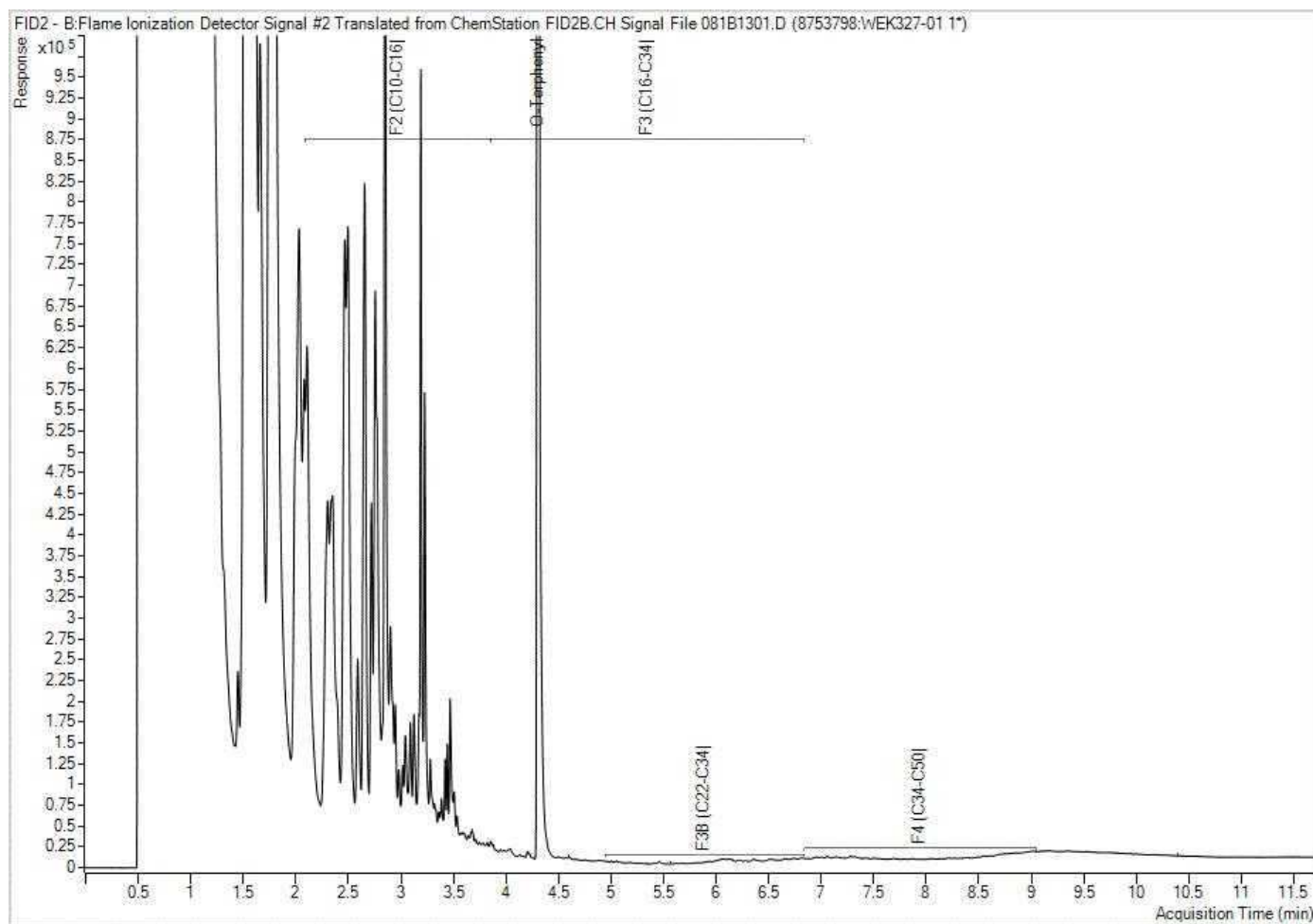
		Received in Ottawa		MICRO		2023/06/21		CHAIN OF CUSTODY RECORD		Page 1 of 1									
Bureau Veritas 6740 Campbell Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com																			
INVOICE TO:				REPORT TO:				PROJECT INFORMATION:				Laboratory Use Only:							
Company Name: #21644 SNC-Lavalin Inc Attention: Accounts Payable Address: 455 René-Lévesque Blvd. West Montreal QC H2Z 1Z3 Tel: (514) 393-1000 Fax: (514) 866-0795 Email: Payables@snclavalin.com				Company Name: #13786 SNC-Lavalin Inc Attention: Akruhi Atawala Address: 235 Lesmill Road Toronto ON M3B 2V1 Tel: (416) 635-5882 Ext: 5839 Fax: (416) 635-5353 Email: akruhi.atawala@snclavalin.com, ON_LabData@snclavalin.com				Quotation #: C21794 P.O. #: 694129 Project Name: Site #:				Bureau Veritas Job #: COC #: Project Manager: Deepthi Shaji							
MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY																			
Regulation 153 (2011) ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Frd/Comm ☐ Coarse ☐ Table 3 ☐ Agr/Other ☐ For RSC ☐ Table				Other Regulations ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA ☐ Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other				Special Instructions				Field Filtered (please circle): Metals / Hg / Cr / VI ☐ Reg 153 PHC ₄ BTEX/PH ₁₋₄							
Include Criteria on Certificate of Analysis (Y/N)?																			
Sample Barcode Label		Sample (Location) Identification		Date Sampled		Time Sampled		Matrix		Field Filtered (please circle):		ANALYSIS REQUESTED (PLEASE BE SPECIFIC)		Turnaround Time (TAT) Required:					
1		OFF-1		Jun 21/23		11:15		GW		X				Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dissolved Furan are > 5 days - contact your Project Manager for details. Job Specific Rush TAT (if applies to entire submission) Date Required: Time Required: Rush Confirmation Number: (call lab for #)					
2		MW-12		↓		12:10		↓		X				4					
3		MW-122		↓		12:10		↓		X				4					
4		OFF-3		↓		13:30		↓		X				4					
5																			
6																			
7																			
8																			
9																			
10																			
* RELINQUISHED BY: (Signature/Print) Arjun S				Date: (YY/MM/DD) Jun 21/23		Time 14:45		RECEIVED BY: (Signature/Print) Samuel Dural Samuel D				Date: (YY/MM/DD) 2023/06/21		Time 15:55		# jars used and not submitted		Laboratory Use Only ICE	
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.				* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.				* SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.				Time Sensitive		Temperature (°C) on Recc 12.12.13		Custody Seal Present ☒ Intact ☒		Yes ☒ No ☒	
* SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS												White: Bureau Veritas Yellow: Client							

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

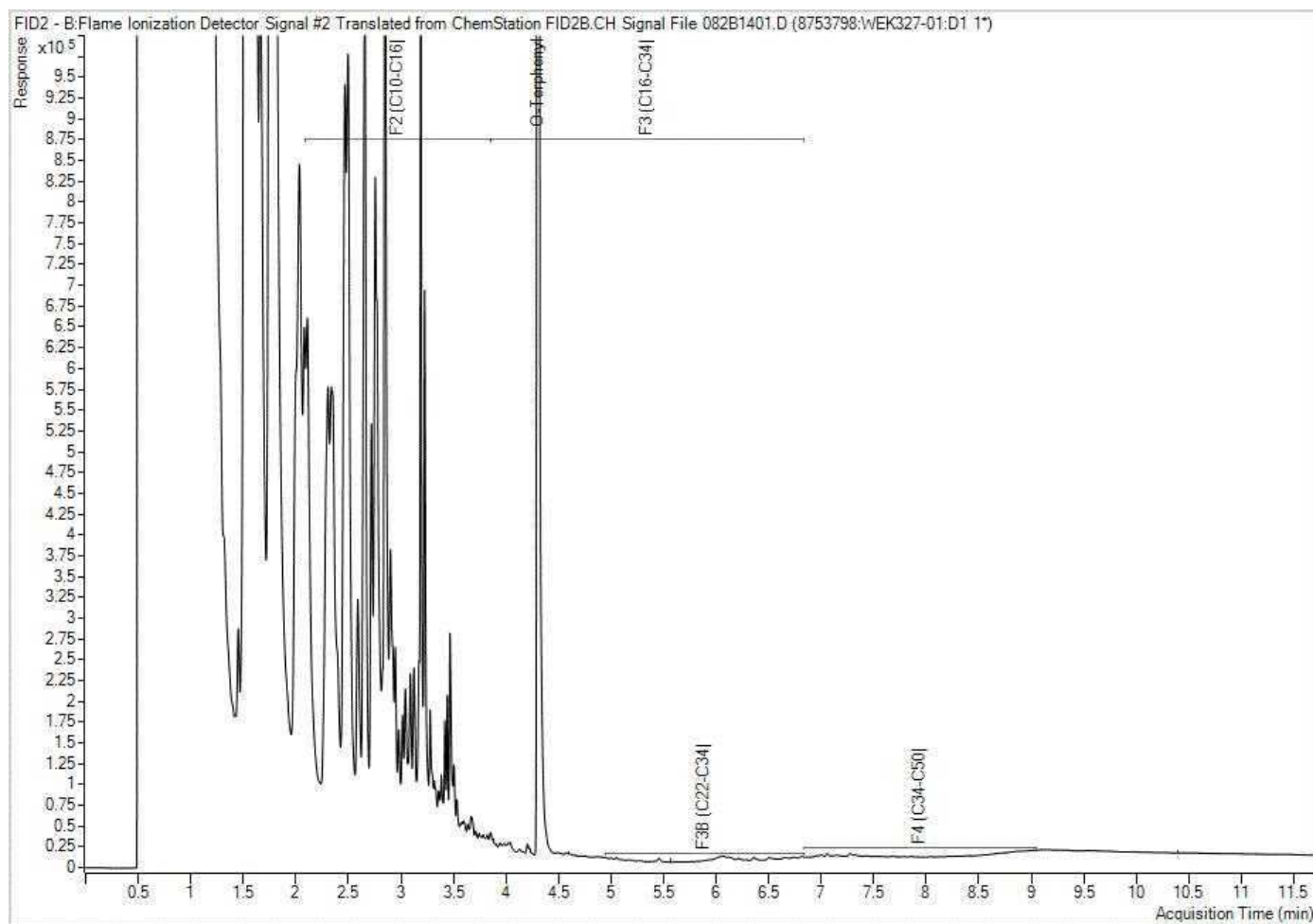


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C313092
Report Date: 2023/06/28
Bureau Veritas Sample: WEK327 Lab-Dup

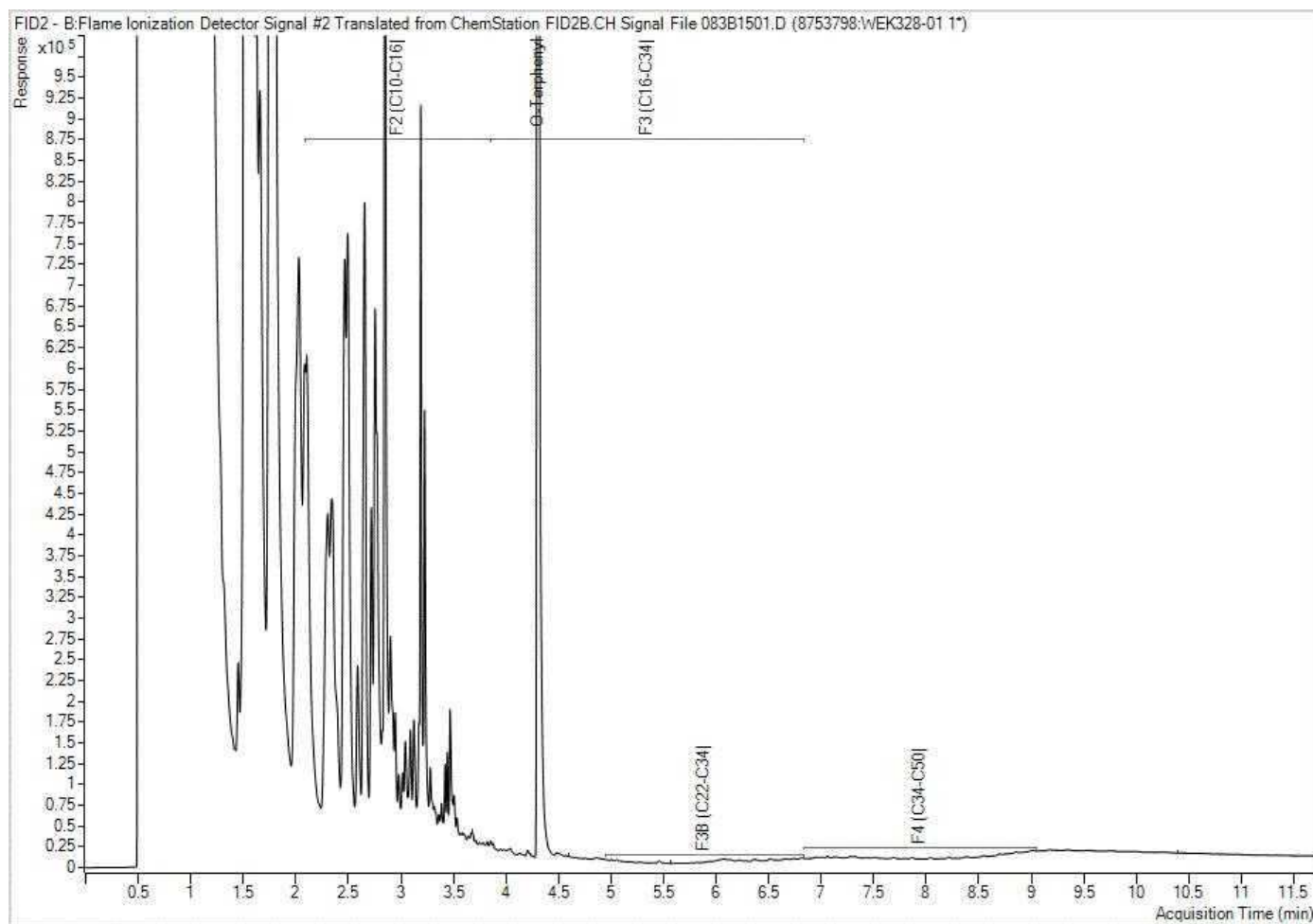
SNC-Lavalin Inc
Client Project #: 694129
Project name: 1440 Prince of Whales Drive, Ottawa
Client ID: MW-12

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



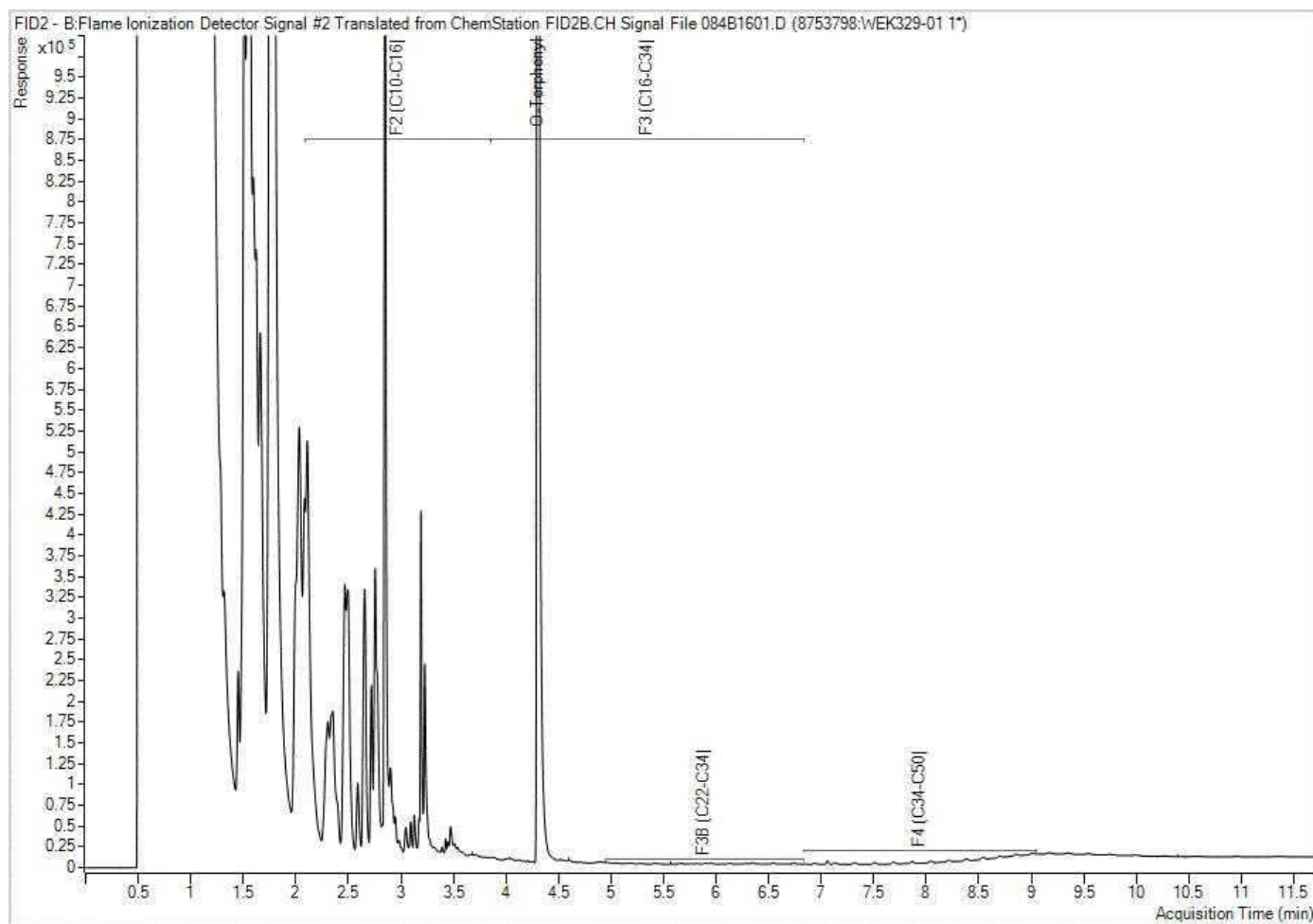
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.



Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your C.O.C. #: 940239-05-01

Attention: Akruti Atawala

SNC-Lavalin Inc
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Report Date: 2023/06/28
Report #: R7693206
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C313098

Received: 2023/06/21, 15:55

Sample Matrix: Water
Samples Received: 5

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Petroleum Hydro. CCME F1 & BTEX in Water (1)	5	N/A	2023/06/27	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1, 2)	5	2023/06/27	2023/06/27	CAM SOP-00316	CCME PHC-CWS m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.



Attention: Akruiti Atawala

SNC-Lavalin Inc
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your C.O.C. #: 940239-05-01

Report Date: 2023/06/28
Report #: R7693206
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C313098

Received: 2023/06/21, 15:55

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Deepthi Shaji, Project Manager

Email: Deepthi.Shaji@bureauveritas.com

Phone# (905)817-5700 Ext:7065843

=====

This report has been generated and distributed using a secure automated process.

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Bureau Veritas Job #: C313098
Report Date: 2023/06/28

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		WEK336	WEK337		WEK338		WEK339		WEK340		
Sampling Date		2023/06/21 10:30	2023/06/21 09:30		2023/06/21 09:50		2023/06/21 10:30		2023/06/21 11:15		
COC Number		940239-05-01	940239-05-01		940239-05-01		940239-05-01		940239-05-01		
	UNITS	MW-20	MW-21	RDL	MW-22	RDL	98-3	RDL	98-2	RDL	QC Batch
BTEX & F1 Hydrocarbons											
Benzene	ug/L	2.0	490	0.20	5100	4.0	740	1.0	1500	4.0	8753679
Toluene	ug/L	<0.20	27	0.20	1600	4.0	7.6	1.0	330	4.0	8753679
Ethylbenzene	ug/L	<0.20	360	0.20	1500	4.0	450	1.0	1000	4.0	8753679
o-Xylene	ug/L	<0.20	15	0.20	1500	4.0	5.3	1.0	880	4.0	8753679
p+m-Xylene	ug/L	<0.40	330	0.40	6200	8.0	100	2.0	3100	8.0	8753679
Total Xylenes	ug/L	<0.40	350	0.40	7700	8.0	110	2.0	4000	8.0	8753679
F1 (C6-C10)	ug/L	32	1900	25	23000	500	2800	130	12000	500	8753679
F1 (C6-C10) - BTEX	ug/L	30	630	25	6700	500	1500	130	5000	500	8753679
F2-F4 Hydrocarbons											
F2 (C10-C16 Hydrocarbons)	ug/L	<100	520	100	3800	100	720	100	3200	100	8753761
F3 (C16-C34 Hydrocarbons)	ug/L	<200	300	200	220	200	250	200	<200	200	8753761
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	<200	200	<200	200	<200	200	8753761
Reached Baseline at C50	ug/L	Yes	Yes		Yes		Yes		Yes		8753761
Surrogate Recovery (%)											
1,4-Difluorobenzene	%	110	107		110		101		107		8753679
4-Bromofluorobenzene	%	85	109		107		105		100		8753679
D10-o-Xylene	%	114	116		115		106		117		8753679
D4-1,2-Dichloroethane	%	94	84		87		93		84		8753679
o-Terphenyl	%	104	104		102		104		98		8753761
RDL = Reportable Detection Limit											
QC Batch = Quality Control Batch											



Bureau Veritas Job #: C313098
Report Date: 2023/06/28

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

TEST SUMMARY

Bureau Veritas ID: WEK336
Sample ID: MW-20
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8753679	N/A	2023/06/27	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8753761	2023/06/27	2023/06/27	Agnieszka Brzuzy-Snopko

Bureau Veritas ID: WEK337
Sample ID: MW-21
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8753679	N/A	2023/06/27	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8753761	2023/06/27	2023/06/27	Agnieszka Brzuzy-Snopko

Bureau Veritas ID: WEK338
Sample ID: MW-22
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8753679	N/A	2023/06/27	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8753761	2023/06/27	2023/06/27	Agnieszka Brzuzy-Snopko

Bureau Veritas ID: WEK339
Sample ID: 98-3
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8753679	N/A	2023/06/27	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8753761	2023/06/27	2023/06/27	Agnieszka Brzuzy-Snopko

Bureau Veritas ID: WEK340
Sample ID: 98-2
Matrix: Water

Collected: 2023/06/21
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8753679	N/A	2023/06/27	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8753761	2023/06/27	2023/06/27	Agnieszka Brzuzy-Snopko



Bureau Veritas Job #: C313098
Report Date: 2023/06/28

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	12.3°C
-----------	--------

Sample WEK338 [MW-22] : -F1 BTEX analysis : Due to high concentration of target analytes, sample required dilution. Reporting limits were adjusted accordingly.

Sample WEK339 [98-3] : -F1 BTEX analysis : Due to high concentration of target analytes, sample required dilution. Reporting limits were adjusted accordingly.

Sample WEK340 [98-2] : -F1 BTEX analysis : Due to high concentration of target analytes, sample required dilution. Reporting limits were adjusted accordingly.

Results relate only to the items tested.



Bureau Veritas Job #: C313098
Report Date: 2023/06/28

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits	
8753679	AAI	Matrix Spike	1,4-Difluorobenzene	2023/06/27		111	%	70 - 130	
			4-Bromofluorobenzene	2023/06/27		98	%	70 - 130	
			D10-o-Xylene	2023/06/27		101	%	70 - 130	
			D4-1,2-Dichloroethane	2023/06/27		93	%	70 - 130	
			Benzene	2023/06/27		102	%	50 - 140	
			Toluene	2023/06/27		100	%	50 - 140	
			Ethylbenzene	2023/06/27		107	%	50 - 140	
			o-Xylene	2023/06/27		100	%	50 - 140	
			p+m-Xylene	2023/06/27		102	%	50 - 140	
			F1 (C6-C10)	2023/06/27		105	%	60 - 140	
8753679	AAI	Spiked Blank	1,4-Difluorobenzene	2023/06/27		103	%	70 - 130	
			4-Bromofluorobenzene	2023/06/27		101	%	70 - 130	
			D10-o-Xylene	2023/06/27		107	%	70 - 130	
			D4-1,2-Dichloroethane	2023/06/27		87	%	70 - 130	
			Benzene	2023/06/27		98	%	50 - 140	
			Toluene	2023/06/27		96	%	50 - 140	
			Ethylbenzene	2023/06/27		110	%	50 - 140	
			o-Xylene	2023/06/27		105	%	50 - 140	
			p+m-Xylene	2023/06/27		105	%	50 - 140	
			F1 (C6-C10)	2023/06/27		105	%	60 - 140	
8753679	AAI	Method Blank	1,4-Difluorobenzene	2023/06/27		111	%	70 - 130	
			4-Bromofluorobenzene	2023/06/27		83	%	70 - 130	
			D10-o-Xylene	2023/06/27		111	%	70 - 130	
			D4-1,2-Dichloroethane	2023/06/27		91	%	70 - 130	
			Benzene	2023/06/27	<0.20		ug/L		
			Toluene	2023/06/27	<0.20		ug/L		
			Ethylbenzene	2023/06/27	<0.20		ug/L		
			o-Xylene	2023/06/27	<0.20		ug/L		
			p+m-Xylene	2023/06/27	<0.40		ug/L		
			Total Xylenes	2023/06/27	<0.40		ug/L		
			F1 (C6-C10)	2023/06/27	<25		ug/L		
F1 (C6-C10) - BTEX	2023/06/27	<25		ug/L					
8753679	AAI	RPD	Benzene	2023/06/27	NC		%	30	
			Toluene	2023/06/27	NC		%	30	
			Ethylbenzene	2023/06/27	NC		%	30	
			o-Xylene	2023/06/27	NC		%	30	
			p+m-Xylene	2023/06/27	NC		%	30	
			F1 (C6-C10)	2023/06/27	NC		%	30	
8753761	ABS	Matrix Spike [WEK336-01]	o-Terphenyl	2023/06/27		107	%	60 - 130	
			F2 (C10-C16 Hydrocarbons)	2023/06/27		105	%	60 - 130	
			F3 (C16-C34 Hydrocarbons)	2023/06/27		106	%	60 - 130	
8753761	ABS	Spiked Blank	F4 (C34-C50 Hydrocarbons)	2023/06/27		106	%	60 - 130	
			o-Terphenyl	2023/06/27		106	%	60 - 130	
			F2 (C10-C16 Hydrocarbons)	2023/06/27		104	%	60 - 130	
			F3 (C16-C34 Hydrocarbons)	2023/06/27		107	%	60 - 130	
8753761	ABS	Method Blank	F4 (C34-C50 Hydrocarbons)	2023/06/27		106	%	60 - 130	
			o-Terphenyl	2023/06/27		103	%	60 - 130	
			F2 (C10-C16 Hydrocarbons)	2023/06/27	<100		ug/L		
			F3 (C16-C34 Hydrocarbons)	2023/06/27	<200		ug/L		
8753761	ABS	RPD	F4 (C34-C50 Hydrocarbons)	2023/06/27	<200		ug/L		
			F2 (C10-C16 Hydrocarbons)	2023/06/27	NC		%	30	



Bureau Veritas Job #: C313098
Report Date: 2023/06/28

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				F3 (C16-C34 Hydrocarbons)	2023/06/27	NC		%	30
				F4 (C34-C50 Hydrocarbons)	2023/06/27	NC		%	30
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement. Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference. Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy. Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination. Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency. NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).									



Bureau Veritas Job #: C313098
Report Date: 2023/06/28

SNC-Lavalin Inc
Client Project #: 694129
Site Location: 1440 Prince of Whales Drive, Ottawa
Your P.O. #: 694129
Sampler Initials: AS

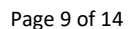
VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

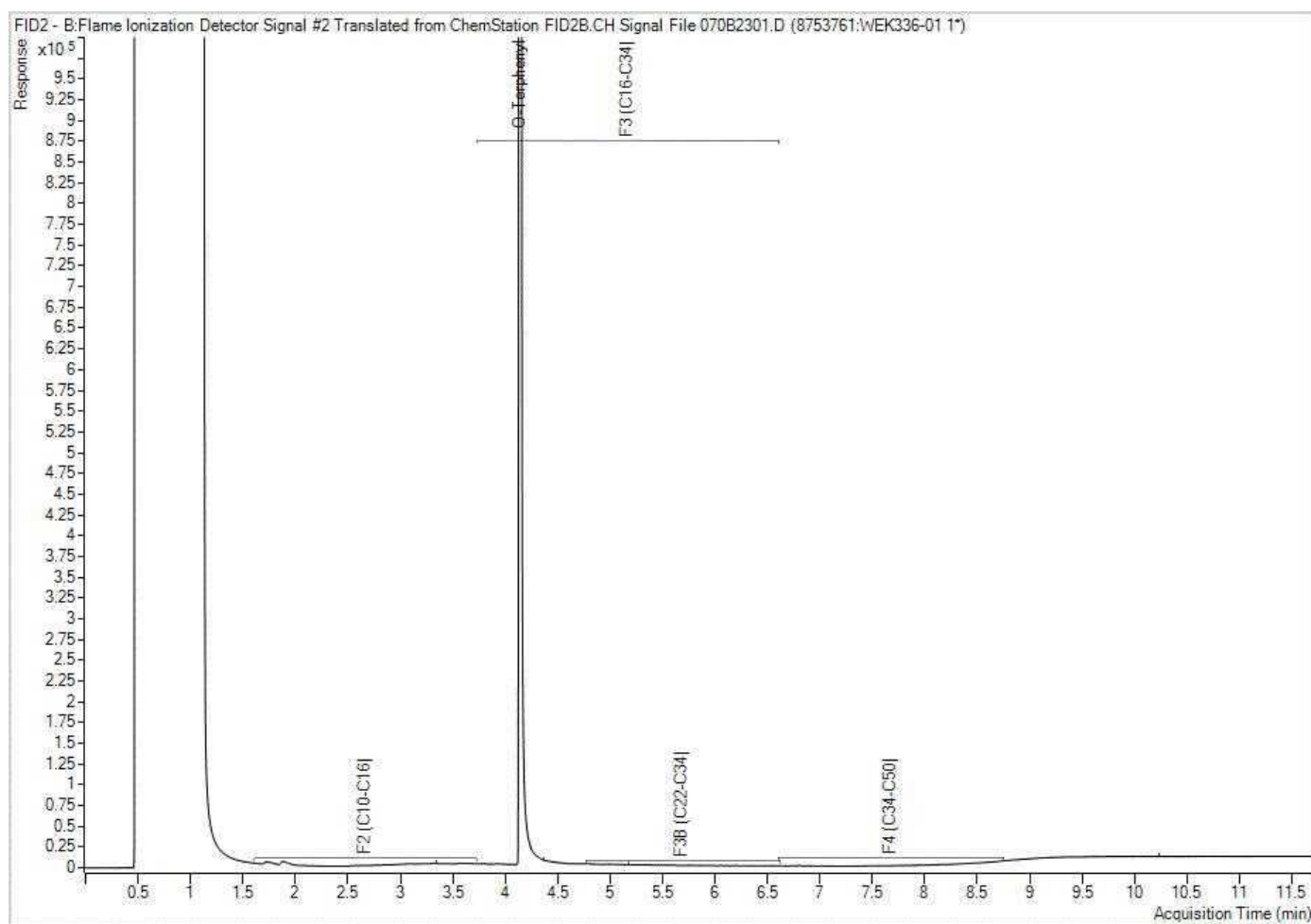
A handwritten signature in black ink, appearing to read "Anastassia Hamanov", written over a horizontal line.

Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

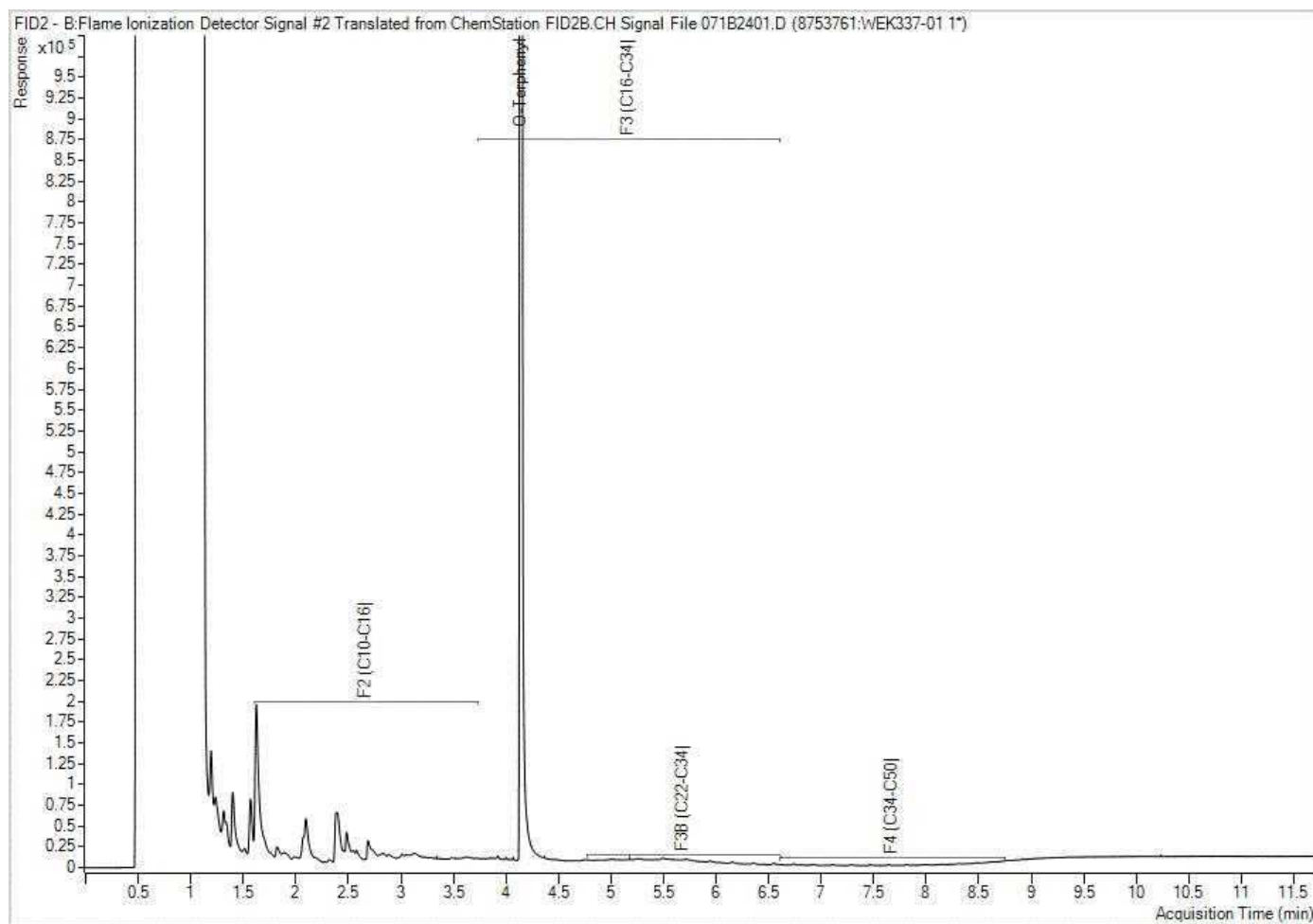


Petroleum Hydrocarbons F2-F4 in Water Chromatogram



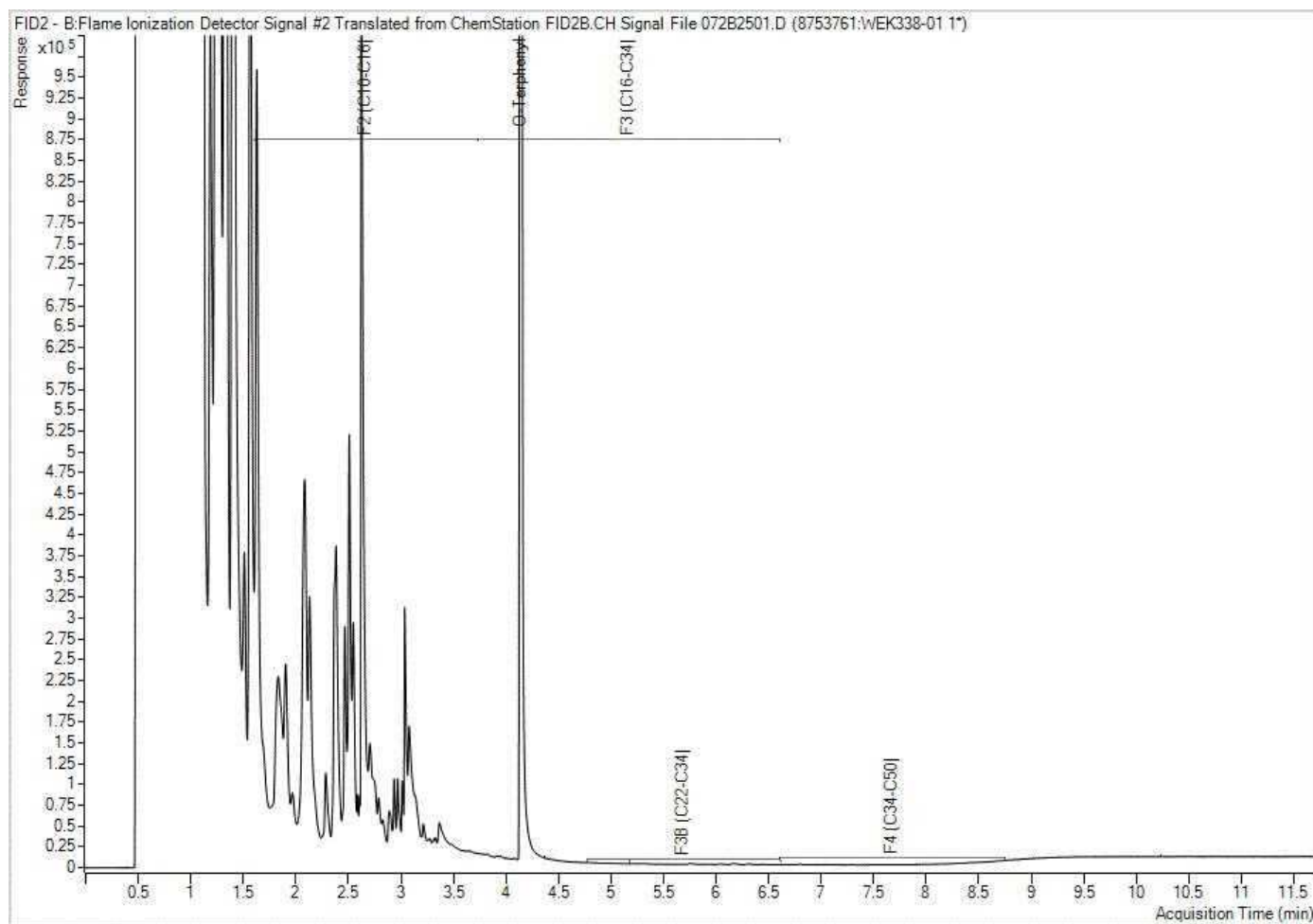
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



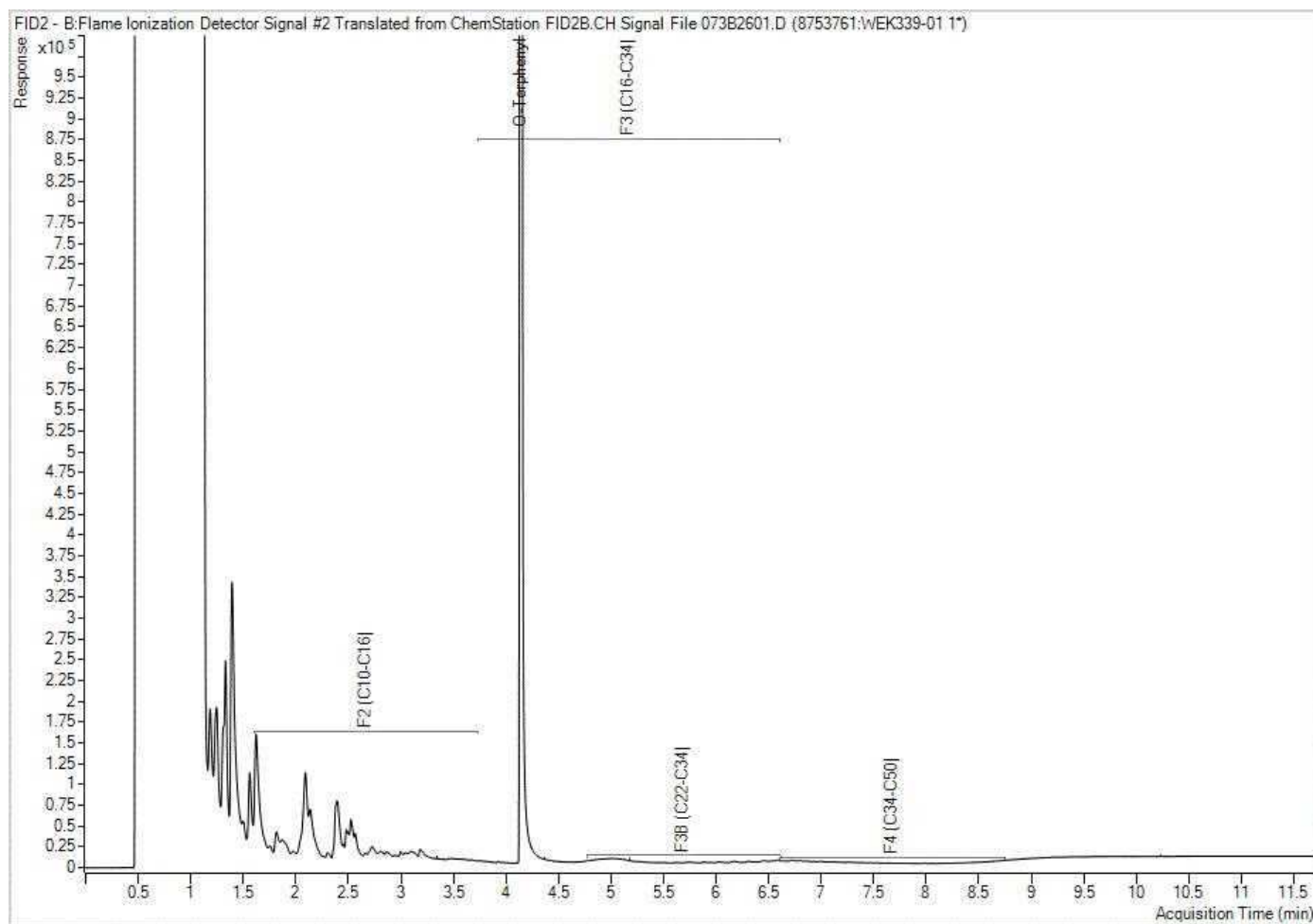
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



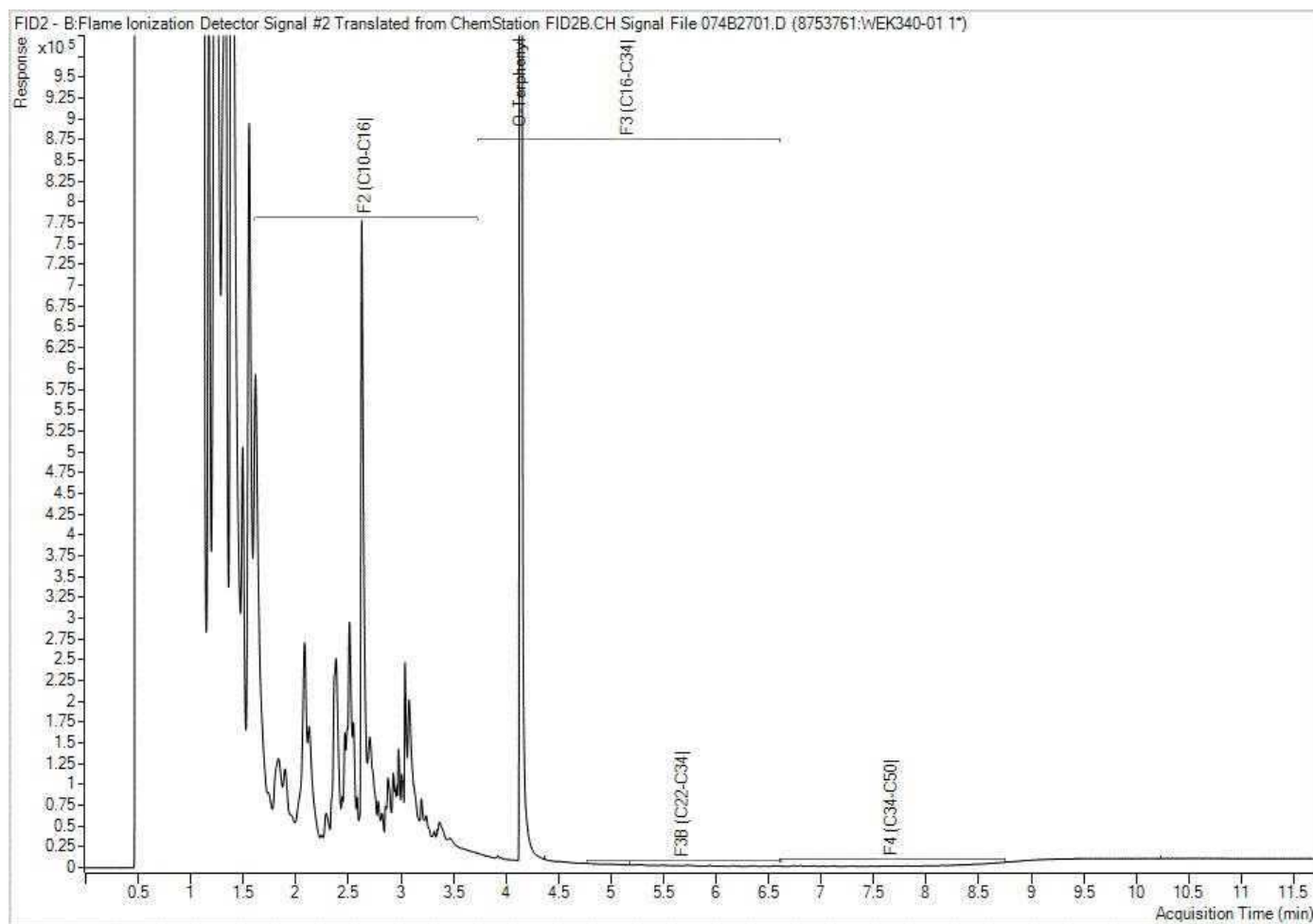
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.



Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your C.O.C. #: 966139-03-01

Attention: Akruiti Atawala

AtkinsRéalis
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Report Date: 2023/11/28
Report #: R7931514
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3AM530

Received: 2023/11/27, 16:43

Sample Matrix: Water
Samples Received: 3

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Extracted		
1,3-Dichloropropene Sum (1)	3	N/A	2023/11/28	EPA 8260C m
Volatile Organic Compounds in Water (1)	3	N/A	2023/11/28 CAM SOP-00228	EPA 8260D

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8



Attention: Akruti Atawala

AtkinsRéalis
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your C.O.C. #: 966139-03-01

Report Date: 2023/11/28
Report #: R7931514
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3AM530

Received: 2023/11/27, 16:43

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Keshani Vijh, Sr. Project Manager

Email: keshani.vijh@bureauveritas.com

Phone# (613) 274-0573

=====

This report has been generated and distributed using a secure automated process.

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Bureau Veritas Job #: C3AM530
Report Date: 2023/11/28

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		XSK594		XSK595	XSK596		
Sampling Date		2023/11/27 14:12		2023/11/27 11:23	2023/11/27 11:23		
COC Number		966139-03-01		966139-03-01	966139-03-01		
	UNITS	MW-20	RDL	98-1	98-11	RDL	QC Batch
Calculated Parameters							
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	<0.50	<0.50	0.50	9076279
Volatile Organics							
Acetone (2-Propanone)	ug/L	<10	10	<10	<10	10	9074161
Benzene	ug/L	540	1.0	<0.20	<0.20	0.20	9074161
Bromodichloromethane	ug/L	<0.50	0.50	<0.50	<0.50	0.50	9074161
Bromoform	ug/L	<1.0	1.0	<1.0	<1.0	1.0	9074161
Bromomethane	ug/L	<0.50	0.50	<0.50	<0.50	0.50	9074161
Carbon Tetrachloride	ug/L	<0.19	0.19	<0.19	<0.19	0.19	9074161
Chlorobenzene	ug/L	<0.20	0.20	<0.20	<0.20	0.20	9074161
Chloroform	ug/L	<0.20	0.20	<0.20	<0.20	0.20	9074161
Dibromochloromethane	ug/L	<0.50	0.50	<0.50	<0.50	0.50	9074161
1,2-Dichlorobenzene	ug/L	<0.40	0.40	<0.40	<0.40	0.40	9074161
1,3-Dichlorobenzene	ug/L	<0.40	0.40	<0.40	<0.40	0.40	9074161
1,4-Dichlorobenzene	ug/L	<0.40	0.40	<0.40	<0.40	0.40	9074161
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	<1.0	<1.0	1.0	9074161
1,1-Dichloroethane	ug/L	<0.50 (1)	0.50	<0.20	<0.20	0.20	9074161
1,2-Dichloroethane	ug/L	<0.49	0.49	<0.49	<0.49	0.49	9074161
1,1-Dichloroethylene	ug/L	<0.20	0.20	<0.20	<0.20	0.20	9074161
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	<0.50	<0.50	0.50	9074161
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	<0.50	<0.50	0.50	9074161
1,2-Dichloropropane	ug/L	<0.20	0.20	<0.20	<0.20	0.20	9074161
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	<0.30	<0.30	0.30	9074161
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	<0.40	<0.40	0.40	9074161
Ethylbenzene	ug/L	410	1.0	<0.20	<0.20	0.20	9074161
Ethylene Dibromide	ug/L	<0.19	0.19	<0.19	<0.19	0.19	9074161
Hexane	ug/L	8.2	1.0	<1.0	<1.0	1.0	9074161
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	<2.0	<2.0	2.0	9074161
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	<10	<10	10	9074161
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	<5.0	<5.0	5.0	9074161
Methyl t-butyl ether (MTBE)	ug/L	8.5	0.50	<0.50	<0.50	0.50	9074161
Styrene	ug/L	<0.40	0.40	<0.40	<0.40	0.40	9074161
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	<0.50	<0.50	0.50	9074161
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
(1) Detection limit was raised due to matrix interference.							



Bureau Veritas Job #: C3AM530
Report Date: 2023/11/28

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		XSK594		XSK595	XSK596		
Sampling Date		2023/11/27 14:12		2023/11/27 11:23	2023/11/27 11:23		
COC Number		966139-03-01		966139-03-01	966139-03-01		
	UNITS	MW-20	RDL	98-1	98-11	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	<0.40	<0.40	0.40	9074161
Tetrachloroethylene	ug/L	<0.20	0.20	<0.20	<0.20	0.20	9074161
Toluene	ug/L	8.6	0.20	<0.20	<0.20	0.20	9074161
1,1,1-Trichloroethane	ug/L	<0.20	0.20	<0.20	<0.20	0.20	9074161
1,1,2-Trichloroethane	ug/L	<0.40	0.40	<0.40	<0.40	0.40	9074161
Trichloroethylene	ug/L	<0.20	0.20	<0.20	<0.20	0.20	9074161
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	<0.50	<0.50	0.50	9074161
Vinyl Chloride	ug/L	<0.20	0.20	<0.20	<0.20	0.20	9074161
p+m-Xylene	ug/L	74	0.20	<0.20	<0.20	0.20	9074161
o-Xylene	ug/L	3.8	0.20	<0.20	<0.20	0.20	9074161
Total Xylenes	ug/L	78	0.20	<0.20	<0.20	0.20	9074161
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	100		101	101		9074161
D4-1,2-Dichloroethane	%	97		104	106		9074161
D8-Toluene	%	98		93	92		9074161
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



Bureau Veritas Job #: C3AM530
Report Date: 2023/11/28

AtkinsRéal
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

TEST SUMMARY

Bureau Veritas ID: XSK594
Sample ID: MW-20
Matrix: Water

Collected: 2023/11/27
Shipped:
Received: 2023/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	9076279	N/A	2023/11/28	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	9074161	N/A	2023/11/28	Gabriella Morrone

Bureau Veritas ID: XSK595
Sample ID: 98-1
Matrix: Water

Collected: 2023/11/27
Shipped:
Received: 2023/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	9076279	N/A	2023/11/28	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	9074161	N/A	2023/11/28	Gabriella Morrone

Bureau Veritas ID: XSK596
Sample ID: 98-11
Matrix: Water

Collected: 2023/11/27
Shipped:
Received: 2023/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	9076279	N/A	2023/11/28	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	9074161	N/A	2023/11/28	Gabriella Morrone



Bureau Veritas Job #: C3AM530
Report Date: 2023/11/28

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.7°C
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Sample XSK594 [MW-20] : VOC Analysis: Due to high concentrations of target analytes, sample required dilution. Detection limits were adjusted accordingly. In order to meet required regulatory criteria or to achieve lower reporting limits, results for selected compounds (obtained by a separate analysis using an appropriate low dilution) are included in the report.

Results relate only to the items tested.



Bureau Veritas Job #: C3AM530
Report Date: 2023/11/28

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9074161	GMN	Matrix Spike		4-Bromofluorobenzene	2023/11/28		100	%	70 - 130
				D4-1,2-Dichloroethane	2023/11/28		102	%	70 - 130
				D8-Toluene	2023/11/28		104	%	70 - 130
				Acetone (2-Propanone)	2023/11/28		100	%	60 - 140
				Benzene	2023/11/28		92	%	70 - 130
				Bromodichloromethane	2023/11/28		108	%	70 - 130
				Bromoform	2023/11/28		93	%	70 - 130
				Bromomethane	2023/11/28		92	%	60 - 140
				Carbon Tetrachloride	2023/11/28		96	%	70 - 130
				Chlorobenzene	2023/11/28		105	%	70 - 130
				Chloroform	2023/11/28		103	%	70 - 130
				Dibromochloromethane	2023/11/28		98	%	70 - 130
				1,2-Dichlorobenzene	2023/11/28		100	%	70 - 130
				1,3-Dichlorobenzene	2023/11/28		104	%	70 - 130
				1,4-Dichlorobenzene	2023/11/28		113	%	70 - 130
				Dichlorodifluoromethane (FREON 12)	2023/11/28		82	%	60 - 140
				1,1-Dichloroethane	2023/11/28		100	%	70 - 130
				1,2-Dichloroethane	2023/11/28		96	%	70 - 130
				1,1-Dichloroethylene	2023/11/28		96	%	70 - 130
				cis-1,2-Dichloroethylene	2023/11/28		101	%	70 - 130
				trans-1,2-Dichloroethylene	2023/11/28		97	%	70 - 130
				1,2-Dichloropropane	2023/11/28		102	%	70 - 130
				cis-1,3-Dichloropropene	2023/11/28		102	%	70 - 130
				trans-1,3-Dichloropropene	2023/11/28		105	%	70 - 130
				Ethylbenzene	2023/11/28		96	%	70 - 130
				Ethylene Dibromide	2023/11/28		101	%	70 - 130
				Hexane	2023/11/28		94	%	70 - 130
				Methylene Chloride(Dichloromethane)	2023/11/28		97	%	70 - 130
				Methyl Ethyl Ketone (2-Butanone)	2023/11/28		108	%	60 - 140
				Methyl Isobutyl Ketone	2023/11/28		113	%	70 - 130
				Methyl t-butyl ether (MTBE)	2023/11/28		99	%	70 - 130
				Styrene	2023/11/28		107	%	70 - 130
				1,1,1,2-Tetrachloroethane	2023/11/28		101	%	70 - 130
				1,1,2,2-Tetrachloroethane	2023/11/28		108	%	70 - 130
				Tetrachloroethylene	2023/11/28		95	%	70 - 130
				Toluene	2023/11/28		97	%	70 - 130
				1,1,1-Trichloroethane	2023/11/28		98	%	70 - 130
				1,1,2-Trichloroethane	2023/11/28		100	%	70 - 130
				Trichloroethylene	2023/11/28		99	%	70 - 130
				Trichlorofluoromethane (FREON 11)	2023/11/28		93	%	70 - 130
				Vinyl Chloride	2023/11/28		89	%	70 - 130
				p+m-Xylene	2023/11/28		102	%	70 - 130
				o-Xylene	2023/11/28		84	%	70 - 130
9074161	GMN	Spiked Blank		4-Bromofluorobenzene	2023/11/28		100	%	70 - 130
				D4-1,2-Dichloroethane	2023/11/28		99	%	70 - 130
				D8-Toluene	2023/11/28		105	%	70 - 130
				Acetone (2-Propanone)	2023/11/28		87	%	60 - 140
				Benzene	2023/11/28		82	%	70 - 130
				Bromodichloromethane	2023/11/28		96	%	70 - 130
				Bromoform	2023/11/28		81	%	70 - 130
				Bromomethane	2023/11/28		83	%	60 - 140
				Carbon Tetrachloride	2023/11/28		86	%	70 - 130



Bureau Veritas Job #: C3AM530
Report Date: 2023/11/28

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				Chlorobenzene	2023/11/28		96	%	70 - 130
				Chloroform	2023/11/28		92	%	70 - 130
				Dibromochloromethane	2023/11/28		87	%	70 - 130
				1,2-Dichlorobenzene	2023/11/28		90	%	70 - 130
				1,3-Dichlorobenzene	2023/11/28		95	%	70 - 130
				1,4-Dichlorobenzene	2023/11/28		103	%	70 - 130
				Dichlorodifluoromethane (FREON 12)	2023/11/28		75	%	60 - 140
				1,1-Dichloroethane	2023/11/28		89	%	70 - 130
				1,2-Dichloroethane	2023/11/28		84	%	70 - 130
				1,1-Dichloroethylene	2023/11/28		87	%	70 - 130
				cis-1,2-Dichloroethylene	2023/11/28		90	%	70 - 130
				trans-1,2-Dichloroethylene	2023/11/28		87	%	70 - 130
				1,2-Dichloropropane	2023/11/28		90	%	70 - 130
				cis-1,3-Dichloropropene	2023/11/28		90	%	70 - 130
				trans-1,3-Dichloropropene	2023/11/28		93	%	70 - 130
				Ethylbenzene	2023/11/28		88	%	70 - 130
				Ethylene Dibromide	2023/11/28		89	%	70 - 130
				Hexane	2023/11/28		84	%	70 - 130
				Methylene Chloride(Dichloromethane)	2023/11/28		85	%	70 - 130
				Methyl Ethyl Ketone (2-Butanone)	2023/11/28		93	%	60 - 140
				Methyl Isobutyl Ketone	2023/11/28		98	%	70 - 130
				Methyl t-butyl ether (MTBE)	2023/11/28		89	%	70 - 130
				Styrene	2023/11/28		99	%	70 - 130
				1,1,1,2-Tetrachloroethane	2023/11/28		91	%	70 - 130
				1,1,2,2-Tetrachloroethane	2023/11/28		95	%	70 - 130
				Tetrachloroethylene	2023/11/28		87	%	70 - 130
				Toluene	2023/11/28		88	%	70 - 130
				1,1,1-Trichloroethane	2023/11/28		88	%	70 - 130
				1,1,2-Trichloroethane	2023/11/28		89	%	70 - 130
				Trichloroethylene	2023/11/28		90	%	70 - 130
				Trichlorofluoromethane (FREON 11)	2023/11/28		84	%	70 - 130
				Vinyl Chloride	2023/11/28		80	%	70 - 130
				p+m-Xylene	2023/11/28		94	%	70 - 130
				o-Xylene	2023/11/28		79	%	70 - 130
9074161	GMN		Method Blank	4-Bromofluorobenzene	2023/11/28		96	%	70 - 130
				D4-1,2-Dichloroethane	2023/11/28		102	%	70 - 130
				D8-Toluene	2023/11/28		86	%	70 - 130
				Acetone (2-Propanone)	2023/11/28	<10		ug/L	
				Benzene	2023/11/28	<0.20		ug/L	
				Bromodichloromethane	2023/11/28	<0.50		ug/L	
				Bromoform	2023/11/28	<1.0		ug/L	
				Bromomethane	2023/11/28	<0.50		ug/L	
				Carbon Tetrachloride	2023/11/28	<0.19		ug/L	
				Chlorobenzene	2023/11/28	<0.20		ug/L	
				Chloroform	2023/11/28	<0.20		ug/L	
				Dibromochloromethane	2023/11/28	<0.50		ug/L	
				1,2-Dichlorobenzene	2023/11/28	<0.40		ug/L	
				1,3-Dichlorobenzene	2023/11/28	<0.40		ug/L	
				1,4-Dichlorobenzene	2023/11/28	<0.40		ug/L	
				Dichlorodifluoromethane (FREON 12)	2023/11/28	<1.0		ug/L	
				1,1-Dichloroethane	2023/11/28	<0.20		ug/L	
				1,2-Dichloroethane	2023/11/28	<0.49		ug/L	



Bureau Veritas Job #: C3AM530
Report Date: 2023/11/28

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9074161	GMN	RPD	1,1-Dichloroethylene	2023/11/28	<0.20		ug/L	
			cis-1,2-Dichloroethylene	2023/11/28	<0.50		ug/L	
			trans-1,2-Dichloroethylene	2023/11/28	<0.50		ug/L	
			1,2-Dichloropropane	2023/11/28	<0.20		ug/L	
			cis-1,3-Dichloropropene	2023/11/28	<0.30		ug/L	
			trans-1,3-Dichloropropene	2023/11/28	<0.40		ug/L	
			Ethylbenzene	2023/11/28	<0.20		ug/L	
			Ethylene Dibromide	2023/11/28	<0.19		ug/L	
			Hexane	2023/11/28	<1.0		ug/L	
			Methylene Chloride(Dichloromethane)	2023/11/28	<2.0		ug/L	
			Methyl Ethyl Ketone (2-Butanone)	2023/11/28	<10		ug/L	
			Methyl Isobutyl Ketone	2023/11/28	<5.0		ug/L	
			Methyl t-butyl ether (MTBE)	2023/11/28	<0.50		ug/L	
			Styrene	2023/11/28	<0.40		ug/L	
			1,1,1,2-Tetrachloroethane	2023/11/28	<0.50		ug/L	
			1,1,2,2-Tetrachloroethane	2023/11/28	<0.40		ug/L	
			Tetrachloroethylene	2023/11/28	<0.20		ug/L	
			Toluene	2023/11/28	<0.20		ug/L	
			1,1,1-Trichloroethane	2023/11/28	<0.20		ug/L	
			1,1,2-Trichloroethane	2023/11/28	<0.40		ug/L	
			Trichloroethylene	2023/11/28	<0.20		ug/L	
			Trichlorofluoromethane (FREON 11)	2023/11/28	<0.50		ug/L	
			Vinyl Chloride	2023/11/28	<0.20		ug/L	
			p+m-Xylene	2023/11/28	<0.20		ug/L	
			o-Xylene	2023/11/28	<0.20		ug/L	
			Total Xylenes	2023/11/28	<0.20		ug/L	
			Benzene	2023/11/28	NC		%	30
			Chloroform	2023/11/28	0.71		%	30
			1,2-Dichlorobenzene	2023/11/28	NC		%	30
			1,4-Dichlorobenzene	2023/11/28	NC		%	30
			cis-1,2-Dichloroethylene	2023/11/28	NC		%	30
			trans-1,3-Dichloropropene	2023/11/28	NC		%	30
			Ethylbenzene	2023/11/28	NC		%	30
			Methylene Chloride(Dichloromethane)	2023/11/28	NC		%	30
			Methyl Ethyl Ketone (2-Butanone)	2023/11/28	NC		%	30
			Styrene	2023/11/28	NC		%	30
			1,1,2,2-Tetrachloroethane	2023/11/28	NC		%	30
			Tetrachloroethylene	2023/11/28	NC		%	30
			Toluene	2023/11/28	NC		%	30
			Trichloroethylene	2023/11/28	NC		%	30
			p+m-Xylene	2023/11/28	NC		%	30
			o-Xylene	2023/11/28	NC		%	30
			Total Xylenes	2023/11/28	NC		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



Bureau Veritas Job #: C3AM530
Report Date: 2023/11/28

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink, appearing to read "A. Hamanov", written over a horizontal line.

Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Attention: Akruti Atawala

AtkinsRéalis
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OT
Your C.O.C. #: 966139-02-01

Report Date: 2023/12/04
Report #: R7940035
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3AM536

Received: 2023/11/27, 16:43

Sample Matrix: Water
Samples Received: 1

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Extracted		
1,3-Dichloropropene Sum (1)	1	N/A	2023/12/04	EPA 8260C m
Volatile Organic Compounds in Water (1)	1	N/A	2023/12/04 CAM SOP-00228	EPA 8260D

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8



Attention: Akruti Atawala

AtkinsRéalis
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OT
Your C.O.C. #: 966139-02-01

Report Date: 2023/12/04
Report #: R7940035
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3AM536

Received: 2023/11/27, 16:43

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Keshani Vijh, Sr. Project Manager
Email: keshani.vijh@bureauveritas.com
Phone# (613) 274-0573

=====

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		XSK605		
Sampling Date		2023/11/27 13:03		
COC Number		966139-02-01		
	UNITS	98-2	RDL	QC Batch
Calculated Parameters				
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	9084432
Volatile Organics				
Acetone (2-Propanone)	ug/L	<71 (1)	71	9087533
Benzene	ug/L	1800	10	9087533
Bromodichloromethane	ug/L	<0.50	0.50	9087533
Bromoform	ug/L	<1.0	1.0	9087533
Bromomethane	ug/L	<0.50	0.50	9087533
Carbon Tetrachloride	ug/L	<0.19	0.19	9087533
Chlorobenzene	ug/L	<0.20	0.20	9087533
Chloroform	ug/L	<0.20	0.20	9087533
Dibromochloromethane	ug/L	<0.50	0.50	9087533
1,2-Dichlorobenzene	ug/L	<0.40	0.40	9087533
1,3-Dichlorobenzene	ug/L	<0.40	0.40	9087533
1,4-Dichlorobenzene	ug/L	<0.40	0.40	9087533
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	9087533
1,1-Dichloroethane	ug/L	<2.3 (1)	2.3	9087533
1,2-Dichloroethane	ug/L	<0.49	0.49	9087533
1,1-Dichloroethylene	ug/L	<0.20	0.20	9087533
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	9087533
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	9087533
1,2-Dichloropropane	ug/L	<0.50 (1)	0.50	9087533
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	9087533
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	9087533
Ethylbenzene	ug/L	1200	10	9087533
Ethylene Dibromide	ug/L	<0.19	0.19	9087533
Hexane	ug/L	120	1.0	9087533
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	9087533
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	9087533
Methyl Isobutyl Ketone	ug/L	13	5.0	9087533
Methyl t-butyl ether (MTBE)	ug/L	65	0.50	9087533
Styrene	ug/L	<33 (1)	33	9087533
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	9087533
RDL = Reportable Detection Limit QC Batch = Quality Control Batch (1) Detection limit was raised due to matrix interference.				



Bureau Veritas Job #: C3AM536
Report Date: 2023/12/04

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OT
Your P.O. #: 694129
Sampler Initials: SG

VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		XSK605		
Sampling Date		2023/11/27 13:03		
COC Number		966139-02-01		
	UNITS	98-2	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	9087533
Tetrachloroethylene	ug/L	<0.20	0.20	9087533
Toluene	ug/L	450	10	9087533
1,1,1-Trichloroethane	ug/L	<0.20	0.20	9087533
1,1,2-Trichloroethane	ug/L	<0.40	0.40	9087533
Trichloroethylene	ug/L	<0.20	0.20	9087533
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	9087533
Vinyl Chloride	ug/L	<0.20	0.20	9087533
p+m-Xylene	ug/L	3700	10	9087533
o-Xylene	ug/L	970	10	9087533
Total Xylenes	ug/L	4700	10	9087533
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	100		9087533
D4-1,2-Dichloroethane	%	105		9087533
D8-Toluene	%	113		9087533
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



Bureau Veritas Job #: C3AM536
Report Date: 2023/12/04

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OT
Your P.O. #: 694129
Sampler Initials: SG

TEST SUMMARY

Bureau Veritas ID: XSK605
Sample ID: 98-2
Matrix: Water

Collected: 2023/11/27
Shipped:
Received: 2023/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	9084432	N/A	2023/12/04	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	9087533	N/A	2023/12/04	Narayan Ghimire



Bureau Veritas Job #: C3AM536
Report Date: 2023/12/04

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OT
Your P.O. #: 694129
Sampler Initials: SG

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.7°C
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Sample XSK605 [98-2] : VOC Analysis: Due to high concentrations of target analytes, sample required dilution. Detection limits were adjusted accordingly. In order to meet required regulatory criteria or to achieve lower reporting limits, results for selected compounds (obtained by a separate analysis using an appropriate low dilution) are included in the report.

Results relate only to the items tested.



Bureau Veritas Job #: C3AM536
Report Date: 2023/12/04

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OT
Your P.O. #: 694129
Sampler Initials: SG

QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9087533	NGH	Matrix Spike		4-Bromofluorobenzene	2023/12/04		103	%	70 - 130
				D4-1,2-Dichloroethane	2023/12/04		98	%	70 - 130
				D8-Toluene	2023/12/04		99	%	70 - 130
				Acetone (2-Propanone)	2023/12/04		111	%	60 - 140
				Benzene	2023/12/04		94	%	70 - 130
				Bromodichloromethane	2023/12/04		106	%	70 - 130
				Bromoform	2023/12/04		90	%	70 - 130
				Bromomethane	2023/12/04		100	%	60 - 140
				Carbon Tetrachloride	2023/12/04		96	%	70 - 130
				Chlorobenzene	2023/12/04		103	%	70 - 130
				Chloroform	2023/12/04		106	%	70 - 130
				Dibromochloromethane	2023/12/04		96	%	70 - 130
				1,2-Dichlorobenzene	2023/12/04		94	%	70 - 130
				1,3-Dichlorobenzene	2023/12/04		99	%	70 - 130
				1,4-Dichlorobenzene	2023/12/04		104	%	70 - 130
				Dichlorodifluoromethane (FREON 12)	2023/12/04		94	%	60 - 140
				1,1-Dichloroethane	2023/12/04		102	%	70 - 130
				1,2-Dichloroethane	2023/12/04		99	%	70 - 130
				1,1-Dichloroethylene	2023/12/04		97	%	70 - 130
				cis-1,2-Dichloroethylene	2023/12/04		103	%	70 - 130
				trans-1,2-Dichloroethylene	2023/12/04		97	%	70 - 130
				1,2-Dichloropropane	2023/12/04		103	%	70 - 130
				cis-1,3-Dichloropropene	2023/12/04		105	%	70 - 130
				trans-1,3-Dichloropropene	2023/12/04		106	%	70 - 130
				Ethylbenzene	2023/12/04		94	%	70 - 130
				Ethylene Dibromide	2023/12/04		104	%	70 - 130
				Hexane	2023/12/04		96	%	70 - 130
				Methylene Chloride(Dichloromethane)	2023/12/04		101	%	70 - 130
				Methyl Ethyl Ketone (2-Butanone)	2023/12/04		116	%	60 - 140
				Methyl Isobutyl Ketone	2023/12/04		109	%	70 - 130
				Methyl t-butyl ether (MTBE)	2023/12/04		110	%	70 - 130
				Styrene	2023/12/04		106	%	70 - 130
				1,1,1,2-Tetrachloroethane	2023/12/04		98	%	70 - 130
				1,1,2,2-Tetrachloroethane	2023/12/04		126	%	70 - 130
				Tetrachloroethylene	2023/12/04		96	%	70 - 130
				Toluene	2023/12/04		94	%	70 - 130
				1,1,1-Trichloroethane	2023/12/04		99	%	70 - 130
				1,1,2-Trichloroethane	2023/12/04		97	%	70 - 130
				Trichloroethylene	2023/12/04		102	%	70 - 130
				Trichlorofluoromethane (FREON 11)	2023/12/04		95	%	70 - 130
				Vinyl Chloride	2023/12/04		95	%	70 - 130
				p+m-Xylene	2023/12/04		101	%	70 - 130
				o-Xylene	2023/12/04		87	%	70 - 130
9087533	NGH	Spiked Blank		4-Bromofluorobenzene	2023/12/04		101	%	70 - 130
				D4-1,2-Dichloroethane	2023/12/04		95	%	70 - 130
				D8-Toluene	2023/12/04		99	%	70 - 130
				Acetone (2-Propanone)	2023/12/04		102	%	60 - 140
				Benzene	2023/12/04		92	%	70 - 130
				Bromodichloromethane	2023/12/04		101	%	70 - 130
				Bromoform	2023/12/04		83	%	70 - 130
9087533	NGH	Spiked Blank		Bromomethane	2023/12/04		98	%	60 - 140
				Carbon Tetrachloride	2023/12/04		94	%	70 - 130



Bureau Veritas Job #: C3AM536
Report Date: 2023/12/04

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OT
Your P.O. #: 694129
Sampler Initials: SG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				Chlorobenzene	2023/12/04		100	%	70 - 130
				Chloroform	2023/12/04		102	%	70 - 130
				Dibromochloromethane	2023/12/04		90	%	70 - 130
				1,2-Dichlorobenzene	2023/12/04		91	%	70 - 130
				1,3-Dichlorobenzene	2023/12/04		95	%	70 - 130
				1,4-Dichlorobenzene	2023/12/04		104	%	70 - 130
				Dichlorodifluoromethane (FREON 12)	2023/12/04		95	%	60 - 140
				1,1-Dichloroethane	2023/12/04		99	%	70 - 130
				1,2-Dichloroethane	2023/12/04		93	%	70 - 130
				1,1-Dichloroethylene	2023/12/04		95	%	70 - 130
				cis-1,2-Dichloroethylene	2023/12/04		99	%	70 - 130
				trans-1,2-Dichloroethylene	2023/12/04		95	%	70 - 130
				1,2-Dichloropropane	2023/12/04		99	%	70 - 130
				cis-1,3-Dichloropropene	2023/12/04		101	%	70 - 130
				trans-1,3-Dichloropropene	2023/12/04		101	%	70 - 130
				Ethylbenzene	2023/12/04		92	%	70 - 130
				Ethylene Dibromide	2023/12/04		97	%	70 - 130
				Hexane	2023/12/04		95	%	70 - 130
				Methylene Chloride(Dichloromethane)	2023/12/04		96	%	70 - 130
				Methyl Ethyl Ketone (2-Butanone)	2023/12/04		107	%	60 - 140
				Methyl Isobutyl Ketone	2023/12/04		100	%	70 - 130
				Methyl t-butyl ether (MTBE)	2023/12/04		105	%	70 - 130
				Styrene	2023/12/04		102	%	70 - 130
				1,1,1,2-Tetrachloroethane	2023/12/04		95	%	70 - 130
				1,1,2,2-Tetrachloroethane	2023/12/04		115	%	70 - 130
				Tetrachloroethylene	2023/12/04		95	%	70 - 130
				Toluene	2023/12/04		92	%	70 - 130
				1,1,1-Trichloroethane	2023/12/04		97	%	70 - 130
				1,1,2-Trichloroethane	2023/12/04		89	%	70 - 130
				Trichloroethylene	2023/12/04		101	%	70 - 130
				Trichlorofluoromethane (FREON 11)	2023/12/04		94	%	70 - 130
				Vinyl Chloride	2023/12/04		94	%	70 - 130
				p+m-Xylene	2023/12/04		99	%	70 - 130
				o-Xylene	2023/12/04		85	%	70 - 130
9087533	NGH		Method Blank	4-Bromofluorobenzene	2023/12/04		102	%	70 - 130
				D4-1,2-Dichloroethane	2023/12/04		94	%	70 - 130
				D8-Toluene	2023/12/04		96	%	70 - 130
				Acetone (2-Propanone)	2023/12/04	<10		ug/L	
				Benzene	2023/12/04	<0.20		ug/L	
				Bromodichloromethane	2023/12/04	<0.50		ug/L	
				Bromoform	2023/12/04	<1.0		ug/L	
				Bromomethane	2023/12/04	<0.50		ug/L	
				Carbon Tetrachloride	2023/12/04	<0.19		ug/L	
				Chlorobenzene	2023/12/04	<0.20		ug/L	
				Chloroform	2023/12/04	<0.20		ug/L	
				Dibromochloromethane	2023/12/04	<0.50		ug/L	
				1,2-Dichlorobenzene	2023/12/04	<0.40		ug/L	
				1,3-Dichlorobenzene	2023/12/04	<0.40		ug/L	
				1,4-Dichlorobenzene	2023/12/04	<0.40		ug/L	
				Dichlorodifluoromethane (FREON 12)	2023/12/04	<1.0		ug/L	
				1,1-Dichloroethane	2023/12/04	<0.20		ug/L	
				1,2-Dichloroethane	2023/12/04	<0.49		ug/L	



Bureau Veritas Job #: C3AM536
Report Date: 2023/12/04

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OT
Your P.O. #: 694129
Sampler Initials: SG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9087533	NGH	RPD		1,1-Dichloroethylene	2023/12/04	<0.20		ug/L	
				cis-1,2-Dichloroethylene	2023/12/04	<0.50		ug/L	
				trans-1,2-Dichloroethylene	2023/12/04	<0.50		ug/L	
				1,2-Dichloropropane	2023/12/04	<0.20		ug/L	
				cis-1,3-Dichloropropene	2023/12/04	<0.30		ug/L	
				trans-1,3-Dichloropropene	2023/12/04	<0.40		ug/L	
				Ethylbenzene	2023/12/04	<0.20		ug/L	
				Ethylene Dibromide	2023/12/04	<0.19		ug/L	
				Hexane	2023/12/04	<1.0		ug/L	
				Methylene Chloride(Dichloromethane)	2023/12/04	<2.0		ug/L	
				Methyl Ethyl Ketone (2-Butanone)	2023/12/04	<10		ug/L	
				Methyl Isobutyl Ketone	2023/12/04	<5.0		ug/L	
				Methyl t-butyl ether (MTBE)	2023/12/04	<0.50		ug/L	
				Styrene	2023/12/04	<0.40		ug/L	
				1,1,1,2-Tetrachloroethane	2023/12/04	<0.50		ug/L	
				1,1,2,2-Tetrachloroethane	2023/12/04	<0.40		ug/L	
				Tetrachloroethylene	2023/12/04	<0.20		ug/L	
				Toluene	2023/12/04	<0.20		ug/L	
				1,1,1-Trichloroethane	2023/12/04	<0.20		ug/L	
				1,1,2-Trichloroethane	2023/12/04	<0.40		ug/L	
				Trichloroethylene	2023/12/04	<0.20		ug/L	
				Trichlorofluoromethane (FREON 11)	2023/12/04	<0.50		ug/L	
				Vinyl Chloride	2023/12/04	<0.20		ug/L	
				p+m-Xylene	2023/12/04	<0.20		ug/L	
				o-Xylene	2023/12/04	<0.20		ug/L	
				Total Xylenes	2023/12/04	<0.20		ug/L	
				Benzene	2023/12/04	NC		%	30
				Chloroform	2023/12/04	NC		%	30
				1,4-Dichlorobenzene	2023/12/04	NC		%	30
				Ethylbenzene	2023/12/04	NC		%	30
				Methylene Chloride(Dichloromethane)	2023/12/04	NC		%	30
				Tetrachloroethylene	2023/12/04	NC		%	30
				Toluene	2023/12/04	NC		%	30
				Trichloroethylene	2023/12/04	NC		%	30
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.									
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.									
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.									
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.									
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.									
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).									



Bureau Veritas Job #: C3AM536
Report Date: 2023/12/04

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OT
Your P.O. #: 694129
Sampler Initials: SG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink that reads "Cristina Carriere".

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your C.O.C. #: 966139-02-01

Attention: Akruti Atawala

AtkinsRéalis
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Report Date: 2023/11/28
Report #: R7931509
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3AM539

Received: 2023/11/27, 16:43

Sample Matrix: Water
Samples Received: 2

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Extracted		
1,3-Dichloropropene Sum (1)	2	N/A	2023/11/28	EPA 8260C m
Volatile Organic Compounds in Water (1)	2	N/A	2023/11/28 CAM SOP-00228	EPA 8260D

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd, Mississauga, ON, L5N 2L8



Attention: Akruati Atawala

AtkinsRéalis
Toronto - Shell
235 Lesmill Road
Toronto, ON
CANADA M3B 2V1

Your P.O. #: 694129
Your Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your C.O.C. #: 966139-02-01

Report Date: 2023/11/28
Report #: R7931509
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3AM539

Received: 2023/11/27, 16:43

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Keshani Vijh, Sr. Project Manager

Email: keshani.vijh@bureauveritas.com

Phone# (613) 274-0573

=====

This report has been generated and distributed using a secure automated process.

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Bureau Veritas Job #: C3AM539
Report Date: 2023/11/28

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		XSK614	XSK615		
Sampling Date		2023/11/27 10:40	2023/11/27 10:40		
	UNITS	FILED BLANK	TRIP BLANK	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	<0.50	0.50	9074161
Volatile Organics					
Acetone (2-Propanone)	ug/L	<10	<10	10	9074161
Benzene	ug/L	<0.20	<0.20	0.20	9074161
Bromodichloromethane	ug/L	<0.50	<0.50	0.50	9074161
Bromoform	ug/L	<1.0	<1.0	1.0	9074161
Bromomethane	ug/L	<0.50	<0.50	0.50	9074161
Carbon Tetrachloride	ug/L	<0.19	<0.19	0.19	9074161
Chlorobenzene	ug/L	<0.20	<0.20	0.20	9074161
Chloroform	ug/L	<0.20	<0.20	0.20	9074161
Dibromochloromethane	ug/L	<0.50	<0.50	0.50	9074161
1,2-Dichlorobenzene	ug/L	<0.40	<0.40	0.40	9074161
1,3-Dichlorobenzene	ug/L	<0.40	<0.40	0.40	9074161
1,4-Dichlorobenzene	ug/L	<0.40	<0.40	0.40	9074161
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	<1.0	1.0	9074161
1,1-Dichloroethane	ug/L	<0.20	<0.20	0.20	9074161
1,2-Dichloroethane	ug/L	<0.49	<0.49	0.49	9074161
1,1-Dichloroethylene	ug/L	<0.20	<0.20	0.20	9074161
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	9074161
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	9074161
1,2-Dichloropropane	ug/L	<0.20	<0.20	0.20	9074161
cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	9074161
trans-1,3-Dichloropropene	ug/L	<0.40	<0.40	0.40	9074161
Ethylbenzene	ug/L	<0.20	<0.20	0.20	9074161
Ethylene Dibromide	ug/L	<0.19	<0.19	0.19	9074161
Hexane	ug/L	<1.0	<1.0	1.0	9074161
Methylene Chloride(Dichloromethane)	ug/L	<2.0	<2.0	2.0	9074161
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	<10	10	9074161
Methyl Isobutyl Ketone	ug/L	<5.0	<5.0	5.0	9074161
Methyl t-butyl ether (MTBE)	ug/L	<0.50	<0.50	0.50	9074161
Styrene	ug/L	<0.40	<0.40	0.40	9074161
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	9074161
1,1,2,2-Tetrachloroethane	ug/L	<0.40	<0.40	0.40	9074161
Tetrachloroethylene	ug/L	<0.20	<0.20	0.20	9074161
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



Bureau Veritas Job #: C3AM539
Report Date: 2023/11/28

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		XSK614	XSK615		
Sampling Date		2023/11/27 10:40	2023/11/27 10:40		
	UNITS	FILED BLANK	TRIP BLANK	RDL	QC Batch
Toluene	ug/L	<0.20	<0.20	0.20	9074161
1,1,1-Trichloroethane	ug/L	<0.20	<0.20	0.20	9074161
1,1,2-Trichloroethane	ug/L	<0.40	<0.40	0.40	9074161
Trichloroethylene	ug/L	<0.20	<0.20	0.20	9074161
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	<0.50	0.50	9074161
Vinyl Chloride	ug/L	<0.20	<0.20	0.20	9074161
p+m-Xylene	ug/L	<0.20	<0.20	0.20	9074161
o-Xylene	ug/L	<0.20	<0.20	0.20	9074161
Total Xylenes	ug/L	<0.20	<0.20	0.20	9074161
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	101	102		9074161
D4-1,2-Dichloroethane	%	105	102		9074161
D8-Toluene	%	93	92		9074161
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



Bureau Veritas Job #: C3AM539
Report Date: 2023/11/28

AtkinsRéal
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

TEST SUMMARY

Bureau Veritas ID: XSK614
Sample ID: FILED BLANK
Matrix: Water

Collected: 2023/11/27
Shipped:
Received: 2023/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	9076279	N/A	2023/11/28	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	9074161	N/A	2023/11/28	Gabriella Morrone

Bureau Veritas ID: XSK615
Sample ID: TRIP BLANK
Matrix: Water

Collected: 2023/11/27
Shipped:
Received: 2023/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	9076279	N/A	2023/11/28	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	9074161	N/A	2023/11/28	Gabriella Morrone



Bureau Veritas Job #: C3AM539
Report Date: 2023/11/28

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.7°C
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Results relate only to the items tested.



Bureau Veritas Job #: C3AM539
Report Date: 2023/11/28

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9074161	GMN	Matrix Spike		4-Bromofluorobenzene	2023/11/28		100	%	70 - 130
				D4-1,2-Dichloroethane	2023/11/28		102	%	70 - 130
				D8-Toluene	2023/11/28		104	%	70 - 130
				Acetone (2-Propanone)	2023/11/28		100	%	60 - 140
				Benzene	2023/11/28		92	%	70 - 130
				Bromodichloromethane	2023/11/28		108	%	70 - 130
				Bromoform	2023/11/28		93	%	70 - 130
				Bromomethane	2023/11/28		92	%	60 - 140
				Carbon Tetrachloride	2023/11/28		96	%	70 - 130
				Chlorobenzene	2023/11/28		105	%	70 - 130
				Chloroform	2023/11/28		103	%	70 - 130
				Dibromochloromethane	2023/11/28		98	%	70 - 130
				1,2-Dichlorobenzene	2023/11/28		100	%	70 - 130
				1,3-Dichlorobenzene	2023/11/28		104	%	70 - 130
				1,4-Dichlorobenzene	2023/11/28		113	%	70 - 130
				Dichlorodifluoromethane (FREON 12)	2023/11/28		82	%	60 - 140
				1,1-Dichloroethane	2023/11/28		100	%	70 - 130
				1,2-Dichloroethane	2023/11/28		96	%	70 - 130
				1,1-Dichloroethylene	2023/11/28		96	%	70 - 130
				cis-1,2-Dichloroethylene	2023/11/28		101	%	70 - 130
				trans-1,2-Dichloroethylene	2023/11/28		97	%	70 - 130
				1,2-Dichloropropane	2023/11/28		102	%	70 - 130
				cis-1,3-Dichloropropene	2023/11/28		102	%	70 - 130
				trans-1,3-Dichloropropene	2023/11/28		105	%	70 - 130
				Ethylbenzene	2023/11/28		96	%	70 - 130
				Ethylene Dibromide	2023/11/28		101	%	70 - 130
				Hexane	2023/11/28		94	%	70 - 130
				Methylene Chloride(Dichloromethane)	2023/11/28		97	%	70 - 130
				Methyl Ethyl Ketone (2-Butanone)	2023/11/28		108	%	60 - 140
				Methyl Isobutyl Ketone	2023/11/28		113	%	70 - 130
				Methyl t-butyl ether (MTBE)	2023/11/28		99	%	70 - 130
				Styrene	2023/11/28		107	%	70 - 130
				1,1,1,2-Tetrachloroethane	2023/11/28		101	%	70 - 130
				1,1,2,2-Tetrachloroethane	2023/11/28		108	%	70 - 130
				Tetrachloroethylene	2023/11/28		95	%	70 - 130
				Toluene	2023/11/28		97	%	70 - 130
				1,1,1-Trichloroethane	2023/11/28		98	%	70 - 130
				1,1,2-Trichloroethane	2023/11/28		100	%	70 - 130
				Trichloroethylene	2023/11/28		99	%	70 - 130
				Trichlorofluoromethane (FREON 11)	2023/11/28		93	%	70 - 130
				Vinyl Chloride	2023/11/28		89	%	70 - 130
				p+m-Xylene	2023/11/28		102	%	70 - 130
				o-Xylene	2023/11/28		84	%	70 - 130
9074161	GMN	Spiked Blank		4-Bromofluorobenzene	2023/11/28		100	%	70 - 130
				D4-1,2-Dichloroethane	2023/11/28		99	%	70 - 130
				D8-Toluene	2023/11/28		105	%	70 - 130
				Acetone (2-Propanone)	2023/11/28		87	%	60 - 140
				Benzene	2023/11/28		82	%	70 - 130
				Bromodichloromethane	2023/11/28		96	%	70 - 130
				Bromoform	2023/11/28		81	%	70 - 130
				Bromomethane	2023/11/28		83	%	60 - 140
				Carbon Tetrachloride	2023/11/28		86	%	70 - 130



Bureau Veritas Job #: C3AM539
Report Date: 2023/11/28

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				Chlorobenzene	2023/11/28		96	%	70 - 130
				Chloroform	2023/11/28		92	%	70 - 130
				Dibromochloromethane	2023/11/28		87	%	70 - 130
				1,2-Dichlorobenzene	2023/11/28		90	%	70 - 130
				1,3-Dichlorobenzene	2023/11/28		95	%	70 - 130
				1,4-Dichlorobenzene	2023/11/28		103	%	70 - 130
				Dichlorodifluoromethane (FREON 12)	2023/11/28		75	%	60 - 140
				1,1-Dichloroethane	2023/11/28		89	%	70 - 130
				1,2-Dichloroethane	2023/11/28		84	%	70 - 130
				1,1-Dichloroethylene	2023/11/28		87	%	70 - 130
				cis-1,2-Dichloroethylene	2023/11/28		90	%	70 - 130
				trans-1,2-Dichloroethylene	2023/11/28		87	%	70 - 130
				1,2-Dichloropropane	2023/11/28		90	%	70 - 130
				cis-1,3-Dichloropropene	2023/11/28		90	%	70 - 130
				trans-1,3-Dichloropropene	2023/11/28		93	%	70 - 130
				Ethylbenzene	2023/11/28		88	%	70 - 130
				Ethylene Dibromide	2023/11/28		89	%	70 - 130
				Hexane	2023/11/28		84	%	70 - 130
				Methylene Chloride(Dichloromethane)	2023/11/28		85	%	70 - 130
				Methyl Ethyl Ketone (2-Butanone)	2023/11/28		93	%	60 - 140
				Methyl Isobutyl Ketone	2023/11/28		98	%	70 - 130
				Methyl t-butyl ether (MTBE)	2023/11/28		89	%	70 - 130
				Styrene	2023/11/28		99	%	70 - 130
				1,1,1,2-Tetrachloroethane	2023/11/28		91	%	70 - 130
				1,1,2,2-Tetrachloroethane	2023/11/28		95	%	70 - 130
				Tetrachloroethylene	2023/11/28		87	%	70 - 130
				Toluene	2023/11/28		88	%	70 - 130
				1,1,1-Trichloroethane	2023/11/28		88	%	70 - 130
				1,1,2-Trichloroethane	2023/11/28		89	%	70 - 130
				Trichloroethylene	2023/11/28		90	%	70 - 130
				Trichlorofluoromethane (FREON 11)	2023/11/28		84	%	70 - 130
				Vinyl Chloride	2023/11/28		80	%	70 - 130
				p+m-Xylene	2023/11/28		94	%	70 - 130
				o-Xylene	2023/11/28		79	%	70 - 130
9074161	GMN		Method Blank	4-Bromofluorobenzene	2023/11/28		96	%	70 - 130
				D4-1,2-Dichloroethane	2023/11/28		102	%	70 - 130
				D8-Toluene	2023/11/28		86	%	70 - 130
				Acetone (2-Propanone)	2023/11/28	<10		ug/L	
				Benzene	2023/11/28	<0.20		ug/L	
				Bromodichloromethane	2023/11/28	<0.50		ug/L	
				Bromoform	2023/11/28	<1.0		ug/L	
				Bromomethane	2023/11/28	<0.50		ug/L	
				Carbon Tetrachloride	2023/11/28	<0.19		ug/L	
				Chlorobenzene	2023/11/28	<0.20		ug/L	
				Chloroform	2023/11/28	<0.20		ug/L	
				Dibromochloromethane	2023/11/28	<0.50		ug/L	
				1,2-Dichlorobenzene	2023/11/28	<0.40		ug/L	
				1,3-Dichlorobenzene	2023/11/28	<0.40		ug/L	
				1,4-Dichlorobenzene	2023/11/28	<0.40		ug/L	
				Dichlorodifluoromethane (FREON 12)	2023/11/28	<1.0		ug/L	
				1,1-Dichloroethane	2023/11/28	<0.20		ug/L	
				1,2-Dichloroethane	2023/11/28	<0.49		ug/L	



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9074161	GMN	RPD	1,1-Dichloroethylene	2023/11/28	<0.20		ug/L	
			cis-1,2-Dichloroethylene	2023/11/28	<0.50		ug/L	
			trans-1,2-Dichloroethylene	2023/11/28	<0.50		ug/L	
			1,2-Dichloropropane	2023/11/28	<0.20		ug/L	
			cis-1,3-Dichloropropene	2023/11/28	<0.30		ug/L	
			trans-1,3-Dichloropropene	2023/11/28	<0.40		ug/L	
			Ethylbenzene	2023/11/28	<0.20		ug/L	
			Ethylene Dibromide	2023/11/28	<0.19		ug/L	
			Hexane	2023/11/28	<1.0		ug/L	
			Methylene Chloride(Dichloromethane)	2023/11/28	<2.0		ug/L	
			Methyl Ethyl Ketone (2-Butanone)	2023/11/28	<10		ug/L	
			Methyl Isobutyl Ketone	2023/11/28	<5.0		ug/L	
			Methyl t-butyl ether (MTBE)	2023/11/28	<0.50		ug/L	
			Styrene	2023/11/28	<0.40		ug/L	
			1,1,1,2-Tetrachloroethane	2023/11/28	<0.50		ug/L	
			1,1,2,2-Tetrachloroethane	2023/11/28	<0.40		ug/L	
			Tetrachloroethylene	2023/11/28	<0.20		ug/L	
			Toluene	2023/11/28	<0.20		ug/L	
			1,1,1-Trichloroethane	2023/11/28	<0.20		ug/L	
			1,1,2-Trichloroethane	2023/11/28	<0.40		ug/L	
			Trichloroethylene	2023/11/28	<0.20		ug/L	
			Trichlorofluoromethane (FREON 11)	2023/11/28	<0.50		ug/L	
			Vinyl Chloride	2023/11/28	<0.20		ug/L	
			p+m-Xylene	2023/11/28	<0.20		ug/L	
			o-Xylene	2023/11/28	<0.20		ug/L	
			Total Xylenes	2023/11/28	<0.20		ug/L	
			Benzene	2023/11/28	NC		%	30
			Chloroform	2023/11/28	0.71		%	30
			1,2-Dichlorobenzene	2023/11/28	NC		%	30
			1,4-Dichlorobenzene	2023/11/28	NC		%	30
			cis-1,2-Dichloroethylene	2023/11/28	NC		%	30
			trans-1,3-Dichloropropene	2023/11/28	NC		%	30
			Ethylbenzene	2023/11/28	NC		%	30
			Methylene Chloride(Dichloromethane)	2023/11/28	NC		%	30
			Methyl Ethyl Ketone (2-Butanone)	2023/11/28	NC		%	30
			Styrene	2023/11/28	NC		%	30
			1,1,2,2-Tetrachloroethane	2023/11/28	NC		%	30
			Tetrachloroethylene	2023/11/28	NC		%	30
			Toluene	2023/11/28	NC		%	30
			Trichloroethylene	2023/11/28	NC		%	30
			p+m-Xylene	2023/11/28	NC		%	30
			o-Xylene	2023/11/28	NC		%	30
			Total Xylenes	2023/11/28	NC		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



Bureau Veritas Job #: C3AM539
Report Date: 2023/11/28

AtkinsRéalis
Client Project #: 694129
Site Location: 1440 PRINCE OF WALES DRIVE, OTTAWA
Your P.O. #: 694129
Sampler Initials: SG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink, appearing to read "Anastassia Hamanov", written over a horizontal line.

Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas
 6740 Campbell Road, Mississauga, Ontario Canada L5N 2L9 Tel: (905) 817-5700 Toll-free 800-563-6266 Fax: (905) 817-5777 www.bvna.com

RUSH

Received in Ottawa

27-Nov-23 16:43

Keshani Vijh

C3AM539

JDK ENV-1610

Page 1 of 1

INVOICE TO:

Company Name: #21644 ATKINSREALIS CANADA INC.

Attention: Accounts Payable

Address: 455 René-Lévesque Blvd. West

Montreal QC H2Z 1Z3

Tel: (514) 393-1000 Fax: (514) 866-0795

Email: Payables@snclavalin.com

REPORT TO:

Company Name: #13786 AtkinsRéalis

Attention: Akruti Atawala

Address: 235 Lesmill Road

Toronto ON M3B 2V1

Tel: (416) 635-5882 Ext: 5839 Fax: (416) 635-5353

Email: akruti.atawala@snclavalin.com, ON_LabData@snclavalin.com

PROJECT INFORMATION:

Quotation #: C21794

P.O. #: 694129

Project Name: 1440 Prince of Wales Drive, Ot

Site #: 1440 Prince of Wales Drive, Ot

Sampled By: [Signature]

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Table 2 ☒ Table 3 ☐ Table	☐ CCME ☐ Reg 558 ☐ MISA ☐ PWGO ☐ Other	☐ Sanitary Sewer Bylaw ☐ Storm Sewer Bylaw ☐ Municipality ☐ Reg 406 Table

ANALYSIS REQUESTED (PLEASE BE SPECIFIC):

Metals / Hg / Cr / V	Field Filtered (please circle)
VOC	X
MTA / VOC	X

Turnaround Time (TAT) Required:

Regular (Standard) TAT: []
 (will be applied if Rush TAT is not specified)
 Standard TAT = 5-7 Working days for most tests.
 Please note: Standard TAT for certain tests such as BOD and 'Noxious' Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission):
 Date Required: Wed Nov 29/23 Time Required: 9:00 [X]
 Rush Confirmation Number: []

Sample Barcode Label	Sample Location Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle)	Metals / Hg / Cr / V	# jars used and not submitted	Time Sensitive	Temperature (°C) on Receipt	Custody Seal Present	Yes	No
1	Field Blank	Nov 27/23	10:40	Water	X							
2	Tap Blank	↓	10:40	Water	X							
3												
4												
5												
6												
7												
8												
9												
10												

*** RELINQUISHED BY: (Signature/Print)**

[Signature] Sean Gorman

Date: (YY/MM/DD) 23/11/27 Time: 14:50

RECEIVED BY: (Signature/Print)

[Signature] Samuel Durand

Date: (YY/MM/DD) 2023/11/27 Time: 16:43

Laboratory Use Only

Temperature (°C) on Receipt: 4, 6, 7

Custody Seal: Intact

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCs.

** IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

*** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCs.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

2/3/1

AtkinsRéalis



AtkinsRéalis

235 Lesmill Road
Toronto, ON M3B 2V1
Canada
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